

Bargaining in the Shadow of the Law: The Impact of Bad Faith Liability on Automobile Insurance Settlements

By

Sharon Tennyson

and

Danial Asmat

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Abstract

Over the past thirty years insurance law has begun to provide policyholders with greater ability to obtain compensation in cases where insurers are found to have violated good faith standards in claim settlement. The law varies by state, but most states recognize the right of policyholders to file private causes of action against insurers alleging unfair claim settlement practices. Economic theory implies that policyholders in states that recognize a private cause of action for insurer bad faith should receive more favorable claim settlements if bargaining is undertaken with the bad faith regime in mind, and previous empirical work has found results consistent with that prediction. This paper provides new evidence on the impact of bad faith liability on automobile insurance settlements by analyzing individual claims over three decades, using data on claims settled in 1977, 1987 and 1997. Our research design recognizes the difficulty in identifying the effects of laws based on cross-sectional estimates of settlements in states with different laws. Our results are reasonably consistent with those in the existing literature, but the use of data from several different time periods produces a more nuanced set of findings.

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Introduction

Common law has long recognized the unequal bargaining power of insurance companies and policyholders in the insurance relationship. Because the insurer writes the contract and controls the settlement of claims, insurers are held to high standards of “good faith and fair dealing” in the contractual relationship (Jerry, 1994). Nevertheless, until relatively recently policyholders who were treated unfairly in claims settlement had few available legal remedies. Legal disputes about such matters were settled under nineteenth-century English common law¹ which limited policyholders to recovering only the amounts specified in the insurance policy, even if the breach of contract was intentional on the part of the insurer.

Over the past thirty years the law has begun to provide policyholders with greater ability to obtain compensation in cases where insurers are found to have violated good faith standards in claim settlement.² The law varies by state, but most states recognize the right of policyholders to file private causes of action against insurers alleging unfair claim settlement practices. A majority of states now adjudicate such cases under tort law rather than contract law, or provide statutory remedies that allow damages similar to those available under tort law (Browne, Pryor and Puelz, 2004; Tennyson and Warfel, 2009). Under tort law an injured party may recover for all harm or injuries sustained including legal expenses, and damages for economic loss and mental distress; and punitive damages may be awarded if the conduct giving rise to liability was particularly egregious. Tort liability for first-party insurance bad faith thus increases the potential damages faced by an insurer for bad faith dealings.

Although the 1980s were the principal time period during which bad faith law developed and legal scholars viewed the law as relatively mature by the mid-1990s (Abraham, 1994), the expansion of policyholder remedies for unfair claim settlement practices has gained renewed

¹See *Hadley v. Baxendale*, 156 Eng. Rep. 145 (Ex. 1854).

² Vance (1951) and Stempel (2008) provide discussion of the development of insurance bad faith liability. The first court decision that allowed the application of tort liability to first-party insurance bad faith was *Gruenberg v. Aetna Insurance Company*, adjudicated by the California Supreme Court in 1973.

momentum in recent years as states have enacted or considered new legislation relating to first-party insurer bad faith (Tennyson and Warfel, 2009). Prominent examples include Minnesota, which passed legislation in 2008³ that creates a new private cause of action for first-party insurance bad faith where one previously did not exist. Legislation adopted in Washington⁴ expands the definition of first-party insurance bad faith and increases the damages awards available to policyholders in cases alleging insurer bad faith. Thus, the legal standards for first-party insurance bad faith are still evolving and consideration of the implications of these laws remains relevant.

Expanded liability for insurer bad faith alters the bargaining environment for claims settlement between insurance companies and policyholders. The threat of greater financial penalties in the event that a policyholder's claim of bad faith is upheld by the courts increases the relative bargaining power of policyholders and reduces the incentives of an insurer to deny, delay or underpay claims (Abraham, 1994; Sykes, 1996). This implies that policyholders in states which recognize a private cause of action for insurer bad faith should receive more favorable claim settlements if bargaining is undertaken with the bad faith regime in mind.

Although the relationship between expected litigation costs and negotiated settlement amounts has been examined extensively in the theoretical law and economics literature, there are comparatively few empirical studies of this relationship.⁵ This paper provides additional evidence on the impact of bad faith liability on automobile insurance settlements by analyzing individual claims over three decades, using data on claims settled in 1977, 1987 and 1997.

Our research design recognizes the difficulty in identifying the effects of laws based on cross-sectional differences in outcomes in states with different laws. Of particular concern is the

³ 2008 Minn. Laws § 604.18.

⁴ Wash. Rev Code § 48.30.010 (2007).

⁵ Cooter and Rubinfeld (1989) and Spier (2005) provide comprehensive reviews of the theoretical literature in this area. Important empirical studies related to our paper include Farber and White (1991), Kessler (1995) and Chang and Sigman (2000). Browne, Pryor and Puelz (2004) and Hawken, Carroll and Abrahamse (2001) provide empirical analysis of the effects of bad faith liability on settlements.

possibility that other state characteristics correlated with bad faith regimes may affect claim settlement outcomes. In a cross-sectional analysis these effects may be confounded with those of bad faith liability. Analysis of claim settlements in different states across time provides a stronger test of the hypothesis that the bad faith environment affects claim settlements, by taking advantage of state changes in bad faith regimes over time.

Analysis of the earlier 1977-1987 time period also provides evidence on the immediate impact of expanding insurer bad faith liability, because this is the period in which the liability expansion was occurring. The landmark case addressing this issue occurred in 1973⁶, with courts in over 20 states following this precedent between 1973 and 1989.

Background for the Study

*Insurer Bad Faith Liability*⁷

Extra-contractual remedies for insurer bad faith were first adopted in the third-party (liability) insurance context in the late 1950s.⁸ Third-party insurance provides coverage to the insured for damage or loss that the insured has caused to some third party (Browne, Pryor and Puelz, 2004). In third-party insurance, the courts have reasoned that insurers must be held to a stringent standard because of their disproportionate ability to influence the acceptance or rejection of a settlement offer made by a claimant. Courts have ruled that third-party insurers have a “duty to settle”, a standard which demands that an insurer consider the insured’s interest in addition to its own in deciding whether to accept or reject a settlement offer.⁹

⁶ The first court decision that allowed the application of tort liability to first-party insurance bad faith was *Gruenberg v. Aetna Insurance Company*, adjudicated by the California Supreme Court in 1973.

⁷ This discussion draws from Tennyson and Warfel (2009), who provide a more detailed discussion of the history and variety of state bad faith regimes.

⁸ See *Comunale v. Traders and General Insurance Company*, 50 Cal 2d. 654, 328 P. 2d 198 (1958).

⁹ *Id.*

In the 1973 *Gruenberg v. Aetna Insurance Company* decision,¹⁰ the California Supreme Court extended the tort of bad faith to include first-party insurance coverage disputes. First-party insurance provides recovery of losses sustained directly by the insured (Browne, Pryor and Puelz, 2004). In *Gruenberg* the court reasoned that in third-party claims, the insurer has a “duty to accept reasonable settlements,” whereas in a first-party claim, the insurer has a “duty not to withhold unreasonably payments due under a policy,”¹¹ and observed that “these are merely two different aspects of the same duty.”¹² Thus, the court ruled that when an insurer “[refuses], without proper cause, to compensate its insured for a loss covered by the policy, such conduct may give rise to a cause of action in tort for breach of an implied covenant of good faith and fair dealing.”¹³ This is a unique application of tort law because it applies despite the existence of a contract, and does not require the policyholder to allege a separate tort in order to recover punitive damages.

