

## **Jury Demands and Trials**

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### **Abstract**

For most civil litigation, both parties have a right to demand trial by jury. The trial forum is widely perceived to influence costs of litigation, settlement decisions, the probability that a plaintiff will prevail, and the magnitude of any award. This paper is the first to theoretically and empirically address whether choice of trial forum is consistent with economic principles, and whether trial forum influences the probability of trial versus settlement. Plaintiffs are more likely to demand trial by jury when juries are relatively more favorable to plaintiffs in similar cases, jury awards are more variable relative to bench awards, and the disparity in trial costs is smaller. Cases demanding jury trial are more likely to settle without trial, as greater trial costs raise the gains from settlement for both parties. Because jury trial costs are also higher for plaintiffs, jury trials will be demanded only when expected payoffs for plaintiffs are greater than in bench trials.

## Jury Demands and Trials

A fundamental decision that parties to civil litigation make is whether to demand trial by jury or to waive this right. The choice of forum may influence the prospects for the case as well as costs of litigation. In most civil litigation, either party may demand a jury trial, and this demand cannot be vetoed by the other party. Critics of the U.S. civil justice system have speculated that fear of large and unpredictable jury behavior leads to larger settlement amounts as defendants avoid jury trial,<sup>1</sup> or that plaintiff lawyers take the same weak cases before different juries expecting random jury behavior to lead to large enough payoffs from a small number of cases to be profitable.<sup>2</sup>

Despite the centrality of juries in the legal process and the considerable development of economic models of the litigation process,<sup>3</sup> the factors that influence the decision to demand a jury trial and the impact of forum choice on civil litigation outcomes have not been examined from either a theoretical or empirical perspective. This paper is the first to address whether choice of trial forum is consistent with economic principles, and whether choice of trial forum influences whether a case receives a trial verdict or settles out of court.

I begin by developing a model of choice of trial forum. Underlying my analysis is an economic model of litigation behavior in which parties make a sequence of decisions to maximize their net expected payoffs. Litigants choose trial forum by comparing

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<sup>1</sup> See, for example, Stephen F. Fink, "Insist on Bench Trials," *National Law Journal*, January 13, 2003, stating that "by far the biggest cost to employers ... results from the higher settlements paid to avoid the perceived unpredictability of juries."

<sup>2</sup> See, for example, David E. Bernstein (1996), stating that "Juries are a disaster for the civil justice system for several reasons. First, the use of juries to decide civil cases undermines one of the most important values of civil law, certainty. ... Plaintiffs' attorneys in the United States therefore find that playing the litigation lottery is profitable: they bring the same dubious multimillion dollar claim before many juries in the expectation that a few random victories will more than compensate for a larger number of losses."

<sup>3</sup> See Cooter and Rubinfeld (1989) for a valuable overview.

expected outcomes and costs for a jury trial to expected outcomes and costs for a bench trial. Relative to bench trials of the same case type, jury decisions are more variable and jury trials are more costly. Plaintiffs are more likely to demand trial by jury when expected jury awards are more variable than bench awards and the disparity in costs by trial forum is smaller.

Given the choice of trial forum, I next model the influence of trial forum on the difference in the probability that a case will go to trial. The greater variability in expected jury decisions relative to expected bench decisions implies that optimistic litigants are more likely to continue to trial judgment in cases that would be heard by a jury than by a judge. However, the greater cost of jury trials lowers the probability of trial, so the net effect of these opposing influences is theoretically indeterminate.

To test my model, I use data from a unique sample of nearly 8,000 federal court cases that reports whether a litigant had demanded a trial, matched to case information on terminated federal civil court cases collected by the Administrative Office of the U.S. Courts. The empirical findings are consistent with the model. As predicted, the decision to demand jury trial is influenced by a comparison of jury to bench characteristics for cases of the same type. Jury trials are more likely to be demanded by plaintiffs when, relative to bench trials of the same case type, juries are more favorable to plaintiffs and awards are more variable. Plaintiffs are more likely to demand jury trials when individual case stakes, measured by damages demanded, are larger. Both plaintiffs and defendants are more likely to demand jury trial when the disparity in costs by trial forum is smaller.

Furthermore, demanding a jury trial has an important influence on the probability of trial. Both single equation and bivariate probit estimates indicate that cases in which a

jury demand is made are less likely to go to trial. This finding has implications for the widely-held view that tried cases are not representative of the underlying population of filed cases. Because cases demanding jury trial are more likely to settle, any selection effects are exacerbated by jury trial demands. I discuss the policy implications of such selection effects in the conclusion.

## I. Model

To motivate the empirical analysis, this section outlines a simple model of choice of trial forum and probability of trial given that choice.<sup>4</sup> The theoretical model incorporates two assumptions about differences between jury and bench trials that are supported by empirical evidence. First, even absent differences by trial forum in expected awards, jury awards have higher variance than bench awards. Because outcomes are more variable, parties will estimate the expected award for their case with greater error for trials that would be heard by a jury than by a judge. Second, jury trials are more costly than are bench trials, so both expected awards and costs in each forum influence the choice of

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<sup>4</sup> There are two primary theoretical frameworks for examining the probability of trial and plaintiff win rates, referred to as ‘divergent expectations’ and ‘asymmetric information’, with an extensive literature extending and testing the empirical predictions. In divergent expectations models, parties differ in their estimates of the decision standard, such as degree of negligence, which will be applied to their case. The seminal paper in this framework is by Priest and Klein (1984). There is an extensive literature that tests the primary empirical prediction of a 50 percent win rate for both parties among cases that go to trial. See for example Kessler, Meites, and Miller (1996), Siegelman and Donohue (1995), and Waldfogel (1995). In asymmetric information models, one party has better information about the probability of prevailing at trial, leading to plaintiff win rates at trial that diverge from 50 percent. Asymmetric information models are largely theoretical, and often emphasize strategic bargaining behavior. See, for example, Bebchuk (1984), Hylton (1993), and Nalebuff (1987). Waldfogel (1998) and Hylton (2002) contrast the two dominant models. Within both divergent expectations and asymmetric information frameworks, it is generally assumed that any differential standards between jury and judges will be taken into account in the decision to settle.

venue decision. In the interest of empirical tractability given available data, I do not model strategic behavior.<sup>5</sup>

Denote the plaintiff by  $\pi$  and defendant by  $\delta$ , and jury trials by  $j$  and bench trials by  $b$ . Let  $c_{ik}$  denote costs of trial for  $i = \pi, \delta$  and  $k = j, b$ , and let  $s_{ik}$  denote costs of settlement for  $i = \pi, \delta$  and  $k = j, b$ . The expected award  $R$  is equal to the probability that the plaintiff wins times the amount awarded given a plaintiff verdict. Both parties estimate the expected award with error. The sources of error may arise in estimating the probability that the plaintiff will win as well as in estimating the amount of any award.<sup>6</sup>

The plaintiff's estimate of expected awards are  $R_{\pi j} = R + \varepsilon_{\pi j}$  for a jury trial and  $R_{\pi b} = R + \varepsilon_{\pi b}$  for a bench trial. The defendant's estimates of expected awards for jury and bench trials are  $R_{\delta j} = R + \varepsilon_{\delta j}$  and  $R_{\delta b} = R + \varepsilon_{\delta b}$ . The terms  $\varepsilon_{ik}$  for  $i = \pi, \delta$  and  $k = j, b$  represent parties' errors in estimating expected awards in each trial forum.

