Contingency Fees, Settlement Delay and Low-Quality Litigation: Empirical Evidence from Two Datasets

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Abstract

Although flat fees are common for divorces, wills and trusts and probate, lawyers in personal injury cases generally are paid by contingency fee or at an hourly rate. Arguments have been made that contingency fees increase low-quality, "frivolous" litigation but counter-arguments suggest that contingency fees actually limit such litigation and instead it is hourly-fees that increase low-quality litigation. Using a difference in differences test and data on a cross section of states in 1992 we test whether legal quality is lower under contingency or hourly fees. We also examine medical malpractice claims in Florida using a time series centered around a law change that limited contigency fees. We also examine the impact of fee arrangements on the expected time to settlement. We find that hourly fees encourage the filing of low-quality suits and increase the time to settlement (i.e. contingency fees *increase* legal-quality and decrease the time to settlement).

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1. Introduction

Plaintiffs' lawyers in the United States commonly are paid a fraction of the plaintiff's settlement or trial award rather than an hourly wage - these contingency fees are controversial. In Europe, contingency fees typically are illegal or unenforceable and many US states have restricted their use, especially in certain types of cases such as medical malpractice. The standard arguments against contingency fees have been that such fees promote excessive litigation and create a conflict of interest between client and attorney especially regarding settlement decisions (MacKinnon 1964, Miller 1987, Bernstein 1996, Olson 1991a). Using the arsenal of modern principal-agent theory, economists have developed models supporting these arguments but they also have developed models that suggest exactly the opposite conclusions. We attempt to sort out these conflicting claims with some empirical evidence from two data sets.

Contingency fees have several benefits that are well agreed upon. First, if clients are more risk averse than their lawyers, a contingency fee can increase net utility by allowing risk sharing. The assumption that lawyers are less risk averse than clients is reasonable because lawyers can diversify their portfolio of cases.[1] Second, if capital markets are imperfect, clients may be unable to finance litigation even when such litigation has positive expected benefits. Contingency fees, in effect, let a plaintiff borrow money from a lender (his lawyer) who is better able to assess the value of the case than an external financier such as a bank (Shrager, 1985).

More debate exists on other aspects of contingency fees; we focus in particular on the debate over whether contingency fees promote "excessive," "speculative" or

[1] If clients are risk averse and lawyers risk neutral it would in fact be optimal for the lawyer to "buy" the claim from the client for a fixed fee - an idea the common law frowns upon but that has been suggested by economists; see, for example, Cooter 1998.

"frivolous" litigation, to use three terms found in the literature.[2] Bernstein (1996), for example, writes that the contingency fee "encourages attorneys to engage in speculative litigation in the hope of landing the occasional large jackpot." Olson (1991b) argues even more strongly that contingency fees encourage an abuse on the public. He makes the following provocative analogy:

> Giving soldiers contingency fees for successful attacks, by letting them loot the town they capture, was long favored as a way of encouraging warlike zeal but came under gradual ethical control as civilization progressed… Giving lawyers contingency fees encourages similar abuses of both the client and the public.

Although most reforms seem to have been motivated by the view that contingency fees increase the number of cases that do not belong in the courts, the exact reasoning behind this claim is not always clear. Two ideas need to be distinguished. If contingency fees help plaintiffs overcome risk aversion or capital constraints, one would expect contingency fees to increase the *amount* of litigation. Critics of contingency fees tend to be critics of the tort system in general so this effect alone is enough to make them condemn contingency fees. Yet by the same logic, one could condemn any factor that increases access to the courts. The real issue is whether contingency fees reduce the average *quality* of case.

In contrast to the conventional wisdom, the theoretical literature tends to reject the claim that contingency fees reduce quality. In fact, Clermont and Currivan (1978, 571-572) argue that contingency fees raise quality because "The client is in a uniquely poor position to evaluate his claim objectively and knowledgeably…[but] under a contingency

[2] Other papers deal with the effect of contingency fees on the effort an attorney puts into the case (compare Schwartz and Mitchell 1970 with Danzon 1983 and Hay 1996), and the effect on settlement decisions (Miller 1987, Hay 1997, Thomason 1991). A more recent literature considers contingency fees as a signal. Results from this literature vary greatly depending on who is sending and who is receiving the signal (the signal may be coming from the plaintiff or the plaintiff's lawyer and it may be sent to the plaintiff's lawyer, the plaintiff or the defendant and/or her lawyer.) Papers in

fee the primary screening function shifts to the lawyer, and the lawyer will probably do a more effective screening job." Dana and Spier (1993) model this intuition formally and show that when lawyers can estimate case quality better than plaintiffs, contingency fees act as a check on frivolous litigation. A plaintiff who cannot convince a lawyer to take his case on contingency receives a strong signal that his case is of low legal-quality and will likely be deterred from filing.[3]