Among the states that recognize insurer bad faith as a tort, not all use the same standards to determine insurer culpability. States that follow the California-rule use what is essentially a negligence standard. Other states apply a standard that more closely resembles an intentional tort standard, which was first adopted in *Anderson v. Continental Insurance Company* in Wisconsin in 1978.¹⁴ The Wisconsin court ruled that “the tort of bad faith is not a tortious breach of contract. It is a separate intentional wrong, which results from a breach of duty imposed as a consequence of the relationship established by contract.”¹⁵ Denying a claim whose validity is “fairly debatable” does not constitute bad faith; the issues are whether the insurer undertook a proper investigation, and whether the results of the investigation were subjected to a reasonable evaluation and review. Moreover, the court ruled that “there must be a showing of an evil intent

¹⁰ See *Gruenberg v. Aetna Insurance Company*, 510 P. 2d 1032 (Cal. 1973).

¹¹ *Id.*, at 1037.

¹² *Id.*

¹³ *Id.*

¹⁴ See *Anderson v. Continental Insurance Company*, 85 Wis. 2d 675, 691, 271 N.W. 2d 368 (1978).

¹⁵ *Id.*, at 374.

deserving of punishment or of something in the nature of special ill-will or wanton disregard of duty or gross or outrageous conduct” in order to recover punitive damages.¹⁶ Under the Wisconsin-standard fewer cases are likely to support an allegation of bad faith, and a smaller set of bad faith claims will warrant punitive damages.

Whether applied using a negligence or intentional tort standard, the tort of bad faith contrasts with a contract law treatment as exemplified in *Beck V. Farmers Insurance Exchange*, a case in Utah.¹⁷ In *Beck* the court reasoned that “the practical end of providing a strong incentive for insurers to fulfill their contractual obligations can be accomplished ... through a contract cause of action, without the analytical straining necessitated by the tort approach and with far less potential for unforeseen consequences to the law of contracts.”¹⁸ A number of states have rejected tort for insurer bad faith, and continue to apply a contract law standard. Many of these states allow a broad definition of damages that include consequential, or incidental, damages such as prejudgment interest and legal expenses, although others apply a traditionally narrow definition of contractual damages. However, in all cases the contract standard forecloses the possibility of punitive damages in the absence of proof that an independent tort such as fraud or intentional infliction of emotional distress occurred.

Still other states have adopted legislation that permits a private cause of action in cases of insurer bad faith, usually under the guise of an Unfair Trade Practices Statute. In these states the statute may explicitly permit a private cause of action, or the courts may have recognized an implied private cause of action under the statute. Most statutes allow for only limited recovery of damages, but some allow for penalties in excess of actual damages and a few statutes contain language that may be construed to permit unlimited punitive damages.¹⁹ Nonetheless, in most

¹⁶ *Id.*, at 379.

¹⁷ See *Beck v. Farmers Insurance Exchange*, 701 P. 2d 795, 801-02 (Utah 1985).

¹⁸ *Id.*, at 799.

¹⁹ See e.g., *Maier v. Continental Casualty Company*, 76 F. 3d 535 (4th Cir. 1999), applying West Virginia law.

states the damages allowed under statute are more limited than those in states that recognize insurer bad faith as a separate tort (Browne, Pryor and Puelz, 2004; GenRe, 2008).

The Impact of Bad Faith Liability

In theory, expanded liability for insurer bad faith increases the expected value of a claim in litigation, thereby increasing the relative bargaining power of policyholders in claim negotiations. Increased bargaining power should lead to more favorable claim settlements for policyholders, implying a positive correlation between state laws recognizing bad faith liability and claim settlement values for policyholders.

However, researchers have noted several reasons that insurance bad faith law may have no measurable effect on claim settlements (Browne, Pryor and Puelz, 2004). First, market forces already provide pressure for insurers to pay claims and to settle quickly. Insurers that systematically underpay or delay claims will face competitive sanctions in the market, through a reduction in demand for their products (Sykes, 1996). Institutional and ethical constraints add to this pressure. Additionally, in his classic field study of insurance claim settlement practices, Ross (1980) notes that ethical standards of fairness are as an important determinant of claim settlements (pgs. 51-52), and that insurance company adjusters face considerable pressure to close claim files quickly (pgs. 58-60).²⁰

Further, the threat of bad faith liability is at most a second order effect: the first order threat is litigation of the disputed claim, which can occur in any state. Insurers' fear that a lawsuit may also contain accusations of bad faith may not be necessary or sufficient to change claim settlement practices. Finally, the desire to develop standardized policies and procedures may mean that insurer claim settlement practices do not vary much by state, and thus may not specifically vary in relation to a state's bad faith regime. All of these forces tend to mute

²⁰ For example, Ross states that "A cynic might well point to the fact that courts also have a standard of fairness"... and "I do not think that this fact is an important consideration in the settlement of claims." (pg. 51) It should be noted, of course, that Ross' study data arise from 1962, a time period prior to the courts' recognition of the tort of bad faith.

distinctions between states and suggest that there may be little effect of a state's bad faith regime on insurance settlements. Thus, the impact of insurer bad faith laws on claim settlements is an empirical question.

Only a few studies have empirically attempted to gauge the impact of bad faith law on insurance markets. Because of the ready availability of data, all have focused on private passenger automobile insurance. Periodic nationwide surveys of automobile injury compensation from the claims files of numerous insurance companies have been undertaken periodically by the Insurance Research Council (IRC) since 1977.²¹ These surveys provide detailed data on settled automobile insurance claims in virtually all states, facilitating analysis of the effects of states' legal regimes on accident compensation.

Browne, Pryor and Puelz (2004) provide the first analysis of the effect of first-party insurance bad faith on automobile insurance payments. Using IRC data on first party injury claims from 38 states settled in 1992, the authors use multiple regression analysis to estimate whether claim settlement amounts are larger in states that permit private actions for insurer bad faith, after controlling for the characteristics of the claim. Their results indicate that insurers settle claims at higher dollar values when the state recognizes first-party bad faith liability. They find additionally that the larger settlement amounts occur in both the economic and non-economic damages portions of the settlements.

Hawken, Carroll and Abrahamse (2001) study the effects of bad faith tort liability for *third-party* claims, and find similar results. The study focuses on the particular effects of the 1979 ruling in the Royal Globe case in California, which had the effect of allowing third parties to file tort actions against liability insurers from 1979 to 1988, when it was overturned. Using data on third party automobile insurance injury claims, the authors compare claim settlements in

²¹ The IRC is an independent, not-for-profit organization supported by leading property-casualty insurance organizations. Its mission is to provide "timely and reliable empirical research to all parties involved in public policy issues affecting risk and insurance. It does not advocate public policy or directly influence specific legislative initiatives or engage in lobbying communications." (<http://www.ircweb.org/>)

California to those in other states. They find that payments for claims in California were 25 percent higher than similar claims in other states during the period when third-party bad faith claims were allowed, but not after the Royal Globe ruling was overturned. Using aggregate statewide data, the study also finds that the number of third-party automobile injury claims increased relative to other states when the Royal Globe decision was in effect, and declined when the ruling was overturned.

Tennyson and Warfel (2009) analyze the characteristics of paid automobile insurance claims to begin to explore the welfare implications of higher claim settlements in states that permit bad faith claims. One concern that has been raised about the expansion of bad faith liability is the potential for increased pressure on insurers to pay fraudulent or exaggerated claims (Abraham, 1986). Tennyson and Warfel (2009) compare the prevalence of insurer claim investigations and claim characteristics often associated with fraud in states with and without bad faith liability to provide evidence on this question. The study finds that insurance companies make less intensive use of investigations and that paid claims are more likely to contain fraud “red flags” in states that permit bad faith actions against insurers. These findings are consistent with the hypothesis that bad faith liability reduces insurers’ incentives to monitor for fraud.

Research Design

Our study adds to the empirical literature on insurance bad faith by providing evidence on the long-run impact of bad faith liability on the size of first-party insurance settlements. We test the hypothesis that policyholders garner more favorable settlements in states that allow expanded liability for insurer bad faith, after other relevant characteristics of the claim are accounted for. We analyze first-party automobile injury claims settled in 1977, 1987 and 1997 to examine this issue.