Assume the error terms in estimating bench and jury awards for each party  $i$  are distributed bivariate normal, with expected values  $E(\varepsilon_{ik}) = 0$  for  $i = \pi, \delta$  and  $k = j, b$ , covariances  $Cov(\varepsilon_{ib}, \varepsilon_{ij}) = \rho_i$  for  $i = \pi, \delta$  and  $Cov(\varepsilon_{\pi k}, \varepsilon_{\delta k}) = 0$  for  $k = j, b$ , and variances  $Var(\varepsilon_{\pi b}) = Var(\varepsilon_{\delta b}) = \sigma_\varepsilon^2$  and  $Var(\varepsilon_{\pi j}) = Var(\varepsilon_{\delta j}) = m^2 \sigma_\varepsilon^2$ , with  $m > 1$ , for  $i = \pi, \delta$  and  $k = j, b$ . On average parties' estimates of expected awards are not biased.

The variances of expected awards are the same for both parties within the same trial forum, although they differ by trial forum, with both parties estimating the expected

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<sup>5</sup> My model is in the spirit of divergent expectations models. Strategic behavior is generally not considered in models within this framework. Gay et. al. (1989) develops a model of strategic choice of trial forum in the criminal context.

<sup>6</sup> In models within the divergent expectations framework of Priest-Klein (1984), parties estimate case quality with error, but estimate the decision standard and expected award without error. Wittman (1985, 1988) develops a model in which expected awards are estimated with error.

award for a jury trial with less precision than for a bench trial. Parties' own errors in estimating expected awards by forum type may be correlated, but defendant's error in estimating the expected award is assumed to be uncorrelated with plaintiff's error estimate.

The first decision is the choice of trial forum.<sup>7</sup> For cases eligible for trial by jury, any party to the action may demand jury trial, and if no demands are made, the right of jury trial is waived. As the data reported later show, both plaintiffs and defendants demand jury trials, but plaintiffs do so far more frequently. For expositional convenience I treat trial forum as the plaintiff's choice. The plaintiff decides whether to demand a jury trial by comparing the expected award to cost for each type of trial. Assuming the expected return to trial is nonnegative,<sup>8</sup> the plaintiff will demand a jury trial if

$R_{\pi j} - c_{\pi j} > R_{\pi b} - c_{\pi b}$ , or, equivalently, if  $\varepsilon_{\pi j} - \varepsilon_{\pi b} > c_{\pi j} - c_{\pi b}$ . The plaintiff will waive the right to jury trial if  $\varepsilon_{\pi j} - \varepsilon_{\pi b} \leq c_{\pi j} - c_{\pi b}$ .

The probability that  $\varepsilon_{\pi j} - \varepsilon_{\pi b}$  is greater than  $c_{\pi j} - c_{\pi b}$  equals

$\Pr\left(Z > \frac{c_{\pi j} - c_{\pi b}}{\sqrt{\sigma_{\varepsilon}^2(m^2 + 1) - 2\rho_{\pi}}}\right)$  where  $Z$  a standard normal variable. The probability of

demanding a jury trial is positively related to the value of  $m$ , which indexes the relative scale of the variances. This means that the greater variability in estimating jury expected awards relative to bench expected awards increases the probability that the plaintiff will

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<sup>7</sup> Not all civil cases are eligible for a jury trial. The Seventh Amendment provides the right to jury trial for all cases "at common law" at the time the U.S. Constitution was ratified. Other cases may have a jury trial depending on the statute. Claims solely seeking equitable relief, and generally claims with the United States as defendant, do not have a right to a jury trial. If eligible for jury trial, a party demanding jury trial must make this demand in writing, generally within 10 days of the last pleading. For more information on the specific legal status of demands for jury trials, see Federal Rules of Civil Procedure, Rule 38 and Rule 39.

<sup>8</sup> That is,  $\max [R_{\pi j} - c_{\pi j}, R_{\pi b} - c_{\pi b}] > 0$ .

demand a jury trial for any given disparity in jury-bench trial costs. This is because jury expected awards have the same mean as bench expected awards, but higher variance, so there is a larger probability in the right hand tail of the normal distribution in excess of any given gap in trial costs. Plaintiffs are also more likely to demand jury trial when the disparity between costs of jury and bench trials are smaller, as smaller gaps between errors in estimating expected awards in bench and jury trials make jury trials optimal.

The second issue is the effect of choice of trial forum on the probability of trial. Because trials are costly, both parties have an incentive to settle without trial. The range of potential settlement values is bounded by the plaintiff's expected net gain from trial and the defendant's expected net loss from trial. If this settlement range is positive, then litigation models assume that parties will find some way of settling, with settlement more likely the larger the settlement range.

Whether trial is more or less likely to occur when a jury trial has been demanded is theoretically indeterminate. To see the source of indeterminacy, consider the condition for trial to occur in each trial forum. Given plaintiff's choice of trial forum  $k$ , trial occurs when plaintiff's minimum demand  $R_{\pi k} - c_{\pi k} + s_{\pi k}$  exceeds defendant's maximum

offer  $R_{\delta k} + c_{\delta k} - s_{\delta k}$ . The condition for a case to go to trial is  $R_{\pi k} - c_{\pi k} + s_{\pi k} >$

$R_{\delta k} + c_{\delta k} - s_{\delta k}$ , or, equivalently,  $\varepsilon_{\pi k} - \varepsilon_{\delta k} > (c_{\pi k} + c_{\delta k}) - (s_{\pi} + s_{\delta})$ .