Indirectly, the theoretical literature suggests that it is the hourly fee rather than the contingency fee that should be the object of attention. Absent a strong reputation constraint, lawyers paid under an hourly fee arrangement have little reason *not* to pursue frivolous claims. In fact a lawyer is under no ethical obligation to decline a paying client even if he thinks the case lacks merit. When plaintiffs are less knowledgeable than lawyers, contingency fees benefit plaintiffs because they encourage lawyers to give plaintiffs unbiased (or less biased) assessments of the merits of their case. If contingency fees are restricted or eliminated, lawyers no longer have an incentive to fully inform their clients. In contrast to the claims made by opponents of contingent fees, plaintiffs may be more likely to find that every case has 'a high probability of recovery' when an hourly fee beckons their enthusiastic lawyers.[4] Without the benefit of the signal from their lawyer's acceptance or rejection, uninformed plaintiffs are likely to bring suits that they would not bring under contingency fees.

If hourly fees reduce a lawyer's incentive to screen cases then we should find an increase in low quality cases when contingency fees are restricted. Clearly, if

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the signaling literature include Smith and Cox 1985, Rubinfeld and Scotchmer 1993, Dana and Spier 1993, Rickman 1999 and Santore 2002. For a good survey of these and other issues see Rubinfeld and Scotchmer (1998).

[3] See also Miceli (1994) for a model of contingency fees taking into account settlement and trial behavior that also supports the contention that contingency fees do not promote excessive litigation.

contingency fees are eliminated then lawyers will switch to the hourly fee. Similarly, as contingency fees are restricted to greater degree the portion of a lawyer's compensation that is due to the contingency fee will fall and the portion that is tied to hours will increase. It is important to note that it is common for legal contracts to combine contingency and hourly fees (Clermont and Currivan, 1978). Hourly fees, in this context, include any fees that the lawyer receives but that are not tied to whether the suit is won or lost. Deposition fees, photocopying fees, fees for filling out forms etc. all qualify as hourly or non-contingent fees. It is common for lawyers working on unrestricted contingency to waive these sorts of fees. As contingency fees are restricted, fewer of these fees will be waived and thus a greater portion of a lawyer's compensation will be non-contingent. In short, given the ease by which lawyer's can adjust their compensation plans, there is little reason to believe that restrictions on contingency fees will reduce the expected compensation of lawyers.[5] Instead, expected compensation will remain constant but as contingency fees are restricted a lawyer's non-contingent compensation, "hourly fees", will increase and thus the lawyer's incentive to carefully screen cases will fall.

In addition to encouraging frivolous litigation contingency fees have been accused of both slowing down the time to settlement and speeding up the time to settlement. In an influential critique of contingency fees, for example, Olson (1991a) writes that:

> Most litigants tire of their fights, if not at first, then after a while, and at some point would rather get on with their lives than hold out for a little more. The lawyer with a big war chest has an incentive to make you wait in order to go for the extra money.

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[4] Ethics, a concern for reputation, plaintiff knowledge and other factors all encourage lawyers to give plaintiffs sound advice. Nevertheless, on the margin these forces are weakened by the prospect of an hourly fee. Lawyers can fool themselves as well as their clients when incentives so instruct.

[5] We are implicitly assuming that the market for legal services is competitive and that clients are not liquidity constrained. If clients are constrained and lawyers are earning economic rents in the pre-limit period, then the compensation of lawyers could fall.

Yet Bernstein (1996), who also opposes contingency fees, argues that "[b]ecause time is most definitely money in the legal business, it pays the contingent-fee attorney to settle as quickly as possible…" If so, when contingency fees are restricted and a higher proportion of lawyer remuneration comes from fees paid by the hour, we might expect that cases will take longer to be settled. Of course, an hourly-fee lawyer will not be paid for pure delay but by spending more time on discovery, searching for legal precedents, beginning with unattractive settlement bids and encouraging clients to refuse early settlement offers, a lawyer can increase the time to settlement *and* billable hours.

Increasing the time to settlement is different from increasing the probability of settlement. Longer times could be associated with higher or lower probabilities of settlement. Longer times to settlement could be associated with a higher probability of settlement if, for example, extra time allows for more settlements; longer times could be associated with lower probabilities if, for example, the extended time bumps more cases against the trial date. In this paper we do not examine settlement rates and instead focus attention on the effect of contingency fees on case quality and time to settlement.[6]

2. Empirical Strategy

Our primary goals are to measure the impact of contingency fees on case quality and on the expected time to settlement. Our measure of case quality is the probability that the plaintiff drops the case without either a settlement or award. A drop for the