Combining data across states and years permits a comparison of claim settlements before and after bad faith laws are in effect in a state, relative to settlements in other states in the same

years. We make further use of the data from the three different time periods to examine whether the cross-sectional impact of tort-based bad faith declines over time. This allows us to investigate whether insurers appear to adjust their internal processes and claim settlement behaviors over time – as bad faith law becomes more settled – to accommodate new norms that are created as bad faith become more widely permitted.

The analysis compares claims settled in states that permit bad faith to claims settled in states that do not, using linear regression models that control for other features of the claim that are expected to affect payment amount. In keeping with previous studies of automobile insurance claim settlements, the claim characteristics we control for include the demographic characteristics of the claimant, the nature and severity of the injury, injury treatment, geographic location, and attorney representation (e.g., Ross 1980; Browne, Pryor and Puelz 2004; Doerpinghaus, Schmit and Yeh 2003; Crocker and Tennyson 1998).²² The specific variables included in the models are chosen in order to maintain a consistent empirical specification for each of the three survey years.

Tort-based bad faith will lead to higher expected damages for an insurer than other bad faith laws, due to the expanded possibility for a punitive damages award. States in which bad faith actions are not permitted, or states in which the law is silent on such actions, will impose lower expected penalties on insurers than other states. For this reason we measure the impact of expanded liability for bad faith by comparing claims settled under tort-based bad faith regimes from others.

The logic underlying our hypothesis test dictates that our empirical models also control for whether the state had enacted legislation to limit punitive damages awards in tort cases. Beginning in the 1980s, a number of states enacted this type of tort reform in order to reduce the frequency or severity of lawsuits in state courts. Limits on punitive damages awards will reduce the expected penalties faced by insurers in all cases including bad faith cases, and thus may be

²² One might argue that attorney representation is jointly determined with the settlement amount. We treat this variable as predetermined based on the finding in the 1997 IRC survey that a large majority of represented claimants were represented at the time of first contact with the insurer.

confounded with the effects of the bad faith regime in a state. Consistent with this, Browne, Pryor and Puelz (2004) found that punitive damages reforms were negatively related to insurance settlement amounts in their study of insurance bad faith.²³

Empirical Models

Our hypothesis is first tested in cross-section data using the three individual datasets: claims settled in 1977, claims settled in 1987, and claims settled in 1997. For each year t the empirical model is specified in the following way:

$$\begin{aligned} \ln(\text{Claim Settlement})_{is} = & \alpha + \beta_1 \text{BadFaith}_s + \beta_2 \text{Tort-reform}_s + \beta_3 \text{Attorney}_{is} + \\ & \Delta_1 \text{Claimant_Chars}_{is} + \Delta_2 \text{Accident_Chars}_{is} + e_{is} \end{aligned} \quad (1)$$

where subscript i stands for a claim and s stands for a state. α and β are parameters to be estimated, and Δ are vectors of coefficients to be estimated; e is a random error term assumed to be normally distributed. The key independent variable of interest is the state's bad faith law, coded as 1 if the state allows tort-actions and coded as 0 otherwise. The estimated standard errors on all coefficients are adjusted to allow for possible heteroskedasticity and correlation of error terms within a state.

The hypothesis is also tested using the combined 1977-1987-1997 dataset that allows us to control for time-invariant state-specific effects on claim settlements, using a difference-in-differences regression approach. We include state fixed effects in these models to account for the fact that claim settlements may be permanently different across states for reasons unrelated to bad faith law. We include year fixed effects to capture the effect of national phenomena that may affect claim settlements over time.

The panel-data empirical model is specified in the following way:

²³ Their models included a variety of tort-reform measures. Punitive damages reforms were the only tort-reform measure found to have a statistically significant impact on settlement amounts.

$$\begin{aligned} \ln(\text{Claim Settlement})_{ist} = & \alpha + \beta_1 \text{BadFaith}_{st} + \beta_2 \text{Tort-reform}_{st} + \beta_3 \text{Attorney}_{ist} + \\ & \Delta_1 \text{Claimant_Chars}_{ist} + \Delta_2 \text{Accident_Chars}_{ist} + u_s + v_t + e_{ist} \end{aligned} \quad (2)$$

where subscript t denotes year, subscript i stands for a claim and s stands for a state. The other variables and notation remain as described previously for model (1), with the exception of the addition of state fixed effects u_s and year fixed effects v_t . In these models as in the previous models, estimated standard errors are adjusted to allow for possible heteroskedasticity and the correlation of error terms within a state.

The inclusion of state and year fixed-effects in the panel data models implies that we measure the impact of tort bad faith on claim settlements in a state and year as deviations from the mean level within each state and across states in each year. This ensures that the estimated parameter for the law variable is not simply picking up characteristics of a state or a year in which the law is present, that are correlated with claim settlements. More specifically, in these models the effects of bad faith law on claims settlements are identified only from those states that change their bad faith regime during the study period, and the impact is estimated relative to settlements in other states in the same years. This is a more robust study design than that based on a cross-section of states at a point in time.

Data

The data on insurance claim settlements are obtained from national samplings of automobile uninsured motorist (UM) claims collected by the IRC in 1977, 1987 and 1997. UM coverage is an element of the private passenger automobile insurance policy, and it provides coverage for bodily injury to the policyholder with respect to an accident in which the other driver was at fault, but the other driver was the owner or operator of an uninsured motor vehicle. UM insurance is considered a first-party insurance contract and courts have specifically upheld

the applicability of first-party bad faith remedies in the UM context (Browne, Pryor and Puelz, 2004; GenRe, 2008).

In each survey year the characteristics of individual UM claims are reported from accidents occurring throughout the entire United States. The data are collected through a survey form submitted to major automobile insurers. The observations exclusively contain claims that have been settled and paid, and provide a large amount of information about the disposition of the claim, the characteristics of the injured party, the accident, the injury and its treatment, as well as the settlement amount.²⁴ The data report the location of each accident by state and the date of the accident, making it possible to correlate claim settlements with the bad faith regime under which each claim is settled. Due to processing and negotiation lags, claims settled in each survey year arise from accidents occurring not only in the survey year but also in prior years. The bad faith law in effect for each claim is determined by law in effect in the accident state for the year of the accident.

Data on state bad faith laws are compiled based on Stempel (2006), GenRe (2008), Ostrager and Newman (2008), Browne, Pryor and Puelz (2004) and Tennyson and Warfel (2009). Our study distinguishes claims settled under tort-based bad faith regimes from others. However, states with statutes that permit punitive damages or significant extra-contractual penalties for insurer bad faith are omitted from the analysis, in order to provide a clear distinction between states that allow the broad-based damages permitted under tort liability and those that do not. Our comparison sample thus consists of those states that adjudicate charges of insurer bad faith under contract law or under a statute with limited damages provisions, or in which the courts have specifically rejected the rights of policyholders to file suit alleging bad faith. States for which the dates of implementation of bad faith laws were unclear are also omitted from the analysis. The

²⁴ The amount of economic loss is also recorded in the survey data, but is missing for some observations and is reported as zero for some observations. The full amount demanded by the policyholder (i.e. including general damages) is not recorded in the survey.

resulting dataset contains claims from 42 states in each year of the study. Table 1 displays the bad faith regimes in effect in each state during the period of study.

[Insert Table 1 about here]

The tabulation confirms that the dataset has sufficient variation in the type of state laws to conduct cross-sectional and time-series analysis. As seen in the table, only 8 states in our sample recognize bad faith actions by 1977; 14 states do not recognize such actions in any year of our sample. Between 1977 and 1987 15 states changed their first-party insurance bad faith regime, and between 1987 and 1997 6 states changed their regime. By 1997 27 states out of the 42 states in our sample allow bad faith actions under tort law.