The effect of choice of trial forum on the difference in the probability of trial is derived by comparing the probability of trial in each forum. For notational convenience, denote total trial costs and total settlement costs for forum  $k$  by  $c_k$  and  $s_k$ . If the plaintiff demands jury trial, trial occurs if  $\varepsilon_{\pi j} - \varepsilon_{\delta j} > c_j - s_j$ . The probability that trial occurs is

$\Pr\left(Z > \frac{c_j - s_j}{\sqrt{2m^2\sigma_\varepsilon^2}}\right)$ . If the right of jury trial is waived, then the probability that trial

occurs is  $\Pr\left(Z > \frac{c_b - s_b}{\sqrt{2\sigma_\varepsilon^2}}\right)$ . Whether trials are more likely to occur when jury trial is

demanded therefore depends on the comparison of  $\frac{c_j - s_j}{\sqrt{2m^2\sigma_\varepsilon^2}}$  to  $\frac{c_b - s_b}{\sqrt{2\sigma_\varepsilon^2}}$ . Trials are more

likely to occur if jury trial has been demanded instead of waived if  $\frac{c_j - s_j}{c_b - s_b} < m$ . The

larger is  $m$ , indicating greater variability of jury decisions relative to bench decisions, the more likely it is that trial will occur if jury trial was demanded. The larger the cost increment between trial and settlement costs in jury trials relative to bench trials, the less likely it is that a case will go to trial if jury trial has been chosen.

These results indicate that greater uncertainty alone in estimating jury expected awards increases the probability of trial if jury trial had been demanded rather than waived. But if total trial costs increase more relative to total settlement costs for jury trials than for bench trials, the gap between trial and settlement costs will be greater if jury trial had been demanded, making settlement more likely. Because  $m > 1$ , if the gap between total trial and total settlement costs is the same for both trial forums, or if the gap between trial and settlement costs is less for jury trials, all cases that do not settle result in a jury trial. Empirically this is not true, suggesting that the gap between trial and settlement costs is greater for jury trials than for bench trials.

Note that if the plaintiff's trial costs increase less than do the defendant's trial costs if a jury trial is demanded, plaintiffs can raise the probability of settlement, and the

settlement amount, by demanding jury trial. The key point is that by demanding jury trial and raising trial costs, the plaintiff alters the structure of payoffs for both parties so that it is more likely that defendant's maximum offer exceeds plaintiff's minimum demand. But as trial costs for jury trials are also higher for plaintiffs, jury trials will be demanded only when expected payoffs for plaintiffs are greater than in bench trials.

The empirical analysis of trial probability also controls for damages demanded as a case-specific indicator of the stakes involved. As Cooter and Rubinfeld (1989) note, increased stakes has opposing effects on the probability of settling. Increased stakes increase optimism and thereby increases the frequency of trials. But it also increases litigation effort, which increases costs, thereby encouraging settlement. In addition, increased stakes increase risk, making trials less attractive to risk averse disputants.

The empirical specification implied by the model is a recursive bivariate probit model of the form<sup>9</sup>

$$(1) \quad J = X'\beta + \mu$$

and  $(2) \quad T = \alpha J + Z'\gamma + \eta,$

where  $J = 1$  if jury trial is demanded,  $J = 0$  if jury trial is waived, and  $T = 1$  if trial occurs,  $T = 0$  if the case does not reach trial.  $X$  is a vector of characteristics that measure the difference between expected jury and bench trial outcomes and costs, such as the difference in probability that the plaintiff prevails and the difference in variability of awards, as well as any individual case characteristics common to both trial forums. The vector  $Z$  denotes characteristics that influence the probability of trial, such as parties' relative costs of trial to settlement and variability of expected trial awards.  $\beta$  and  $\gamma$  are

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<sup>9</sup> See Greene (2003, pp. 710 - 719) for an overview of the bivariate probit model.

vectors of coefficients,  $\alpha$  is the coefficient for the difference in probability of trial given choice of trial forum, and  $\mu$  and  $\eta$  are bivariate normal error terms with zero means, unit variances, and covariance  $\rho$ .

Both equations (1) and (2) are of interest, and will be estimated separately. Because the system is recursive, any correlation between  $\mu$  and  $\eta$  can be ignored in estimating equation (1). If  $\mu$  and  $\eta$  are correlated, then the estimate of  $\alpha$  in equation (2) is biased in single equation estimates. If the correlation is positive, so that unobservable characteristics that lead parties to demand jury trial are also more likely to lead parties to persist to trial, then the estimate of  $\alpha$  in single equation estimates will be biased toward zero. If the correlation is negative, the estimated value of  $\alpha$  will be larger in absolute value. Bivariate probit equation allowing for possible correlation between  $\mu$  and  $\eta$  are presented following the single equation estimates.

## II. Data description

To estimate the choice of trial forum and the effect of trial forum on the probability of trial, I use data on civil court cases terminated in federal courts from two sources. The Administrative Office of the United States Courts collects data on all cases filed in U.S. federal courts. These data are compiled in a standardized form and made available in the data set entitled Federal Court Cases: Integrated Data Base (hereafter, AO data set).<sup>10</sup> This data set includes information on nature of suit (3-digit code), amount of monetary damages demanded and awarded, procedural progress at termination, disposition of the

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<sup>10</sup> Federal Judicial Center. Federal Court Cases: Integrated Data Base, 1970-1991 [Computer file]. Conducted by the Federal Judicial Center. 6th ICPSR ed. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [producer and distributor], 1996.

case (e.g., remanded, dismissed, judgment), prevailing party if judgment is entered, and filing and termination dates.

The AO data set reports whether a filed case results in verdict by jury or by the court, and also reports whether the case was terminated during or after trial by jury or by the court. However, if a case settles before trial, or receives judgment for reasons such as motion before trial, there is no information on whether the case would have been heard by jury if trial had occurred. A second data set, the Federal District Court Civil Decisions, 1981-1987: Detroit, Houston, and Kansas City (hereafter DHK), provides information on whether jury trial was demanded for a random sample of 7,995 federal court cases filed and terminated in the three named federal district courts in calendar years 1981- 87.<sup>11</sup> Although more recent data would be desirable, information on whether a litigant demanded jury trial seems to be uniquely available in the DHK data set.

The theoretical model identifies factors that influence the probability of demanding jury trial and of trial occurring. These factors include the probability of plaintiff prevailing, expected awards, variation in expected awards, trial costs, and case specific characteristics. The model predicts a positive relation between jury trial demand and variability of jury awards relative to bench awards, and a negative relation between jury demand and cost of jury trials relative to bench trials. As a component of expected awards, jury demands are also more likely when the plaintiff win rate and expected awards are higher relative to bench values. Assuming that litigants form expectations based on average characteristics of trial outcomes, I construct average values of plaintiff win rates, expected awards, standard deviations of awards, and proxies for costs of trial,

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<sup>11</sup> Rowland, C.K. Federal District Court Civil Decisions, 1981-1987: Detroit, Houston, And Kansas City [Computer file]. Kansas City, MO: C.K. Rowland, University of Kansas [producer], 1990. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1990.

using data on all civil terminations reported in the AO data in statistical years 1979 – 1988 for the 5th, 6th, and 8th Circuits.<sup>12</sup> These average values are calculated by trial forum, 3-digit nature of suit, and circuit.