[6] Danzon and Lillard (1983) also find that restrictions on contingency fees are associated with a small increase in settlement rates. These findings are consistent with Miller (1987) who argues that plaintiff's lawyers have a greater incentive to settle under contingency fees than under hourly-fees (i.e. less incentive to settle when contingency fees are restricted). The intuition is that whether the case goes to trial or is settled, the expected award is the same, and thus the lawyer's share of the expected award is the same, but if the case is settled the lawyer can avoid the costs of a trial and so increase his net benefits. (Miller's model, however, is partial equilibrium in nature (it does not take into account defendant behavior), it assumes that the lawyer controls the settlement decision, and it does not control for screening

purposes of this study occurs when the plaintiff unilaterally decides not to purse the case any further. By implication, a dropped case, meaning a case that the plaintiff explicitly or implicitly withdraws (e.g. through a failure to pursue), represents a low-quality case to the plaintiff. There are a number of other possible ways of measuring case quality. For example, the award amount and the win rate reflect case quality. Yet, in practice, it is difficult to identify award amounts and win rates with quality because of the importance of controlling for other factors influencing awards, such as case types, injuries (including plaintiff wages and other losses), county demographics and other factors. In addition, and especially regarding win rates, cases that go to trial are not a random selection of all cases (Priest and Klein 1984, Waldfogel 1995). Even if low quality cases are filed more often in "hourly-fee states" (to use a shorthand for states that restrict contingency fees) it may not be the case that more low quality cases go to trial in these states. Instead, low quality case may be settled or dropped. Using settlement awards to identify case quality runs into the same difficulties as using trial awards.

The benefit of using the probability that a case is dropped as a measure of quality is that drops measure the screening function of lawyers. Consider a person who hires a lawyer for advice and representation, initiates legal proceedings and then subsequently drops her case when she discovers that neither a settlement nor a trial award appear to be forthcoming. Such a person is likely to believe that her lawyer should have informed her at the outset that her prospects for recovery were slim. If drops are more common when hourly fees are more common, we have evidence consistent with the hypothesis that

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effects. The model also assumes the costs of a trial are large relative to the costs of settling a case, which will not always be true.)

lawyers are performing their screening function less well when their incentives so dictate.[7]

We will use control variables to take into account other factors that may affect drop rates or settlement timing but, in our cross-sectional regressions, we will also take advantage of the fact that many states have placed restrictions on the use of contingency fees in medical malpractice cases but not in other cases such as auto cases. By comparing the difference in drops and settlement timing between medical malpractice and auto cases in states that restrict contingency fees in medical malpractice cases (but not in auto cases) with the same difference in states that have no restrictions on contingency fees we can compute a difference in difference estimate that controls for a great variety of known and unknown state factors. As a robustness check on our difference in difference results we perform a discontinuity analysis around the passage of one particular contingent fee limit in Florida in 1985. We also estimate a time series model using the same event.

3. Review of the Empirical Literature

Very few empirical papers on contingency fees have been conducted. Thomason (1991) finds that plaintiffs who hire lawyers have higher settlement rates and lower settlement amounts than plaintiffs who represent themselves. Because lawyers in these cases are paid at least some of their compensation from a contingency fee arrangement, Thomason concludes that *contingency fees* increase settlement rates and reduce

[7] Spier and Dana (1993) use the term "drop" in a different context than we do and this may lead to confusion. Spier and Dana argue that contingent fees will lead *lawyers* to "drop" more cases. That is, they agree with us that a lawyer paid on an hourly fee will pursue a lower quality case for longer than a lawyer paid on a contingent fee – this includes the situation where the lawyer to be paid a contigent fee turns the case down immediately. Our prediction is that *clients* will drop more cases when lawyers are paid using an hourly fee. The theories are entirely consistent. At first the lawyer has better information than the client. A lawyer paid on a contingent fee will decline a low-quality case while the lawyer paid on an hourly fee is inclined to pretend that the case is of higher quality than it actually is. At some

settlement amounts relative to no representation. Two reasons suggest caution before accepting this conclusion. First, self-selection is potentially an important factor when some plaintiffs choose to hire lawyers and others do not. If plaintiffs who hire lawyers have weaker cases, a not implausible assumption, we might expect settlement rates in this group to be higher and settlement amounts to be lower. Second, even assuming that selection effects are absent, Thomason cannot distinguish whether the effects he finds are due to representation by lawyers or to lawyer fee arrangements. Ideally, what is needed is a comparison of cases brought by lawyers on a contingency fee basis with cases brought by lawyers on an hourly fee basis.

The other important evidence on the impact of contingency fees is found in Danzon and Lillard's (1983) model of dispute resolution. Although contingency fees are not the focus of their investigation, Danzon and Lillard run regressions on settlement awards, rates, and drops that include a dummy variable if a state limits contingency fees (their data covers 1974 and 1976 so they are able to pick up law changes which occurred in 1975). They find that settlement amounts fall by 9 percent and the settlement rate increases by 1.5 percentage points. Although they do not interpret it as a measure of case quality, Danzon and Lillard do find that limits on contingency fees cause the percentage of cases that are dropped to increase by 5 percentage points - a finding consistent with the screening theory we outline above. Danzon and Lillard use a structural model and a variety of variables to control for potentially confounding factors. This study uses control variables and a difference in difference estimator to control for unobserved factors. Danzon and Lillard do not examine settlement timing.