In determining the final set of claims for analysis, we omit all claims for which the accident state, the date of the accident, the settlement amount or any other key variable is missing in the survey data. We also omit all claims subject to minimum claiming thresholds under a no-fault insurance regime, to preserve comparability of the compensation regimes in which the injury claims are settled.²⁵

The resulting dataset contains 2,134 claims in 1977, 2,181 claims in 1987 and 3,543 claims in 1997. Table 2 displays the number of sample observations for each survey year by bad faith regime, comparing states that permit tort actions for bad faith versus states that do not. As expected given the evolution of the law over time, the fraction of claims settled under tort-based bad faith laws increases in each year of the study period. In 1977, only 38.6 percent of claims in our sample were settled under tort-based bad faith regimes; by 1987 this figure had increased to 69.7 percent and in the 1997 dataset fully 79.8 percent of claims are settled in states that allow tort-based bad faith.

²⁵ No-fault insurance limits the ability to file liability claims for automobile accident injuries to those injuries exceeding a threshold level of severity as specified in each state's law. Although UM claims are first-party claims, a no-fault threshold will limit compensation for pain and suffering or other general damages to those UM claims that exceed the specified injury severity. Empirical studies of automobile no-fault insurance provide evidence that no-fault affects insurance claims and claim settlements (e.g. Cummins and Weiss, 1991).

[Insert Table 2 about here]

The table also reports mean settlement amounts for the two groups of states in each survey year. For ease of comparison, all dollar amounts in the data are normalized to 1987 values using inflation rates contained in the Consumer Price Index. After adjusting for general price level differences, the mean settlement amounts are relatively constant over time and are in the range of \$6,000. The data also reveal that – contrary to our hypothesis – mean settlement amounts are lower in states that permit tort-based bad faith actions. The difference in mean settlement amounts across bad-faith and non-bad-faith states is statistically significant in 1977 and 1987, although marginally so (at the 10 percent confidence level) in 1977.

[Insert Table 3 about here]

Summary statistics for all variables included in the empirical models, by survey year, are reported in Table 3. These data reveal that, with a few exceptions, the claim and accident characteristics are quite similar over time. In each survey year the mean age of claimant is 34 to 35 years, and 43 to 45 percent of claimants are male. The majority of claimants were the driver of the insured vehicle, and 60 to 65 percent of claims occurred in a large city or its suburbs in each year. Accidents involved an average of 2.2 vehicles, and around 44 percent of claimants received treatment in a hospital emergency room in each year. A key difference is that fatalities and injuries that lead to permanent disability are more likely to occur in 1977 than in other years, and injury severity appears to decrease in each year of the survey. Attorney representation varies over time but does not display a consistent trend: 41 percent of claimants are represented by an attorney in 1977, 50 percent in 1987 and 45 percent in 1997.

Estimation Results

Individual Year Estimates

The results of estimating the claim settlement models for each year separately are displayed in Table 4. Because no state had enacted tort reforms by 1997, the 1977 estimates do

not include an indicator for state tort reforms. To make direct comparisons across years easier, we display the estimates for 1987 and 1997 both without and with an indicator of state enactment of tort reforms.

The estimated cross-section models demonstrate a good fit for each year, and the signs and significances of important variables are consistent with expectations and generally similar across the three survey years. For example, claimants represented by an attorney receive significantly higher settlements after controlling for claim characteristics. Claimants experiencing a permanent disability or fatality receive higher payments than those experiencing only a temporary disability (the omitted category), and claimants with no disability receive lower payments than those who have a temporary disability. Claim payments are also positively associated with longer hospital stays, as expected. Also consistent with expectations, claim settlements are significantly lower in 1987 and 1997 in states that enacted tort reforms to limit punitive damages.

The estimation results are supportive of the hypothesis that expanded liability for insurer bad faith increases claimant bargaining power. After controlling for characteristics of the claim, the accident and the claimant, the estimates show that claim settlements are significantly higher in states that recognize tort-actions for bad faith as compared to states that do not. This result holds in each of the three survey years, but the claim payment differences between the two sets of states are highest in 1977. In that year, the estimated increase in mean claim settlements due to tort-based bad faith, after controlling for other claim characteristics, is 54 percent. In 1987, the estimated increase in settlements due to tort-based bad faith is 31 percent using the estimates that include state tort reforms. The 1997 estimates show that claim payments in states that recognize tort actions for bad faith are 21 percent higher using this same version of the estimates.

[Insert Table 4 about here]

Of course, it is important to keep in mind that the set of states that recognize tort actions for insurer bad faith are changing over time. This means that the tort bad faith indicator variable

does not apply to the same sets of states in the estimates for 1977, 1987 and 1997. Moreover, because the bad faith indicator variable varies only by state the estimates cannot include state fixed effects. These limitations suggest that caution should be used when interpreting changes in the estimated effects of expanded liability for bad faith across the three individual-year estimates.

Panel Data Estimates

Combining the claims for all three survey years and estimating a single model that includes state fixed effects and survey year fixed effects allows for easier interpretation of the estimated effects of bad faith liability over the sample period. The results of these combined estimates are displayed in Table 5. Two variants of the estimates are reported. The first includes a single indicator variable for claims that are settled in states that allow tort-based bad faith (irrespective of survey year). The second allows the impact of tort-based bad faith to differ by survey year, through an interaction of the indicator for tort bad faith with each of the survey year indicators.

As was the case for the cross-section models, the combined model estimates demonstrate a good fit and the coefficient estimates on important control variables have the expected signs. Attorney representation, more serious disabilities and longer hospital stays are all associated with significantly higher claim payments in these models, as in the previous estimates. In the combined estimates, however, state tort reforms have so significant effects on claim payments. The addition of survey year indicators to the combined models shows that on average claim payments are significantly lower in both 1977 and 1987 than in 1997 (in constant dollars), after controlling for claim characteristics.²⁶

[Insert Table 5 about here]

The estimated impact of state recognition of bad faith tort actions is smaller and less statistically significant in the panel data estimates than in the individual year estimates. Using the

²⁶ An F-test also shows that the coefficient on the 1977 survey year dummy variable is significantly smaller than that on the 1987 survey year dummy, indicating that average payments are lower in 1977 than in 1987, all else equal.

estimates that control for state tort reforms, when averaged over the three decades claim settlements are 20 percent higher in states that permit tort actions compared to states that do not. This is comparable to the cross-section estimates for 1997, and much smaller than those for 1987 and 1977. When the effects of tort are allowed to vary over time, the same decline in the effects of bad faith is seen in these models as in those estimated for each year separately.²⁷ The coefficient on the bad faith indicator is 0.237 in 1977, 0.192 in 1987 and 0.067 in 1997. Moreover, the estimated impact of bad faith is statistically significant in 1977, but not in 1987 or 1997.

Robustness Checks

Our key results remain largely the same in all models estimated, although there are some differences regarding coefficient size and statistical significance in different versions of the estimates. The qualitative story that emerges from the estimates is that tort liability for insurer bad faith tends to increase claimant bargaining power as evidenced by higher claim settlement amounts, but that its impact on claim settlements has declined over time. This finding is consistent with the idea that insurers have adjusted their claim settlement practices in all states over time, as the standards and penalties for insurer bad faith in claim settlement have matured in the law.

To test the robustness of these results, we re-estimate the panel data models using alternative samples of claims. As a first check we omit claims that arise from accidents occurring more than two years prior to the survey year. Although the claims in our each survey year were settled in the year of the survey, the claims oftentimes arise from accidents occurring in prior years. Because claims that experience higher than usual settlement delays may also differ in other respects, we examine whether our estimates are affected by omitting those claims. In each year

²⁷ Results remain similar when the impact of tort reforms is also allowed to vary across the survey years.

of the data, the majority of claims are from accidents that occur in the survey year, and over 90 percent of claims are from accidents that occur within two years prior to the survey year.²⁸

A second alternative sample omits claims that are potential outliers with regard to the amount of economic loss. Our selection criterion is to trim the smallest 1 percent and largest 1 percent of claims from each survey year; however, this trimming procedure eliminates more claims than this in practice since some claims do not report any economic loss and others report the economic loss amount as 0.²⁹

A final alternative sample omits claims that arise in states in which automobile liability insurance is compulsory in the year of the accident. Because the claims we study are for accidents in which the at-fault motorist did not carry liability insurance, claims in states which mandate automobile liability insurance may differ in unobservable but systematic ways from claims in states that do not. During our study period 26 states do not require automobile liability insurance in any years; 20 states require it by 1977, and 4 states add the requirement between 1982 and 1991. In our sample of claims, 12 percent of claims in the 1977 survey arise from accidents in states which require automobile liability insurance; in the 1987 survey this figure is 18 percent, and in 1997 it is 30 percent.