After removing all remanded or transferred cases, there are 672,087 cases in the AO sample. Only 5.4 percent of these cases were decided by completed jury or bench trial.<sup>13</sup> I use this subset of 36,608 completed jury or bench trials to calculate average characteristics for jury and bench verdicts. Plaintiff win rates are calculated by dividing the number of cases resulting in judgment for plaintiff by the number of cases with judgment for either plaintiff or defendant.<sup>14</sup> Expected awards are calculated as plaintiff win rate times average monetary awards among those cases with positive awards.<sup>15</sup> The standard deviation of awards is calculated among observations with positive awards. I use the coefficient of variation, defined as standard deviation of award divided by mean award, as the measure of variability in awards. The coefficient of variation standardizes the variability in awards by accounting for the average level of awards, which differs by forum. Data on litigation costs for each party are not available in the AO data or from

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<sup>12</sup> Until 1992, the statistical year ran from July through June, so the first half of SY 1988 provides information on cases in the DHK data set terminated in calendar year 1987. Houston is in the 5th Circuit, Detroit in the 6th Circuit, and Kansas City in the 8th Circuit. Because few cases result in trial outcomes, the sample of trial outcomes within only the relevant office or district court results in few trial verdicts. It is not possible to use data from earlier years because the data set does not record whether a verdict had been made by a jury or judge.

<sup>13</sup> Fewer than 0.3 percent of the cases are disposed of by directed verdict; directed verdicts are excluded from calculations of average values by trial forum.

<sup>14</sup> For those that were disposed of by judgment, the outcome was missing for 4 percent, and an additional 3 percent reported judgment for both parties. The denominator for plaintiff win rate excludes those with missing outcomes as well as judgment for both parties.

<sup>15</sup> All monetary values used in the analysis are in 1982 – 84 dollars, standardized using the CPI – all urban consumers index. The AO data set topcodes amount received at \$9,999,000. Amounts received less than \$1000 are coded as zero and cannot be included in the averages, as they cannot be distinguished from true zeros. Overall, 2.5 percent of positive awards are at the topcode. Among those receiving trial verdict, 1.4 percent of jury awards and 0.7 percent of bench awards are at the topcode. A common adjustment used in the labor literature for topcoded earnings is multiplying topcoded values by 1.5. Making this adjustment for topcoded awards did not affect the results.

any other source. Although far from an ideal measure, I use number of days from filing to disposition by jury or bench verdict as a proxy for expected trial costs.

The information on individual case characteristics is derived by matching each observation in the DHK to its individual counterpart in the AO data set, using information on court, docket number, and 3-digit nature of suit. I merge the individual observations with the average values for completed jury and bench trials by 3-digit nature of suit code and circuit. I eliminate cases that were transferred, remanded, reinstated, or reopened. The individual case-specific information used in the analyses is jury trial demand information, case disposition, and monetary damages demanded by plaintiff. Information on whether jury trial was demanded, and which party made the demand, is provided in the DHK data set. The remaining information is derived from the AO data set.

Although few cases receive a verdict as a result of completed trial, a larger share of cases receives judgment.<sup>16</sup> Failure to receive judgment does not necessarily imply settlement, but until statistical year 1987, the AO data did not distinguish between cases that settled before trial from cases that were dismissed for any reason other than want of prosecution. It is therefore not possible to use data from those years to identify cases that settled before trial. Beginning in SY 1987, dismissals were reported in 5 categories, including categories for cases that were dismissed because of settlement.<sup>17</sup> I classify as

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<sup>16</sup> Cases receiving disposition by judgment are categorized as judgment on default, consent, motion before trial, jury verdict, directed verdict, court trial, or other judgment. An additional category of judgment on award of arbitrator was added in SY 1987. Until SY 1987, one category was used to report cases that were “dismissed, discontinued, settled, withdrawn, etc.”

<sup>17</sup> The five categories are want of prosecution, lack of jurisdiction, voluntarily, settled, other. The primary consequence of additional categories is to distinguish cases dismissed for lack of jurisdiction from other dismissals. In the empirical analysis I classify as settled those cases that are dismissed voluntarily, settled, and other.

trials those cases that are terminated by judgment of any kind,<sup>18</sup> and examine the distinction between settlement and other dismissals using the more recent data.

Because not all civil cases are eligible for trial by jury, the sample is further restricted to case types eligible for jury trial. The remaining sample includes civil rights, labor, contracts, property rights, personal injury, product liability, and miscellaneous cases in which jury trial is permitted. The resulting sample size is 3,797, although missing data on standard deviations of awards for some case types further reduces the number of observations used in the regressions.<sup>19</sup>

Table 1 presents descriptive statistics for variables used in the analysis. Panel A summarizes characteristics of individual cases. Jury trial was demanded in 25.9 percent of the cases. Overall, plaintiffs are 4.5 times as likely as defendants to demand jury trial, with jury trial demanded by 21.2 percent of plaintiffs and 4.7 percent of defendants. Trials occur in slightly more than a quarter of the observations. The average monetary damages demanded is \$434,300 among cases reporting positive damages demanded, although this value is missing for 69 percent of cases.<sup>20</sup> Trial rates and damages demanded differ substantially based on whether jury trial was demanded by a party. Cases in which jury trial was demanded are 10 percentage points less likely to go to trial

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<sup>18</sup> This is the conventional definition of trial throughout the empirical literature on litigation. See for example Fournier and Zuehlke (1989) and Waldfogel (1995, 1998). Cases that do not receive judgment are generally assumed to be settled (e.g., see Waldfogel (1998, p. 457.)

<sup>19</sup> Removing transferred, remanded, reinstated or reopened cases reduce the sample to 7,257 observations. The DHK used 6 case type codes for employment discrimination cases filed in Kansas City that are not used in the AO data. I consider these cases matched if the AO data also recorded an employment discrimination or civil rights code. The sample with matching case type, amended this way, was 6,949. Case types generally not eligible for jury trial include prisoner petitions, forfeiture of property, social security, and federal government recovering money from individuals (student loans, overpayment of veterans' benefits), ERISA suits, other unspecified statutory actions, and those with U.S. government as defendant. Excluding these case types as well case types with no jury verdicts or bench verdicts results in a sample size of 3,824; eliminating 27 observations with missing data on jury demand or on which litigant made the jury demand yields the sample of 3,797 observations.