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point in the future, however, the true case-quality is revealed to the client and the client now drops the lower-quality cases. We are grateful to an anonymous for clarifying this point.

4. Data

The analysis is conducted in two datasets, the first cross sectional the second a time series. We conduct the cross sectional analysis using The Civil Justice Survey of State Courts, 1992 (hereafter State Court), a survey of litigation conducted by the U.S. Department of Justice and the Bureau of Justice Statistics. The survey is available from the Inter-University Consortium for Political and Social Research (ICPSR 6587). The survey covers tort, contract and real property cases disposed of between July 1, 1991 and June 30, 1992 in 45 jurisdictions chosen to represent the 75 most populous counties in the nation (these counties account for about half of all civil filings.) Currently 16 states limit the contingency fees that lawyers may charge in medical malpractice cases (AMA 1989). Of the 16 states that have limits, 10 have counties in the State Court data set. Two states, Florida and Michigan, limit contingency fees in all personal injury cases, which makes it difficult to create an in-state control group. Therefore, we drop Florida and Michigan from the analysis. All of the remaining states limit contingency fees in medical malpractice cases but not in auto cases.

Four states in the State Court data, (Arizona, Florida, Hawaii, and Washington) allow for judicial review of contingency fees. Judicial review allows a judge, at least in theory, to reduce fees that he or she finds excessive. But when judges *must* decide how much attorneys should be compensated, as in class action suits, Lynk (1990) finds that they award similar compensation to that which would be expected under standard contingency fees. Lynk's result suggests, therefore, that judicial review is unlikely to be an important limit on contingency fees. We identify the states that have judicial review but no limits as no-limit states. Reclassifying these states as limit states does not affect our conclusions, which is not surprising as there are few cases in these states.

Thus constructed we have eight "hourly-fee" states, i.e. states with limits on contingency fees in medical malpractice cases but not in auto cases. These are California, Connecticut, Illinois, Indiana[8], Massachusetts, New Jersey, New York and Wisconsin. Together these states contribute 454 cases or 61% of the total of 741 medical malpractice cases. There are also eight "contingency fee" states, i.e. states without limits in any class of case; these are Georgia, Kentucky, Minnesota, Missouri, Ohio, Pennsylvania, Texas, and Virginia (287 medical malpractice cases). Auto cases are the most prevalent cases; there are 8,312 auto cases in our sample split roughly in the same ratio as the medical malpractice cases. Table 1 lists the limits on contingency fees that various states have placed on medical malpractice cases.

Limits on contingency fees are stronger in some states than in others. The Florida limit, for example, is relatively weak as it allows lawyers to collect 33 1/3 percent of the first million dollars recovered, 30 percent of the second million and 20 percent thereafter (with some variations if the case is settled early). By contrast, in Connecticut lawyers are limited to 33 1/3 percent of just the first three hundred thousand, 25 percent of the next three hundred thousand, 20 percent of the next three hundred thousand and so on until any recovery in excess of 1.5 million entitles the lawyer to a fee of only 10 percent.

To create a summary measure of these non-linear functions we compute the average "tax rate" implied by each function. That is, we compute the fee a lawyer would have earned on an average recovery if contingency fees were set at 33 1/3 percent (a typical market rate) and compare that with the maximum fee earned when fees are

[8] Indiana limits contingency fees from a recovery fund such as workers compensation. Because some medical malpractice claims may make claims against the workers compensation fund we estimate the model with Indiana excluded. The results are robust to Indiana's exclusion.

limited.[9] To be precise we compute (no limit earnings - limit earnings)/(no limit earnings). The State Court dataset contains award information for only a small subset of the cases for which it has information on drops and other variables. Thus we draw award information from another dataset, the Jury Verdict Research dataset. The Jury Verdict Research dataset is a large dataset of trial awards created by a private firm for sale to lawyers interested in estimating the value of their cases. It is described more extensively in Helland and Tabarrok (2000). (The JVR dataset does not contain information on drops, which is why we do not use it for our analysis.) In the JVR dataset for the years around 1992, specifically 1990-1994, and for the states with limits on contingency fees we have data on 916 cases in which an award was granted at trial and 489 settlements. We create a separate kernel estimate of the density function for tried and settled cases and then compute the recovery distribution as sr * the settled distribution + (1-sr) * w * the tried distribution. Where sr is the settlement rate and w is the win rate. A number of studies suggest the settlement rate is approximately 90 percent and the win rate among medical malpractice cases approximately 25 percent (see for e.g. Cooter and Rubinfeld 1989, Ostrom and Kauder 2000). Using this approach we find that Florida's contingency limits amount to an implicit "tax" of 23 percent while Connecticut's much stronger limits amount to an implicit tax of 62 percent. The tax rate for states in the State Court data is presented in Table 1.