[Insert Table 6 about here]

The results of estimating the panel data models using these three alternative samples of claims are reported in Table 6. The estimation results are generally very similar to those that are obtained using the full sample of claims. The notable exception is that in these samples, the estimated impact of tort liability for insurer bad faith does not decline monotonically over the survey years. While the estimated impact remains smaller and statistically insignificant in 1997,

²⁸ In the 1977 survey, 91 percent of claims are from accidents occurring in 1975 or later; in the 1987 survey, 94 percent of claims are from accidents occurring in 1985 or later; and in the 1997 survey, 93 percent of claims are from accidents occurring in 1995 or later.

²⁹ We interpret a zero reported economic loss for an injury accident as identical to a missing value.

the estimated impact in 1987 is nearer to that in 1977 than it was in estimates using the full sample of claims.

As a final check on our results, we examine whether the impact of tort liability for insurer bad faith differs across the size of claim. We divide the sample of claims for each survey year into those that fall below the median amount of economic loss reported, and those that fall above this median amount. We omit claims with missing or zero economic loss reported. We estimate the panel data models separately for the sample of “small claims” and the sample of “large claims”.

[Insert Table 7 about here]

The results of estimating the models on these two samples are reported in Table 7. The results show some distinct patterns across claim size and over time. Overall, the effects of bad faith liability are estimated to be larger for small claims than for large claims, with the impact of bad faith not statistically significant for large claims in the estimates that use a single indicator for bad faith.

When the estimated impact of bad faith liability is allowed to vary across survey years, a similar pattern is observed but becomes much more pronounced in later years. In 1977 the coefficient estimate on the bad faith indicator is 0.295 for small claims and 0.207 for large claims, and both estimates are statistically significant. In 1987 the difference is smaller – 0.250 for small claims and 0.198 for large claims but the impact of bad faith is statistically significant only for small claims. In 1997 the coefficient on the bad faith indicator for small claims rises to 0.360 and is statistically significant, and that for large claims falls to 0.014 and is statistically insignificant.

These results suggest that, at least in more recent years, the impact of expanded liability for insurer bad faith is greatest for smaller claims. This finding is consistent with the idea that insurers reduced investments in claim investigation for the marginal claim when faced with potential bad faith liability (Tennyson and Warfel, 2009).

Conclusion

This paper has analyzed the effect of permitting tort-based claims against first-party insurers for bad faith in claim settlement in automobile insurance. We provide new evidence on the long-run impact of this form of liability by examining its effects over three decades – the 1970s through the 1990s. Using individual-level claims data, our empirical tests generally support previous findings that claim payments are higher in states that permit tort actions for insurer bad faith. This is consistent with the hypothesis that expanded liability for insurer bad faith increases policyholder bargaining power in claim settlements. The use of data from several different time periods produces a more nuanced set of results than currently exist in the literature, however.

The cross-sectional estimates for each year reflect all previous literature on first-party bad faith tort law by showing a significant positive relationship between tort-based bad faith regimes and average claims payments, after controlling for a number of claims characteristics and associated variables. However, in panel data estimates using all three data-years combined and controlling for unobserved state-specific influences on claim payments, these effects are much weaker. In these estimates the impact of bad faith liability on claim settlement amounts is smaller on average over the entire study period. The estimated impact is seen to decrease over time when the coefficient estimates for each data-year are allowed to differ, and is statistically significant only in the 1977 data. These findings are robust for a variety of subsamples of our dataset. Based on these results, it would appear that the presumption in the literature that bad faith liability leads to a “shadow effect” in claims payments is in need of more empirical support.

A somewhat different conclusion emerges when the panel data models are estimated for two separate samples based on the claimed amount of economic loss. For claim amounts below the median claim, state laws permitting tort actions for insurer bad faith appears to significantly raise claim settlement amounts. This is true on average over the three decades and also for each year of the study period separately. For claims larger than the median claim amount, however,

tort-based bad faith liability has no significant effect on claim settlement amounts on average, and is associated with significantly higher settlements only in 1977. These results are consistent with the arguments of some observers (Sykes, 1996; Tennyson and Warfel, 2009) that tort liability for insurer bad faith may reduce insurers' incentives to monitor for claim fraud. This is the case because monitoring incentives will be more easily distorted for smaller claims.

Normative inferences regarding the consequences of bad faith laws on claim settlements are difficult because of the difficulties in constructing a baseline comparison for determining the appropriateness of settlement amounts. Higher payments may be evidence of beneficial effects of bad faith liability, if in its absence insurers would underpay claims. To get a more complete picture of the effects of bad faith liability standards requires additional empirical study of the relationship between bad faith liability and the insurance claim settlement process. In addition to extending the nascent literature on insurance fraud and bad faith, future work might assess the relationship between bad faith regimes and other important aspects of the settlement process such as the lag time between accident and payment or the likelihood of claim denials.

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Table 1
State Bad Faith Regimes

State	Bad Faith Tort	Year	State	Bad Faith Tort	Year
Alaska	Yes	1974	New Hampshire	No	n.a.
Alabama	Yes	1981	New Mexico	Yes	1974
Arkansas	Yes	1984	Nevada	Yes	1975
Arizona	Yes	1982	New York	No	n.a.
California	Yes	1973	North Carolina	Yes	1976
Colorado	Yes	1983	North Dakota	Yes	1979
Connecticut	Yes	1977	Ohio	Yes	1983
District of Columbia	No	n.a.	Oklahoma	Yes	1977
Delaware	Yes	1982-1995	Oregon	No	n.a.
Hawaii	Yes	1996	Rhode Island	Yes	1980
Iowa	Yes	1988	South Carolina	Yes	1983
Idaho	Yes	1986	South Dakota	Yes	1987
Illinois	No	n.a.	Tennessee	No	n.a.
Indiana	Yes	1993	Texas	Yes	1987
Kansas	No	n.a.	Utah	No	n.a.
Kentucky	Yes	1977	Virginia	No	n.a.
Maine	No	n.a.	Vermont	Yes	1979
Michigan	No	n.a.	Washington	Yes	1992
Minnesota	No	n.a.	Wisconsin	Yes	1978
Missouri	No	n.a.	West Virginia	No	n.a.
Mississippi	Yes	1984	Wyoming	Yes	1990

Source: Authors' calculations from GenRe (2008), Stempel (2006) and Ostrager and Newman (2008).

Note: The sample period includes years 1973 through 1997.

Table 2
Summary Statistics for Claim Payment Amounts

	States that do not permit Bad Faith Tort			States that do permit Bad Faith Tort			T-test Statistic
	N	Mean	Std Dev	N	Mean	Std Dev	
1977 Claims							
Claim Payment	1,311	\$6,271.89	\$14,603.53	823	\$5,291.37	\$9,878.30	-1.85 *
1987 Claims							
Claim Payment	661	\$6,317.06	\$13,342.86	1,520	\$5,102.76	\$9,022.12	-2.14 **
1997 Claims							
Claim Payment	717	\$5,896.23	\$12,059.37	2,826	\$5,146.12	\$28,167.79	-1.08

Source: Authors' calculations from IRC survey data.

Note: Constant 1987 dollars. ** indicates statistically different from zero at the 5 percent confidence level; * indicates statistically different from zero at the 10 percent confidence level. All are two-sided tests.