<sup>20</sup> Damages demanded are topcoded at \$9,999,000, and demands under \$1000 are coded as \$1000. There are 14 topcoded observations and 43 observations coded at \$1000.

than cases in which jury trial was waived. Average monetary damages demanded are 50 percent higher in cases demanding jury trial.<sup>21</sup>

Panel B of Table 1 reports average values calculated from the AO data set. Since all cases within the same circuit and 3-digit nature of suit are assigned the same average values, these averages are implicitly weighted by the frequency of that case type and circuit within the DHK-AO sample. The average plaintiff win rate in jury verdicts is 51.6 percent, two percentage points higher than the average plaintiff win rate in bench verdicts of 49.5 percent. On average, jury awards are both larger and more variable than bench awards. Expected awards average \$283,000 in jury verdicts resulting in a monetary award, and \$233,000 in bench verdicts. The average standard deviation of jury awards is \$1,517,000 and \$1,410,900 for bench awards. However, the coefficient of variation is smaller on average in jury awards than in bench awards, demonstrating that the jury awards are less variable than bench awards relative to their means. The elapsed time from filing to disposition by trial verdict is about 2 years for both types of trials, and is longer for bench trials than for jury trials, suggesting that elapsed time from filing to disposition within this data set may be a weak proxy for trial costs.<sup>22</sup>

Panel C of Table 1 addresses the impact of combining settlements with dismissals using data from SY 1987-88, which separately identifies settlements and dismissals.<sup>23</sup> Exactly the same share of cases – one-third – is dismissed among cases demanding jury

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<sup>21</sup> These differences are statistically significant, with t-values of 6.13 for the difference in trial rates, and 2.37 for the difference in damages demanded.

<sup>22</sup> There is limited information on trial duration by forum. The time from filing to disposition by forum can be calculated from two sources, the AO data used here, and the Civil Justice Survey of State Courts, 1996, which provides information on tort, contract, and real property cases tried to verdict in 45 state courts in 1996. The perception that jury trials generally take longer is supported by the state court data, with time from filing to disposition of 2.40 years for jury verdicts, and 1.82 years for bench verdicts. (Calculations available on request.)

<sup>23</sup> Cases in Houston are not included, as Houston apparently did not adopt the new coding until SY 1998. Other courts in the 5th Circuit adopted the new coding in SY 1987.

trial and waiving jury trial. The disparity in trial rates by jury demand persists, with settlement rates 15 percentage points higher among cases demanding jury trial.<sup>24</sup>

### III. Demands for Trial by Jury

Table 2 reports probit estimates of demand for jury trial, with estimates for plaintiff demand in columns 1 and 2, and defendant demand in columns 3 and 4. I control for the log of monetary damages demanded by plaintiff, when available, as a partial control for case-specific characteristics.<sup>25</sup> Because litigants compare average jury outcomes to average bench outcomes in forming expectations about the prospects for their case, I estimate the equations defining relative jury to bench outcomes two ways. In columns 1 and 3, I use as explanatory variables the difference between average jury values and average bench values of plaintiff win rate, expected awards, coefficient of variation, and years to disposition, for cases with the same nature of suit and circuit. In columns 2 and 4, I use the ratios of these values. I also include indicator variables for two district courts, Detroit and Houston, to capture local differences in factors such as possible jury composition. Kansas City is the omitted district court.

As the results reported in Table 2 indicate, jury trials are demanded by litigants based on a comparison of average jury to bench outcomes in a manner consistent with the model. Plaintiffs are more likely to demand jury trial when the plaintiff win rate is greater in jury trials than in bench trials. The positive effect of coefficient of variation on

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<sup>24</sup> Excluding dismissed cases, the t-value for the test of differences in trial rates is 5.5.

<sup>25</sup> Monetary damages demanded may be missing either because it simply wasn't reported or because monetary damages were not requested for the case. Plaintiffs also file suits for non-monetary reasons such as for injunction, foreclosure, and so forth, and cases not requesting monetary damages may be less likely to demand jury trial. The greater missing damages rate for cases in which jury trial is waived suggests some such behavior. Estimates of the jury demand and trial equations restricted to cases reporting monetary damages demanded are consistent with those reported in Tables 2 – 4.

jury demand indicates that both parties are more likely to demand jury trial when jury awards are more variable relative to bench awards, although this effect is significant at conventional levels only for plaintiffs. The relative time from filing to disposition matters to both parties, who are less likely to demand jury trial when jury verdicts are slower relative to bench verdicts. As for case-specific characteristics, plaintiffs claiming larger monetary damages are more likely to demand jury trial. Location matters, with plaintiffs in Detroit and in Houston less likely to demand jury trial relative to plaintiffs in Kansas City, while defendants in Detroit are more likely to demand a jury trial. The findings with respect to Detroit suggest that location-specific factors that make jury trials less attractive to plaintiffs make jury trials more attractive to defendants.

The marginal effects of changes in the explanatory variables are reported in parentheses. As an example of interpreting magnitudes, the results in column 1 indicate that an increase of 1 percentage point in the difference between plaintiff win rate in jury and bench verdicts on average increases the probability that plaintiffs demand jury trial by 0.385 percentage points. Monetary damages demanded have a substantial effect on the probability that plaintiff demands jury trial, with a 1 percent increase in damages demanded increasing the probability the plaintiff demands a jury trial by 3.4 percent. Relative to Kansas City, plaintiffs in Detroit are 18 percentage points less likely to demand a jury trial and plaintiffs in Houston are 9 percentage points less likely.

#### IV. Trials

The results in Table 2 confirm that litigants demand jury trial in a manner consistent with economic principles. Litigants compare expected outcomes in jury and bench trials,

and demand jury trials when such trials are expected to be relatively more favorable. Turning now to the question of the effect of jury demands on the probability of trial, it is indeterminate from theory whether cases that would have been tried by jury if trial occurred are more or less likely to settle. The greater variability of jury decisions would lead to more trials when a jury is demanded, but greater costs of jury trials increases the incentive to settle without trial.

As reported in Table 1, on average, cases in which jury trial was demanded are less likely than cases without a jury demand to receive trial judgment, suggesting that greater costs of jury trials dominates the effect of uncertainty on the probability of trial. To examine whether this effect persists when controlling for other factors that influence trial probability, I estimate probit equations of probability of trial, controlling for whether jury trial was demanded by one of the parties.<sup>26</sup> Ideally this equation would also control for variables that individually affect each party's costs of trial relative to settlement, but no such measures are available. I present estimates of three equations in Table 3 to examine sensitivity of the results to controlling for available characteristics. In column 1, I control only for jury demand. Log of damages demanded and district court indicators are added to the equation reported in column 2. Column 3 adds average values of plaintiff win rate, expected awards, coefficient of variation, and time to disposition, where the average values are calculated based on all judgments for each nature of suit and circuit, and not simply verdicts from completed trials as in the jury demand equations.