The second data set is a time-series of medical malpractice incidents from Florida. Since 1975 Florida has required that malpractice insurance companies notify the Department of Insurance about any allegation of malpractice. Thus the Florida data represents the total population of medical malpractice allegations and covers these

[9] Note that this means for a state like Michigan which caps contingent fees at 33 1/3% we would have an effective tax

allegations from inception through to ultimate disposition. Unfortunately, the Florida data set is not very extensive until 1985 when the Department of Insurance began requiring a more complete form that includes information on whether or not the claim was dropped. Florida first limited contingency fees in November of 1985 - thus the only cases documented during the time when contingency fees were not limited and for which we have data on drops are from the first 10 months of 1985. We compare the drop rate of cases filed 300 days before with the drop rate on cases filed in the 300 days after contingency fees were limited on November 1, 1985 (that is between January 5, 1985 and February 28, 1986). We do not extend the data set after 1986 because we want to take an uncontaminated snapshot of changes around the contingency-fee limitation "event" that occurred in November of 1985.[10]

In one important respect, the Florida data is more extensive than the State Court data. As noted above, the Florida data begins with the allegation of malpractice while the State Court data only covers incidents from the time a legal case is filed. The definition of drop is therefore slightly different in the two data sets as claims may be dropped in the Florida data set before they are filed but in the State Court data it is only filed cases that are dropped.[11]

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rate of zero.

[10] Note that cases may drop many years after they are filed.

[11] The Florida data is also slightly different in one other respect. Florida is a "sunshine" state so all settlements in medical malpractice cases are open and recorded. In other states, settlements may be secret. Secret settlements come in two forms, a sealed case is recorded as settled but the settlement amount or other details are not made public. Alternatively, a secret, private settlement may occur in which the plaintiff *appears* to drop the case without compensation. It's conceivable, therefore, that some of the drops in the State Court data are actually secret settlements. Secret settlements are rare, although for obvious reasons no one is quite sure exactly how many secret, private settlements occur per year. Since secret, private settlements are rare and unlikely to be correlated with laws on contingency fees they should not contaminate our results (in addition, auto cases also act as a control). See Daughety and Reinganum (1999) for a model of secret settlements.

5. The Impact of Contingency Fees on the Propensity to Drop a Case

Preliminary Data Analysis: State Court Data

In Table 2, we show that the proportion of medical malpractices cases in the State Court data that are dropped, i.e. the plaintiff unilaterally decides not to pursue further legal action. This proportion is much higher in hourly-fee states than in contingency fee states. In hourly-fee states 18.3% of medical malpractice cases are dropped but only 4.9% are dropped in contingency fee states. The difference is statistically significant at the greater than 1% level (p=0.000). To control for other factors in hourly-fee states, we also examine the number of drops in auto cases. The number of drops of auto cases is no higher in states that limit contingency fees in medical malpractice cases than in other states. In other words, the higher number of drops is confined to cases in which contingency fees are limited and is not a function of any other state-specific variable that also influences auto cases. For future reference the difference in difference estimate is that restrictions on contingency fees ("hourly fees") increase drops by 13.9 percentage points.

Preliminary Data Analysis: Florida Closed Claim Data

Panel A of Table 3 shows the drop probability for a medical malpractice claim filed in Florida in 1985 before contingency fee limit compared with the drop probability on cases filed in the 300 post-limit days. The probability that a case was dropped increased after limits were placed on contingency fees. The increase in drops is 3.5 percentage points (approximately a 15 percent increase in drops), and is statistically significant at the 5% level (two sided test p=.03).

There are some potentially problematic features of the Florida time series. A news item in American Medical News (November 15, 1985) noted a dramatic increase in the

number of cases filed in the months before contingency fees were limited in November of 1985. We verify this observation in Figure 1, which is a plot of the number of filings per month between 1984 and 1986. The spike around September and October of 1985 is an interesting indication that attorneys, or their clients, found it worthwhile to file early in order to work around contingency fee limits.

Our concern is that the rush to file prior to the law will contaminate the experiment. As we have no control group in the Florida data it is important to determine exactly when the break in likelihood of dropping a case occurred. A second confounding problem is that Florida enacted another series of reforms in 1986 the first of which took effect in 1987. These reforms included limiting contingent fees in non-medical malpractice cases, eliminating joint and several liability, capping non-economic damages, instituting a period payment schedule for large awards, implementing a collateral sources offset rule which reduces the amount of the award by payments from other sources, and capping punitive damages.[12]

In short there are a number of confounding influences which may impact drop decisions in later periods of the sample. Our solution to these two problems is to examine a narrow window around November 1, 1985. We first do this graphically to ascertain any patterns in drop behavior which might result from the rush to file.