Table 3
Summary Statistics for Regression Variables

Variable	1977 (2,134 obs)		1987 (2,181 obs)		1997 (3,543 obs)	
	MEAN	STD	MEAN	STD	MEAN	STD
Payment amount	\$5,893.75	\$12,992.70	\$5,470.78	\$10,532.28	\$5,297.91	\$25,735.22
State permits tort of bad faith	0.386	0.487	0.697	0.460	0.798	0.402
Claimant represented by attorney	0.414	0.493	0.495	0.500	0.447	0.497
Claimant age in years	34.601	19.847	33.896	16.669	35.323	16.843
Claimant is male	0.454	0.498	0.440	0.496	0.419	0.493
Claimant is married	0.448	0.497	0.437	0.496	0.387	0.487
Claimant is single	0.361	0.480	0.399	0.490	0.385	0.487
Claimant is divorced	0.035	0.183	0.037	0.188	0.027	0.161
Claimant is employed	0.313	0.464	0.505	0.500	0.419	0.493
Loss exceeded policy limits	0.013	0.114	0.021	0.144	0.019	0.135
Claimant was driver	0.593	0.491	0.637	0.481	0.688	0.463
Claimant was passenger	0.362	0.481	0.331	0.471	0.278	0.448
Claimant was pedestrian	0.037	0.188	0.027	0.162	0.016	0.127
Payment received from another policy	0.005	0.068	0.045	0.207	0.060	0.238
Accident occurred in large city	0.473	0.499	0.456	0.498	0.408	0.492
Accident occurred in suburb	0.136	0.343	0.213	0.409	0.213	0.410
Accident occurred in medium city	0.200	0.400	0.221	0.415	0.268	0.443
Accident occurred in small town	0.095	0.293	0.058	0.233	0.072	0.259
Number of vehicles in accident	2.248	0.619	2.223	1.156	2.169	0.668
Claimant seen in emergency room	0.437	0.496	0.434	0.496	0.439	0.496
Claimant hospitalized over night	0.007	0.084	0.017	0.129	0.017	0.129
Claimant hospitalized up to 1 week	0.036	0.187	0.056	0.231	0.024	0.153
Claimant hospitalized over 1 week	0.047	0.212	0.032	0.176	0.010	0.102
Claimant had no disability	0.377	0.485	0.538	0.499	0.727	0.446
Claimant permanently disabled	0.082	0.275	0.047	0.211	0.035	0.183
Claimant deceased	0.016	0.125	0.009	0.095	0.004	0.065
Claimant had a fracture injury	0.127	0.333	0.073	0.261	0.038	0.192
Claimant had a strain injury	0.669	0.471	0.792	0.406	0.736	0.441
Claimant had a laceration injury	0.100	0.300	0.246	0.431	0.055	0.229
Claimant had other injury	0.318	0.466	0.161	0.368	0.105	0.306

Table 4
Cross-Sectional Regressions

	1977		1987		1997	
	(1)	(1)	(2)	(1)	(2)	
State recognizes tort of bad faith	0.435 ***	0.254 *	0.271 **	0.161 **	0.192 ***	
	7.258	1.791	2.008	2.475	3.405	
State has enacted tort reforms	--	--	-0.486 ***	--	-0.191 ***	
			-2.628		-4.215	
Claimant represented by attorney	1.433 ***	1.490 ***	1.452 ***	1.340 ***	1.332 ***	
	31.247	19.893	17.624	29.034	28.136	
Claimant age in years	-0.001	0.003 *	0.003 **	0.009 ***	0.009 ***	
	-0.367	1.956	2.293	9.689	9.589	
Claimant is male	-0.047	0.005	0.001	-0.013	-0.013	
	-1.151	0.152	0.027	-0.450	-0.470	
Claimant is married	0.069	-0.029	-0.018	0.046	0.046	
	0.900	-0.544	-0.338	1.250	1.287	
Claimant is single	-0.108	-0.050	-0.031	-0.031	-0.018	
	-1.025	-0.828	-0.501	-0.556	-0.338	
Claimant is divorced	0.304 ***	0.125	0.126	0.329 ***	0.338 ***	
	3.127	1.050	1.060	2.820	2.841	
Claimant is employed	0.453 ***	0.139 ***	0.139 ***	0.254 ***	0.268 ***	
	10.531	3.120	3.103	5.655	6.187	
Loss exceeded policy limits	0.408 *	0.223	0.208	0.214	0.228	
	1.895	0.859	0.777	1.120	1.211	
Claimant was driver	-0.292	-0.305	-0.283	0.131	0.121	
	-1.236	-1.011	-0.945	1.052	0.981	
Claimant was passenger	-0.414 *	-0.355	-0.339	0.065	0.051	
	-1.785	-1.310	-1.271	0.464	0.369	
Claimant was pedestrian	-0.136	-0.212	-0.212	0.301 **	0.271 *	
	-0.562	-0.729	-0.745	2.095	1.879	
Accident occurred in large city	-0.096	-0.070	-0.043	-0.155	-0.138	
	-0.846	-0.731	-0.427	-1.448	-1.329	
Accident occurred in suburb	-0.129	0.061	0.087	-0.080	-0.091	
	-0.858	0.584	0.774	-0.838	-0.936	
Accident occurred in medium city	-0.183	-0.155	-0.133	-0.152 *	-0.148	
	-1.481	-1.434	-1.203	-1.647	-1.612	
Accident occurred in small town	-0.271 *	-0.139	-0.102	-0.206 *	-0.199 *	
	-1.785	-0.889	-0.677	-1.958	-1.902	
Claimant seen in emergency room	0.383 ***	0.125 ***	0.129 ***	0.366 ***	0.378 ***	
	5.408	2.755	2.824	7.479	8.145	
Claimant hospitalized over night	0.252	0.909 ***	0.925 ***	1.199 ***	1.196 ***	
	1.529	4.654	4.698	9.145	9.483	
Claimant hospitalized up to 1 week	1.066 ***	0.958 ***	0.966 ***	1.380 ***	1.389 ***	
	8.987	8.514	8.463	5.780	5.921	
Claimant hospitalized over 1 week	0.953 ***	1.388 ***	1.398 ***	1.409 ***	1.441 ***	
	8.730	8.381	8.332	5.385	5.693	
Payment received from another policy	-0.603	-0.008	0.037	-0.230 ***	-0.189 ***	
	-1.303	-0.059	0.237	-4.020	-3.003	
Claimant had no disability	-0.621 ***	-0.689 ***	-0.685 ***	-0.602 ***	-0.595 ***	
	-11.488	-14.073	-13.877	-19.283	-19.692	
Claimant had permanent disability	0.969 ***	0.534 ***	0.534 ***	0.588 ***	0.583 ***	
	8.242	4.204	4.233	5.502	5.760	
Claimant deceased	2.111 ***	2.147 ***	2.141 ***	2.209 ***	2.241 ***	
	8.730	5.062	5.090	6.175	6.345	
Claimant had a fracture injury	1.2144 ***	0.8062 ***	0.8024 ***	0.7777 ***	0.7873 ***	
	10.8821	8.6227	8.6715	6.3921	6.4093	
Claimant had a strain injury	0.4291 ***	0.7330 ***	0.7154 ***	0.1197	0.1242	
	8.5904	6.6203	6.0975	1.1066	1.1268	
Claimant had a laceration injury	0.3082 ***	0.1631 **	0.1703 **	-0.1937	-0.1817	
	4.0727	2.367	2.4705	-1.249	-1.1756	
Claimant had other injury	0.1063 *	0.5218 ***	0.5105 ***	0.4061 ***	0.4103 ***	
	1.7502	9.5658	9.5943	3.3964	3.4041	
Number of Observations	2134	2181	2181	3543	3543	
Adjusted R-squared	0.6048	0.5765	0.5806	0.496	0.4988	