The estimates in Table 3 demonstrate that, consistent with the simple averages reported in Table 1, cases in which jury trial was demanded are less likely to go to trial.

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<sup>26</sup> This section presents single-equation probit estimates of the trial equation. Bivariate probit results are reported in the next section.

In the context of the model, this inverse relation indicates that the negative effect on trial probability of more costly jury trial outweighs the positive effect of greater uncertainty associated with party's expectations of their probability of success. The marginal effect of jury demand reported in column 1 reproduces the 10-percentage point gap in trial rates observed in the simple means. Inclusion of additional case-specific control variables in column 2 slightly reduces the marginal impact of jury demand to 9.2 percent. These equations also indicate that trials are less likely in cases with larger monetary damages demanded. This inverse relation between damages demanded and trial may reflect risk aversion, which leads to settlement rather than trial for cases with higher stakes. Controlling for additional factors in column 3 reduces the trial disparity by jury demand to 5.5 percentage points, still statistically significant at the 99 percent level. Damages demanded retains its negative effect on trial but is no longer significant at conventional levels. Trials are more likely for case types in which plaintiffs have a higher success rate and in which time from filing to disposition is shorter.

The estimates in Table 3 strongly indicate that demanding a jury trial reduces the probability of trial. But because these data do not distinguish between dismissals and settlements, we cannot conclude that demanding a jury trial increases the probability of settlement. If cases demanding jury trial are weaker to the point of being dismissed without trial, as some critics have suggested, then the lower trial rate follows directly. The identical dismissal rate between cases in which jury trial was demanded and cases in which jury trial demand was waived suggests that cases demanding jury trial are not systematically weaker. To examine directly the effect of jury demand on the probability of trial relative to settlement, Table 4 estimates the specifications of Table 3, eliminating

dismissed cases using the later years of data. Not surprisingly, given the identical dismissal rate, the results in Table 4 indicate that cases in which jury trial was demanded are more likely to settle, with the effect of jury demand ranging from 22 percent with no controls, to 10 percent controlling for all variables.

## V. Bivariate Probit Estimates of Jury Demand and Trials

To test for the possibility that single-equation probit estimates of probability of trial are biased due to correlation between error terms in the jury demand and trial equations, Table 5 presents bivariate probit estimates that correspond to the single equation estimates of Tables 2 and 3. In Table 2, separate equations were estimated for plaintiff's demand for jury trial and defendant's demand for jury trial; for the bivariate probit results, a single equation is used for the probability of jury demand regardless of which party demanded jury trial. The system is identified by the variables in the jury demand equation that measure the differences between average jury values and average bench values of plaintiff win, expected awards, coefficient of variation, and years to disposition that are excluded from the trial equation.<sup>27</sup> As in the trial equation estimates of Tables 3 and 4, the first trial equation controls only for an indicator variable for jury demand, the second equation adds damages demanded and court indicators, and the third equation adds average values of plaintiff win rate, expected awards, coefficient of variation, and time disposition calculated from all judgments.

The estimates in columns 1 and 2 of Table 5 indicate a more negative effect of jury demands on trial than the single equation estimates in Table 3. The estimated values of the covariance terms, given by  $\rho$ , are correspondingly positive as well as statistically

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<sup>27</sup> Results using ratios instead of differences, corresponding to columns 2 and 4 of Table 2, are similar.

significant. Comparison of the single equation and bivariate probit results indicates that unobservables that influence the demand for jury trial also increase the probability of trial. The third equation gives a clue to what some of these unobservables may be. By including average characteristics from trial outcomes, the estimated correlation between error terms is not significantly different from zero. Under this fuller specification of the trial equation, single equation estimates of the effect of jury demand on trial are not biased. However, the jury demand effect estimated by the bivariate probit model is not significantly different from zero, in contrast to the statistically significant effect found in the single equation estimate.

The results of Table 5 demonstrate that the bivariate results are largely consistent with the single equation estimates. Demanding a jury trial reduces the probability of trial, with the magnitude varying by specification. Based on the single equation but unbiased estimates of Table 3, column 3, jury demand reduces the probability of trial by 5.5 percentage points. The upper bound is given by the bivariate probit estimates in Table 5, column 2, which indicates jury demand lowers the probability of trial by 34.7 percentage points.

## VI. Concluding Remarks

For most civil litigation, both parties have a Constitutional right to demand trial by jury. Demanding a jury trial is of more than symbolic importance. Evidence from trial verdicts indicates that juries are more favorable to plaintiffs and make larger awards than do judges for the same type of case.<sup>28</sup> But if defendants are systematically more likely to

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<sup>28</sup> Empirical research comparing judge and jury behavior is limited. Helland and Tabarrok (2000) control for selection of type of trial and find juries make higher damages awards in personal injury cases than do

settle cases rather than risk trial by jury, it is not possible to evaluate the performance of civil jury trials relative to bench trials based solely on trial verdicts. Popular perceptions notwithstanding, there has been no theoretical or empirical evidence on the basis by which litigants demand trial by jury, nor on whether cases in which jury trial was demanded are more likely to settle before trial than cases that would be heard by a judge.

This paper presented the first theoretical model coupled with empirical evidence on the decision to demand trial by jury, and the effect of jury demand on trial and settlement. Litigants demand jury trial in a manner consistent with economic principles, by comparing expected outcomes and costs by trial forum in similarly situated cases. Plaintiffs are more likely to demand jury trial when the plaintiff win rate is higher and when stakes as indicated by damages demanded are larger. Both plaintiffs and defendants are less likely to demand jury trial when jury verdicts take more time relative to bench verdicts. The greater uncertainty associated with jury decisions relative to bench decisions increases the probability that plaintiffs demand trial by jury. Intuitively, this is because greater variability in jury awards gives plaintiffs a chance to get an unusually high outlier award.