In Figure 2A we show the smoothed probability that a case eventually drops by day of filing for all cases filed from 300 days before November 1, 1985 to 300 days after. It is important to note that the ultimate drop date differs across cases. We use a locally weighted smoothing by day without a break at implementation. We include lines at zero (the day of implementation) and .23 the average probability of a drop over the whole

sample. The graph appears to suggest the rise in the drop rate occurred before implementation but this is merely an artifact of the local smoothing technique. Figure 2b repeats the process but estimates each side of implementation using only data from the relevant period. That is days -300 to -1 are used to estimate the left hand side of the graph while 1 to 300 the right. The graph shows a marked jump at 0 (implementation) followed by a steady climb.

The evidence from the Florida data is consistent with the State Court data. We will estimate the relationship among drops and contingency fees more precisely by adding control variables.

Specification of the decision to drop: State Court Data

We now add control variables to the specification. In the state court data we estimate the probability that a case is dropped as

$$\Pr(y_i = 1) = \Phi(l, m, l \cdot m, X)$$

where l is the presence of a limit for medical malpractice cases, m is equal to one if the case is a medical malpractice case, $l \cdot m$ is the limit state medical malpractice case interaction and X denotes other independent variables including whether the plaintiff claims emotional distress or bodily injury, major law differences across the states[13], defendant characteristics such as whether the defendant was an individual an insurance company or a hospital, and the number of defendants and plaintiffs.[14] The control variables are supplementary to our primary control, which is the difference in difference

[12] A final provision which implemented a 60% tax on punitive damages was delayed by legal challenges until 1991.
[13] The American Tort Reform Association (ATRA) home page, http://www.atra.org/, contains information on tort reform legislation by state.
[14] There are three ways a case can be resolved in our data. It can be dropped, settled or go to trial (where obviously the plaintiff can win or lose). The drop results for both the State Court data and the Florida data are estimating the likelihood a case is dropped rather than either settling or going to trial.

technique using auto cases. We cluster the standard errors by state. Descriptive statistics are given in Appendix Table 1.

Specification of the decision to drop: Florida Closed Claim Data

In the Florida data we have a richer set of supplementary control variables but we do not have auto cases as a primary control group. We estimate the probability that a case is dropped as

$$\Pr(y_i = 1) = \Phi(post\ 85, X)$$

where *post 85* is the November 1985 restriction on contingency fees in Florida and *X* denotes other independent variables. Our Florida control variables include information on the type of defendant (i.e. dentist, hospital, doctor, HMO, or other; other is omitted to avoid collinearity with the intercept). Different defendants may have different negotiation ability, legal resources, or risk behavior to name a few possibilities. We also include a dummy variable for whether the doctor involved was board certified with the expectation that it is easier to prove a claim of negligence against a non-certified doctor, making drops less likely. We also include control variables for the type of medical malpractice (i.e. emergency room, inpatient, office visit, operating room, obstetrics/gynecology, anesthesia and other). Again the other category is omitted. Our expectation is that different standards of negligence apply in these cases causing differences in observed drop probabilities. Finally we include the Florida Department of Insurance coding for the plaintiff's injuries – these are a series of dummy variables indicating if the plaintiff died or suffered emotional distress. Also, injuries are divided into permanent and temporary and within these categories are further subdivided into grave, significant, major, minor and insignificant (with the exceptions that permanent injuries can never be classified as insignificant and temporary injuries are never grave).

As such they represent a control for the extent of the plaintiff's injuries and the expected damages in the case if the plaintiff prevails. Descriptive statistics are given in Appendix Table 2.

Results of the drop regression: State Court Data

Table 2 presents the estimated marginal effects of contingency fee limits on the probability that a case is dropped. The negative coefficient on limit indicates that even if contingency fees had no effects, drops would tend to be less likely (for other reasons) in states with limits. Similarly, drops tend to be less likely on medical malpractice cases compared to auto cases. The coefficient on Limit*Medical Malpractice is the difference in difference estimator – it indicates that in states that limit contingency fees the difference in the probability of dropping between a medical malpractice case and an auto case is 13.8 percentage points greater than in states that do not limit contingency fees (after controlling for the other variables in the regression). Thus, given the appropriateness of the control procedure, we estimate that restrictions on contingency fees increase the probability of dropping by 13.8 percentage points (very similar to the 13.9 percentage point effect we found in the preliminary analysis).

The marginal effect of the other independent variables is in most cases small. One interesting finding is that cases referred to alternative dispute resolution are 8.8 percentage points less likely to be dropped than are other cases. The finding is also sensible because alternative dispute resolution tends to produce settlement-like decisions in which everyone gets something rather than the more risky win/lose decisions that occur in the regular courts.

Column 2 of Table 2 provides the marginal effects for the drop probit for the "tax rate" medical malpractice interaction. The results indicate a smaller impact on drops than

that implied by the dummy variable. A move from no limits (a tax rate of zero) to the most restrictive tax rate of .62 results in a 7 percentage point increase in the probability a case is dropped. The impact is not, however, significant in a two tailed test (p-value=.15).