Table 5
Panel Data Regressions

	Single Tort Indicator		Separate Tort Indicators	
State recognizes tort of bad faith	0.123	0.181 **	--	--
	1.399	1.963		
State recognizes tort of bad faith x 1977			0.176 ***	0.237 ***
			3.626	3.881
State recognizes tort of bad faith x 1987			0.133	0.192
			0.863	1.155
State recognizes tort of bad faith x 1997			0.011	0.067
			0.093	0.546
State has enacted tort reforms	--	-0.163	--	-0.166
		-1.607		-1.532
Claimant represented by attorney	1.415 ***	1.412 ***	1.417 ***	1.413 ***
	37.134	36.586	38.184	37.719
Claimant age in years	0.004 ***	0.004 ***	0.004 ***	0.004 ***
	6.163	6.272	6.206	6.326
Claimant is male	-0.015	-0.014	-0.014	-0.014
	-0.581	-0.570	-0.543	-0.532
Claimant is married	0.058 **	0.058 **	0.058 **	0.057 **
	2.135	2.130	2.129	2.122
Claimant is single	-0.023	-0.020	-0.025	-0.021
	-0.758	-0.626	-0.816	-0.681
Claimant is divorced	0.324 ***	0.321 ***	0.322 ***	0.319 ***
	4.517	4.403	4.417	4.319
Claimant is employed	0.289 ***	0.290 ***	0.291 ***	0.292 ***
	7.834	7.774	7.765	7.730
Loss exceeded policy limits	0.355 **	0.360 **	0.349 **	0.354 **
	2.311	2.340	2.278	2.306
Claimant was driver	-0.015	-0.017	-0.023	-0.025
	-0.129	-0.148	-0.207	-0.229
Claimant was passenger	-0.094	-0.097	-0.101	-0.105
	-0.876	-0.924	-0.956	-1.004
Claimant was pedestrian	0.128	0.122	0.117	0.111
	1.116	1.074	1.079	1.024
Accident occurred in large city	-0.119	-0.113	-0.120	-0.114
	-1.583	-1.531	-1.582	-1.527
Accident occurred in suburb	-0.096	-0.094	-0.095	-0.093
	-1.317	-1.293	-1.296	-1.272
Accident occurred in medium city	-0.154 **	-0.150 **	-0.156 **	-0.151 **
	-2.218	-2.144	-2.251	-2.179
Accident occurred in small town	-0.194 ***	-0.190 **	-0.193 ***	-0.189 **
	-2.603	-2.557	-2.602	-2.564
Claimant seen in emergency room	0.372 ***	0.370 ***	0.371 ***	0.370 ***
	8.033	8.200	8.046	8.203
Claimant hospitalized over night	1.049 ***	1.041 ***	1.045 ***	1.036 ***
	15.523	15.704	15.742	15.935
Claimant hospitalized up to 1 week	1.242 ***	1.240 ***	1.245 ***	1.243 ***
	10.757	10.918	11.440	11.629
Claimant hospitalized over 1 week	1.186 ***	1.185 ***	1.191 ***	1.190 ***
	10.218	10.170	10.136	10.109
Payment received from another policy	-0.199 ***	-0.194 ***	-0.199 ***	-0.194 ***
	-3.080	-2.946	-3.174	-3.033
Claimant had no disability	-0.676 ***	-0.673 ***	-0.675 ***	-0.672 ***
	-19.350	-20.150	-19.489	-20.286
Claimant had permanent disability	0.769 ***	0.769 ***	0.770 ***	0.770 ***
	11.548	11.609	11.704	11.768
Claimant deceased	2.137 ***	2.137 ***	2.142 ***	2.141 ***
	10.483	10.522	10.488	10.523
Claimant had a fracture injury	0.989 ***	0.988 ***	0.988 ***	0.988 ***
	14.102	13.966	14.023	13.893
Claimant had a strain injury	0.343 ***	0.345 ***	0.345 ***	0.346 ***
	8.331	8.539	8.229	8.424
Claimant had a laceration injury	0.099 *	0.102 **	0.099 *	0.102 *
	1.902	2.006	1.834	1.927
Claimant had other injury	0.321 ***	0.322 ***	0.323 ***	0.324 ***
	11.873	11.718	11.761	11.714
Indicator for 1977	-0.651 ***	-0.664 ***	-0.761 ***	-0.777 ***
	-7.907	-7.479	-6.697	-7.783
Indicator for 1987	-0.411 ***	-0.429 ***	-0.506 ***	-0.526 ***
	-4.357	-4.056	-4.685	-5.191
State-level fixed effects	Yes	Yes	Yes	Yes
Number of Observations	7858	7858	7858	7858
Adjusted R-squared	0.5433	0.5437	0.5435	0.5440