Furthermore, demanding jury trial has important consequences on the probability of settlement. Cases in which a jury demand is made are more likely to settle. This follows

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judges, although most of the disparity is explained by case mix. Hersch and Viscusi (2003) find that juries are more likely to make punitive damages awards, and make larger awards, controlling for case type and selection of type of trial. Furthermore, a disproportionate share of punitive damages awards in excess of \$100 million are awarded by juries, lending support to the notion that the largest awards are the purview of juries. Other evidence suggests verdicts by judges and juries are similar, or that judges are more favorable to plaintiffs. Among cases tried to verdict, Clermont and Eisenberg (1992) find disparities in plaintiff win rates by trial forum primarily in product liability and medical malpractice cases, with plaintiffs more likely to win in a judge trial. They attribute disparities in plaintiff win rates by type of trial to persistent misperceptions about jury and judge behavior, with plaintiffs erroneously believing that juries are more pro-plaintiff than are judges. Moore (2000) finds generally minor jury/judge differences in plaintiff win rates and appellate affirmance rates in patent cases, but larger differences in the response to details of the case.

not from risk aversion or asymmetric information, but from the effect of jury trial on trial costs. Greater trial costs raises defendant's maximum settlement offer, and lowers plaintiff's minimum settlement demand, so it is more likely that defendant's maximum offer exceeds plaintiff's minimum demand, and the case settles. But demanding jury trial is not exclusively used to influence bargaining opportunities. Because jury trial costs are also higher for plaintiffs, jury trials will be demanded only when expected payoffs for plaintiffs are greater than in bench trials.<sup>29</sup>

Much has been made of the unpredictability of jury awards. The data analyzed here show that jury awards are more variable on average than bench awards, but not starkly so. Because plaintiffs are more likely to demand jury trial precisely for those case types in which jury awards are more variable than bench awards, the greater tendency for settlement among cases that would be tried by jury may reflect risk aversion as well as greater costs associated with jury trials.<sup>30</sup> Parties generally know which judge will be hearing their case if the right to jury trial is waived, and so can form some expectation about an individual judge's decision standards from observed behavior over time. In contrast, the composition of any jury can vary widely, and so expectations about any potential jury's decision standards are less reliably predicted from previous jury decisions.

The findings of this paper provide fuel for both opponents and proponents of civil jury reform. First, there is no evidence within this paper of a jury system run amok. Jury

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<sup>29</sup> Differences in trial costs may include differences in effort required to present a compelling case to a judge versus laypersons. A line of research assumes juries are biased. While not comparing the behavior of juries to judges, Farmer and Pecorino (2000) and Froeb and Kobayashi (1996) examine whether the effect of jury bias on trial outcomes can be eliminated by endogenous spending decisions in providing information at trial.

<sup>30</sup> For an analysis of the effect of risk aversion on the probability of settlement, see Viscusi (1988).

and bench verdicts are not starkly different. Litigants base their decision to demand trial by jury on economic factors, with greater variability of jury awards increasing the expected gain from trial. But the second concern is whether the similarity between jury and bench trial verdicts arises from a selection process in which defendants settle cases out of fear of large and variable jury awards. If so, jury and bench cases that result in actual trial verdicts will appear more similar than the underlying population of cases that are filed. This paper provides support for this latter concern. Before imposing restrictions on jury behavior, it would be worthwhile to examine more directly the relation between settlement amount and jury demands. Unfortunately, as many settlements are confidential, this poses a formidable data challenge.

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Table 1: Descriptive Statistics for Jury-Eligible Cases

Panel A: Individual case characteristics

	Percent or mean (standard deviation)		
	All cases	Jury trial demanded	Jury trial not demanded
Jury trial demanded	25.92		
Plaintiff demanded jury trial	21.17		
Defendant demanded jury trial	4.74		
Trial rate	26.60	19.21	29.19
Monetary damages demanded in \$1000 if > 0 (1982-84\$)	434.30 (1319.97)	553.61 (1384.41)	365.91 (1277.49)
Log(damages demanded)	10.94 (2.03)	11.48 (2.06)	10.64 (1.95)
Damages demand missing	68.55	55.79	73.02
Number of observations	3,797	984	2,813

Panel B: Average values for cases tried to verdict

	Jury verdicts	Bench verdicts
Plaintiff win rate	51.55	49.46
Expected awards in \$1000 (1982-84\$)	283.05	233.28
Standard deviation of awards	1517.20	1410.95
Coefficient of variation	2.77	3.18
Years to disposition	1.90	2.09

Panel C: Percent of cases dismissed, settled, or trial in 1987-88<sup>a</sup>

	All cases	Jury trial demanded	Jury trial not demanded
Dismissed	33.33	33.33	33.33
Settled	41.37	52.17	37.22
Trial	25.30	14.49	29.44
Number of observations	996	276	720

a. Excludes cases in Houston. Houston did not use new settlement codes until 1988.

Table 2: Demand for Jury Trial<sup>a</sup>

	Plaintiff demanded jury trial		Defendant demanded jury trial	
	(1) Jury–Bench <sup>b</sup>	(2) Jury/Bench <sup>b</sup>	(3) Jury–Bench <sup>b</sup>	(4) Jury/Bench <sup>b</sup>
Log(damages demanded)	0.122** (0.020) [0.034]	0.122** (0.020) [0.034]	0.011 (0.032) [0.001]	0.011 (0.032) [0.001]
Damages demand missing	1.057** (0.227) [0.251]	1.012** (0.227) [0.244]	-0.124 (0.356) [-0.012]	-0.087 (0.358) [-0.008]
Plaintiff win rate	1.355** (0.236) [0.380]	0.383** (0.083) [0.108]	0.484 (0.373) [0.045]	-0.158 (0.133) [-0.015]
Expected awards x 1000	0.052 (0.112) [0.015]	-0.002 (0.016) [-0.001]	-0.332 (0.176) [0.031]	-0.025 (0.026) [-0.002]
Coefficient of variation	0.117** (0.026) [0.033]	0.175** (0.055) [0.050]	0.054 (0.037) [0.005]	0.100 (0.069) [0.009]
Years to disposition	-0.437** (0.086) [-0.122]	-0.828** (0.198) [-0.234]	-0.437** (0.121) [-0.041]	-1.295** (0.278) [-0.120]
Detroit indicator	-0.636** (0.065) [-0.176]	-0.642** (0.067) [-0.178]	0.201* (0.102) [0.019]	0.165 (0.106) [0.015]
Houston indicator	-0.350** (0.066) [-0.092]	-0.419** (0.066) [-0.109]	-0.101 (0.112) [-0.009]	-0.075 (0.112) [-0.007]
Constant	-1.669** (0.227)	-1.371** (0.316)	-1.803** (0.363)	-0.442 (0.449)
Log-likelihood	-1698.10	-1703.75	-669.02	665.60

a. Estimated by probit. Dependent variable equals 1 if party demanded jury trial and equals 0 if the right to jury trial was waived. Standard errors are reported in parentheses and marginal effects in brackets. Marginal effects are calculated for an infinitesimal change at sample means for continuous variables and for a discrete change from 0 to 1 for indicator variables. Number of observations is 3,549.

\*\* (\*) indicate coefficient is significantly different from zero at 1% (5%) level, two-sided tests.

b. Columns (1) and (3): Values of plaintiff win rates, expected awards, coefficient of variation, and years to disposition are equal to differences between average jury and bench verdicts for nature of suit and circuit in columns (1) and (3), and are equal to ratios of average jury to bench verdict values for nature of suit and circuit in columns (2) and (4). Coefficient on expected awards in columns 1 and 3 multiplied by 1000.