Results of the drop regression: Florida Closed Claim Data

Table 3 presents the results from the Florida Closed claim data for cases filed in the 600 days around implementation of Florida's contingent fee limit. The coefficient on post-limit cases is positive and statistically significant at the greater than 10 percent level - consistent with the theory that drops are more likely in cases files after the November 1985 limit. [15] The marginal effect is 3.8 percentage points (almost identical to that found in the preliminary data analysis) indicating that after contingency fees were limited the drop rate increased by approximately 15 percent. Several of the other control variables are also important determinants of the probability of a unilateral drop. Cases against dentists, hospitals doctors and HMOs are all more likely to be dropped than cases against other defendant also the injury variables are of plausible sign. Cases involving death, for example, are 16 percentage points less likely to drop than are other cases. Similarly, cases involving permanent injuries are less likely to drop than those involving temporary injuries.

6. The impact of Contingency Fees on Expected Time to Settlement

The greater the portion of a lawyer's fee that is based on hours worked the greater the incentive increase billable hours thus potentially delaying settlement time. To estimate the affect of restricting contingency fees on the expected time until settlement we use a censored Tobit regression on the log of settlement time. Log settlement time is

[15] As noted in the text, endogenity of filing should not be a problem because drop is independent of filing.

well approximated by a normal distribution and the Tobit model is equivalent to a duration model estimated using a log-normal hazard (Wooldridge 2002, 699).[16] To estimate the model we include all cases and treat cases that are dropped or settled as resolved with trials censored at the trial date.

In the State Court data we include as control variables case types, legal variables, and defendant characteristics, as in the settlement and drop regressions. We discuss control variables and some of the more interesting findings regarding them at greater length below.

The Florida data has fewer control variables than the State Court data but fewer control variables are necessary because the data covers only one state over a short period of time. In addition, for Florida we have essentially the entire population of medical malpractice claims for the years around 1985.[17] We use this data to estimate the stock of medical malpractice cases at a given moment in time – the stock variable is then used as a proxy for court congestion.

The rush to file prior to the November 1, 1985 noted above creates potential problems for estimating the timing of settlement.[18,19] To avoid problems associated with

[16] We also estimated the model using a semi-parametric proportional hazard model (see Han and Hausman 1990, Meyer 1990). The semi-parametric model is flexible and imposes fewer restrictions than the lognormal model but our primary interest is on expected duration time and not the hazard function (that is we are interested in the unconditional effect of the covariates rather than the effect conditional on a certain amount of time having passed). The Tobit model is thus much more convenient when it comes to interpreting the results. Estimates from the more flexible model result in similar conclusions and are available upon request.

[17] To be precise, we have data on every medical malpractice case that was resolved in Florida by the year 2000. We will not have data, therefore, on the small minority of cases that began circa 1985 but which have not been resolved after 15 or more years.

[18] The contracts clause of the constitution implies that contingency fee limits can only apply to contracts not yet made at the time of the law's passage. Technically, therefore, early filing was not necessary to avoid contingency fee limits so long as contracts with clients had been made previously. But if a contract has been made previously then filing a case before November of 1985 was an easy and verifiable way for lawyers to establish that contingency fees do not apply to their case. Thus, we use filing as a proxy for time of contracting and assume that cases filed after November of 1985 were contingency fee limited. (Approximately one third of the cases filed during 1986 and December of 1985 involved injuries that occurred after November of 1985 so for one third of the cases it's literally impossible that contracting occurred earlier than November of 1985. Note that it's not unusual for a significant amount of time to pass from the time an injury occurs (and is recognized as having occurred) to the time a lawyer is contacted, a contract

the endogenous timing of case filing we measure duration in the Florida data not from filing to settlement but from when the plaintiff's injury occurred until settlement (i.e. we assume that injuries are exogenous to changes in the laws governing contingency fees). To limit the influence of other variables we compare the time from injury to settlement for cases filed in the first 10 months of 1985 to cases filed in the following 13 months.

Timing Results: State Court Data

Table 4 gives the Tobit estimates for the State Court Data. The key result is the statistically significant positive coefficient on Limit*Medical Malpractice. Since the dependent variable is log time the coefficient can be interpreted as a semi-elasticity – the percentage increase in time to settlement from a one-unit change in the variable. Thus, we find that the time to settlement is 21% longer in cases that are contingency-fee limited. [20] Recall that this is a difference-in-difference estimate so the increase in settlement times is measured after taking into account the fact that non-limited auto cases also tend to take longer in states that limit medical malpractice cases.

Signs on the control variables appear sensible. Cases with more than one plaintiff or defendant, for example, take longer as do cases referred to alternative dispute resolution. Interestingly, all of the statutes passed to limit awards tend to reduce the time to settlement. Capping non-economic damages, for example, reduces settlement time by 35.9%. These results suggest that the statutes are effective in limiting awards and that with less to argue about settlements occur in less time.