Table 6
Robustness Checks – Panel Data Models

	Trim by Accident Date		Trim by Economic Loss		Omit Compulsory States	
State recognizes tort of bad faith	0.181 *		0.183 *		0.240 ***	
	1.755		1.942		2.904	
State recognizes tort of bad faith x 1977		0.237 ***		0.229 ***		0.273 ***
		3.289		3.428		3.847
State recognizes tort of bad faith x 1987		0.182		0.228		0.330 ***
		1.021		1.312		2.593
State recognizes tort of bad faith x 1997		0.062		0.045		0.004
		0.505		0.375		0.035
State has enacted tort reforms	-0.120	-0.123	-0.192 *	-0.195	-0.174	-0.156
	-0.985	-0.950	-1.688	-1.596	-1.199	-0.951
Claimant represented by attorney	1.403 ***	1.405 ***	1.307 ***	1.309 ***	1.421 ***	1.422 ***
	34.546	35.396	43.744	42.885	36.486	36.784
Claimant age in years	0.004 ***	0.004 ***	0.005 ***	0.005 ***	0.005 ***	0.005 ***
	6.025	6.032	5.858	5.883	6.031	6.140
Claimant is male	0.000	0.000	-0.019	-0.018	-0.006	-0.006
	-0.016	0.000	-0.633	-0.601	-0.195	-0.178
Claimant is married	0.056 **	0.056 **	0.058 *	0.057 *	0.088 **	0.089 **
	2.078	2.102	1.671	1.647	2.207	2.194
Claimant is single	-0.023	-0.023	-0.016	-0.018	0.035	0.031
	-0.756	-0.806	-0.490	-0.535	0.714	0.632
Claimant is divorced	0.313 ***	0.312 ***	0.308 ***	0.305 ***	0.408 ***	0.407 ***
	4.619	4.489	4.254	4.171	7.250	6.957
Claimant is employed	0.290 ***	0.291 ***	0.258 ***	0.260 ***	0.310 ***	0.312 ***
	8.089	8.082	5.980	5.970	5.740	5.674
Loss exceeded policy limits	0.383 **	0.379 **	0.244	0.242	0.460 ***	0.449 ***
	2.468	2.435	1.455	1.450	3.075	2.968
Claimant was driver	-0.048	-0.057	0.023	0.012	-0.025	-0.044
	-0.513	-0.613	0.220	0.119	-0.182	-0.323
Claimant was passenger	-0.129	-0.136	-0.061	-0.071	-0.116	-0.135
	-1.424	-1.525	-0.587	-0.695	-0.913	-1.101
Claimant was pedestrian	0.151	0.140	0.157	0.142	0.158	0.131
	1.328	1.282	1.277	1.215	1.307	1.215
Accident occurred in large city	-0.066	-0.068	-0.116	-0.114	-0.106	-0.105
	-0.994	-1.010	-1.386	-1.354	-1.165	-1.147
Accident occurred in suburb	-0.047	-0.046	-0.098	-0.094	-0.082	-0.078
	-0.684	-0.670	-1.087	-1.042	-0.877	-0.833
Accident occurred in medium city	-0.111	-0.113	-0.155 *	-0.153 *	-0.164 *	-0.161 *
	-1.549	-1.590	-1.809	-1.813	-1.883	-1.874
Accident occurred in small town	-0.122	-0.121	-0.222 **	-0.218 **	-0.219 ***	-0.217 ***
	-1.515	-1.524	-2.313	-2.300	-2.692	-2.604
Claimant seen in emergency room	0.367 ***	0.367 ***	0.263 ***	0.263 ***	0.349 ***	0.348 ***
	8.439	8.464	4.824	4.776	7.408	7.312
Claimant hospitalized over night	1.080 ***	1.075 ***	0.939 ***	0.935 ***	1.004 ***	0.997 ***
	14.346	14.603	13.684	13.880	14.076	14.677
Claimant hospitalized up to 1 week	1.253 ***	1.255 ***	1.184 ***	1.190 ***	1.218 ***	1.229 ***
	10.493	11.210	10.174	10.931	9.130	9.909
Claimant hospitalized over 1 week	1.223 ***	1.227 ***	1.069 ***	1.074 ***	1.094 ***	1.104 ***
	10.436	10.508	8.614	8.552	8.013	7.733
Payment received from another policy	-0.132 **	-0.133 **	-0.256 ***	-0.253 ***	-0.308 *	-0.299 *
	-1.989	-2.058	-3.840	-3.924	-1.868	-1.824
Claimant had no disability	-0.674 ***	-0.674 ***	-0.610 ***	-0.610 ***	-0.680 ***	-0.682 ***
	-19.503	-20.020	-20.139	-20.174	-17.508	-17.590
Claimant had permanent disability	0.779 ***	0.781 ***	0.758 ***	0.758 ***	0.785 ***	0.789 ***
	12.522	12.632	11.391	11.556	8.688	8.954
Claimant deceased	2.192 ***	2.194 ***	2.044 ***	2.051 ***	2.030 ***	2.040 ***
	10.876	10.891	8.440	8.397	8.485	8.502
Claimant had a fracture injury	1.014 ***	1.013 ***	0.990 ***	0.989 ***	0.979 ***	0.978 ***
	13.852	13.862	15.289	15.275	11.866	11.784
Claimant had a strain injury	0.385 ***	0.386 ***	0.310 ***	0.312 ***	0.336 ***	0.338 ***
	9.218	9.098	10.669	11.143	6.851	6.779
Claimant had a laceration injury	0.125 ***	0.124 **	0.091 **	0.093 **	0.118 **	0.120 **
	2.655	2.527	2.290	2.232	2.020	2.017
Claimant had other injury	0.309 ***	0.310 ***	0.318 ***	0.322 ***	0.293 ***	0.296 ***
	10.659	10.752	11.052	11.488	7.801	7.703
Indicator for 1977	-0.627 ***	-0.747 ***	-0.697 ***	-0.826 ***	-0.628 ***	-0.836 ***
	-7.383	-9.532	-7.170	-9.047	-8.152	-8.673
Indicator for 1987	-0.405 ***	-0.501 ***	-0.419 ***	-0.560 ***	-0.410 ***	-0.671 ***
	-3.755	-5.703	-3.247	-5.576	-3.581	-8.999
State-level fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	7291	7291	6942	6942	6150	6150
Adjusted R-squared	0.5405	0.5407	0.5185	0.519	0.5443	0.5454

Table 7
Separate Estimates for Large and Small Claims

	Small Claims		Large Claims	
State recognizes tort of bad faith	0.296 ***		0.153	
	3.099		1.499	
State recognizes tort of bad faith x 1977		0.295 ***		0.207 **
		3.900		2.491
State recognizes tort of bad faith x 1987		0.250 *		0.198
		1.792		1.171
State recognizes tort of bad faith x 1997		0.360 ***		0.014
		2.893		0.095
State has enacted tort reforms	-0.144	-0.145	-0.165	-0.176
	-1.438	-1.535	-1.201	-1.197
Claimant represented by attorney	1.135 ***	1.134 ***	0.529 ***	0.531 ***
	19.353	19.446	16.065	15.322
Claimant age in years	0.002	0.002	0.001 *	0.001 *
	1.520	1.507	1.879	1.846
Claimant is male	-0.003	-0.003	-0.065 ***	-0.065 ***
	-0.103	-0.125	-2.738	-2.613
Claimant is married	0.009	0.007	0.076 **	0.073 **
	0.170	0.145	2.411	2.285
Claimant is single	-0.037	-0.038	0.012	0.007
	-0.707	-0.733	0.390	0.208
Claimant is divorced	0.400 ***	0.399 ***	0.172 ***	0.167 ***
	3.755	3.743	3.358	3.134
Claimant is employed	0.118 ***	0.118 ***	0.112 ***	0.114 ***
	3.278	3.265	3.296	3.284
Loss exceeded policy limits	1.995 ***	1.980 ***	0.232 ***	0.225 ***
	22.522	21.940	3.577	3.446
Claimant was driver	0.283 **	0.287 **	-0.032	-0.044
	2.091	2.132	-0.534	-0.788
Claimant was passenger	0.157	0.162	-0.086	-0.098
	1.026	1.069	-1.369	-1.604
Claimant was pedestrian	0.586 ***	0.594 ***	-0.023	-0.041
	2.783	2.897	-0.307	-0.601
Accident occurred in large city	0.017	0.016	-0.240 ***	-0.237 ***
	0.211	0.204	-7.092	-6.885
Accident occurred in suburb	0.077	0.075	-0.229 ***	-0.223 ***
	0.751	0.732	-5.343	-5.153
Accident occurred in medium city	-0.002	-0.004	-0.199 ***	-0.196 ***
	-0.025	-0.043	-3.979	-4.047
Accident occurred in small town	-0.076	-0.078	-0.294 ***	-0.290 ***
	-0.769	-0.795	-3.827	-3.839
Claimant seen in emergency room	0.238 ***	0.238 ***	0.239 ***	0.237 ***
	5.320	5.363	11.196	11.285
Claimant hospitalized over night	0.154	0.163	0.450 ***	0.446 ***
	0.695	0.731	6.146	5.852
Claimant hospitalized up to 1 week	0.738 **	0.734 **	0.631 ***	0.638 ***
	2.377	2.362	8.859	9.989
Claimant hospitalized over 1 week	0.484 ***	0.490 ***	0.810 ***	0.819 ***
	2.661	2.704	8.653	8.450
Payment received from another policy	-0.213 ***	-0.214 ***	-0.544 ***	-0.539 ***
	-3.030	-3.055	-8.095	-8.343
Claimant had no disability	-0.386 ***	-0.385 ***	-0.255 ***	-0.255 ***
	-11.498	-11.387	-7.357	-7.150
Claimant had permanent disability	1.202 ***	1.202 ***	0.576 ***	0.578 ***
	8.005	8.034	9.380	9.601
Claimant deceased	--	--	1.095 ***	1.104 ***
			7.596	7.546
Claimant had a fracture injury	1.119 ***	1.116 ***	0.391 ***	0.391 ***
	11.337	11.532	5.634	5.599
Claimant had a strain injury	0.488 ***	0.485 ***	-0.143 ***	-0.140 ***
	13.306	13.842	-3.145	-3.242
Claimant had a laceration injury	0.282 ***	0.279 ***	0.013	0.014
	4.464	4.396	0.210	0.234
Claimant had other injury	0.328 ***	0.324 ***	0.259 ***	0.261 ***
	5.384	5.537	6.260	6.139
Indicator for 1977	-0.637 ***	-0.586 ***	-0.400 ***	-0.536 ***
	-11.827	-6.018	-6.583	-4.821
Indicator for 1987	-0.393 ***	-0.311 ***	-0.057	-0.199 *
	-8.071	-4.062	-0.621	-1.728
State-level fixed effects	Yes	Yes	Yes	Yes
Number of Observations	3526	3526	3524	3524
Adjusted R-squared	0.3779	0.3779	0.3656	0.3666