Table 3: Probability of Trial<sup>a</sup>

	(1)	(2)	(3)
Jury trial demanded	-0.322** (0.052) [-0.100]	-0.296** (0.054) [-0.092]	-0.174** (0.056) [-0.055]
Log(damages demanded)		-0.041* (0.020) [-0.013]	-0.033 (0.020) [-0.011]
Damages demand missing		-0.385 (0.219) [-0.131]	-0.175 (0.222) [-0.058]
Plaintiff win rate <sup>b</sup>			0.620** (0.150) [0.200]
Expected awards x 1000 <sup>b</sup>			0.074 (0.173) [0.024]
Coefficient of variation <sup>b</sup>			0.024 (0.040) [0.008]
Years to disposition <sup>b</sup>			-0.319** (0.111) [-0.103]
Detroit indicator		0.041 (0.060) [0.013]	-0.012 (0.063) [-0.004]
Houston indicator		0.196** (0.064) [0.066]	0.202** (0.068) [0.067]
Constant	-0.548** (0.025)	-0.225 (0.220)	-0.490 (0.373)
Log-likelihood	-2179.90	-2172.86	-2115.08

a. Estimated by probit. Dependent variable equals 1 if case received judgment on default, consent, motion before trial, jury verdict, directed verdict, court trial, award of arbitrator, or other judgment, and equals 0 if case settles or is dismissed. Standard errors are reported in parentheses and marginal effects in brackets. Marginal effects are calculated for an infinitesimal change at sample means for continuous variables and for a discrete change from 0 to 1 for indicator variables. Number of observations is 3,797. \*\* (\*) indicate coefficient is significantly different from zero at 1% (5%) level, two-sided tests.

b. Variables are averages calculated by nature of suit and circuit using data on all judgments reported in AO data set 1979-88.

Table 4: Probability of Trial v. Settlement<sup>a</sup>

	(1)	(2)	(3)
Jury trial demanded	-0.634** (0.118) [-0.224]	-0.614** (0.122) [-0.218]	-0.284* (0.133) [-0.104]
Log(damages demanded)		-0.066 (0.056) [-0.025]	-0.068 (0.055) [-0.025]
Damages demand missing		-0.516 (0.584) [-0.200]	-0.453 (0.583) [-0.175]
Plaintiff win rate <sup>b</sup>			0.792* (0.345) [0.298]
Expected awards x 1000 <sup>b</sup>			0.786 (0.544) [0.296]
Coefficient of variation <sup>b</sup>			0.086 (0.097) [0.032]
Years to disposition <sup>b</sup>			-0.570* (0.268) [-0.214]
Detroit indicator		-0.130 (0.135) [-0.050]	-0.013 (0.144) [-0.005]
Constant	-0.147** (0.057)	0.507 (0.597)	-0.150 (0.948)
Log-likelihood	-425.78	-424.26	-401.09

a. Estimated by probit. Sample is comprised of cases receiving judgment or settling in Detroit and Kansas City district courts in 1987-88. Cases that were dismissed are excluded. Dependent variable equals 1 if case received judgment and equals 0 if case settles. Standard errors are reported in parentheses and marginal effects in brackets. Marginal effects are calculated for an infinitesimal change at sample means for continuous variables and for a discrete change from 0 to 1 for indicator variables. Number of observations is 664.

\*\* (\*) indicate coefficient is significantly different from zero at 1% (5%) level, two-sided tests.

b. Variables are averages calculated by nature of suit and circuit using data on all judgments reported in AO data set 1979-88.

Table 5: Bivariate Probit Estimates of Trial and Demand for Jury Trial<sup>a</sup>

	(1)		(2)		(3)	
	Probit coefficients	Marginal effects	Probit coefficients	Marginal effects	Probit coefficients	Marginal effects
	<i>Trial equation<sup>b</sup></i>					
Jury trial demanded	-0.944** (0.130)	-0.261	-1.302** (0.145)	-0.347	-0.075 (0.345)	-0.023
Log(damages demanded)			0.016 (0.022)	0.005	-0.041 (0.025)	-0.013
Damages demand missing			0.087 (0.229)	0.029	-0.287 (0.254)	-0.094
Plaintiff win rate					0.493** (0.183)	0.156
Expected awards x 1000					0.837** (0.281)	0.265
Coefficient of variation					0.199** (0.065)	0.063
Years to disposition					-0.312* (0.139)	-0.099
Detroit indicator			-0.187** (0.071)	-0.063	0.023 (0.087)	0.007
Houston indicator			-0.026 (0.076)	-0.009	0.188* (0.092)	0.061
Constant	-0.371** (0.052)		-0.246 (0.210)		-1.380** (0.486)	
	<i>Jury Demand Equation<sup>c</sup></i>					
Log(damages demanded)	0.122** (0.019)	0.039	0.120** (0.019)	0.039	0.119** (0.019)	0.038
Damages demand missing	1.003** (0.213)	0.280	0.979** (0.219)	0.275	0.963** (0.220)	0.270
Plaintiff win rate	1.325** (0.220)	0.425	1.294** (0.212)	0.416	1.222** (0.225)	0.391
Expected awards x 1000	-0.053 (0.105)	-0.017	-0.047 (0.099)	-0.015	-0.058 (0.107)	-0.019
Coefficient of variation	0.129** (0.024)	0.041	0.122** (0.023)	0.039	0.126** (0.025)	0.040
Years to disposition	-0.598** (0.080)	-0.192	-0.574** (0.079)	-0.185	-0.572** (0.082)	-0.183
Detroit indicator	-0.468** (0.063)	-0.149	-0.484** (0.062)	-0.154	-0.515** (0.063)	-0.163
Houston indicator	-0.372** (0.063)	-0.112	-0.358** (0.065)	-0.109	-0.353** (0.065)	-0.107

Constant	-1.552** (0.214)		-1.521** (0.221)		-1.492** (0.222)	
rho	0.453** (0.089)		0.698** (0.108)		-0.038 (0.203)	
Log likelihood	-3891.95		-3882.90		-3844.09	

a. Standard errors are reported in parentheses.

\*\* (\*) indicate coefficient is significantly different from zero at 1% (5%) level, two-sided tests.

b. Dependant variable in trial equation equals 1 if case received judgment and equals 0 if case settles or is dismissed. Variables are averages calculated by nature of suit and circuit using data on all judgments reported in AO data set 1979-88.

c. Dependant variable in jury demand equation equals 1 if either party demanded a jury trial and equals 0 if jury trial is waived. Values of plaintiff win rates, expected awards, coefficient of variation, and years to disposition are equal to differences between average jury and bench verdicts for nature of suit and circuit.