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made, and the case filed.) To the extent that cases filed after November of 1985 are not contingency fee limited we *under*-estimate the affect of contingency fees on time to settlement.

[19] Note that since dropping a case is independent of filing in the Florida data, the endogenous timing of filing is not a problem for our drop results.

[20] Since changes in the dummy variable are non-marginal a slightly more accurate estimation is 23%= ((e^.21)-1)*100.

Timing Results: Florida Closed Claim Data

Table 5 presents the evidence on settlement times from the Florida data. Settlement times increased by 11.1% in the 13 months after contingency fees were limited compared to the 10 previous months. The (logged) stock of medical malpractice cases is also statistically significant. A 1% increase in the stock of medical malpractice cases reduces the time to settlement by 4.4%. The sign may at first seem anomalous but in standard models of settlement (e.g. Priest and Klein 1984) an increase in the costs of trial increases the incentive to settle. If an increase in the number of cases increases the time until trial thereby increasing the costs of trial, this can similarly encourage earlier settlements.

7. Conclusions

Whether or not a lawyer is willing to take a case on a contingency fee basis provides a strong signal to plaintiffs about the quality of their case. But an hourly fee encourages lawyers to advise their clients that the client's case is worth pursuing no matter how low is the true chance of recovery. As a result, we find that when contingency fees are limited, plaintiffs file suit in many cases that they end up later dropping - an indication that limits on contingency fees cause a reduction in legal-quality. Similarly, under hourly fees lawyers have greater incentives to delay settlement and indeed we find that cases take significantly longer to settle when contingency fees are limited. We find these results by analyzing two quite different datasets, one of which is cross-sectional and the other a time-series. In addition, our results are robust to the inclusion of a variety of control variables and, in the state court data, are based upon a difference-in-difference estimator that uses non-restricted auto cases as a control group.

Limits on contingency fees were supposed to prevent people with poor information from paying too much for legal representation. The results of this study cast doubt on whether this goal has been achieved. Our results indicate that, as in other areas, restrictions on the freedom to contract have unintended consequences.

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Table 1: List of states that limit contingency fees

State	Limits	Effective Dates	Actions to which limit Apply	In State Court Data?	Effective tax rate*
California	40% of first $50,000 33 1/3 % of the next $50,000 25% of the next $500,000 15% of damages that exceed $600,000	1975	Medical Malpractice	Yes	.52
Connecticut	33 1/3% of first $300,000 25% of the next $300,000 20% of the next $300,000 15% of the next $300,000 10% of the next $300,000	1986	Medical Malpractice	Yes	.61
Delaware	Unclear	1976	Medical Malpractice	No	
Florida	33 1/3% of any recovery up to $1 million through the time of filing of an answer or the demand for appointment of arbitrators 40% of any recovery up to $1 million through the trial of the case 30% of any recovery between $1 million and $2 million 20% of any recovery in excess of $2 million*	1985 (Nov.)	Medical Malpractice Cases (extended to all personal injury cases in 1986)	Yes	.23
Illinois	33 1/3% of the first $150,000 25% of the next $850,000 20% of amounts over $1,000,000	1985	Medical Malpractice	Yes	.37
Maine	33 1/3% of the first $100,000 25% of the next $100,000 20% of amounts over $200,000	1986	Medical Malpractice	No	
New Jersey	33 1/3% of the first $250,000 25% of the next $250,000 20% of the next $500,000 if the award exceeds $1,000,000 the attorney must apply to the assignment judge for a higher fee	1976	All Personal Injury Cases	Yes	.38
New York	30% of the first $250,000 25% of the next $250,000 20% of the next $500,000 15% of the next $250,000 10% of any amount over $1,250,000	1976	Medical Malpractice	Yes	.62
Wisconsin	33 1/3% of the first $250,000 25% of the first $1,000,000 depending when the case is settled. 20% of over $1,000,000	1986	Medical Malpractice	Yes	.36
Indiana	15% of any recovery from the compensation fund	1975	Workers Compensation	Yes	0
Michigan	33 1/3% of any award	1981	All Personal Injury Cases	Yes	0
Oklahoma	50% of any award	1953	All Personal Injury Cases	No	
Oregon	1/3 of the amount received and 20% of punitive damages	1995	Medical Malpractice	No	
Tennessee	1/3 with court review	1975	Medical Malpractice	No	
Utah	33 1/3% of all awards	1985	Medical Malpractice	No	

Source: Brannon, Nancy (1997)
*Computed only if in State Court Data

Table 2: Analysis of the probability of dropping a case. State Court Data

Panel A: Proportion of dropped Cases in limit and non-limit states (State Court Data)

		Total Cases	Dropped Cases	Proportion
States with Limits on Contingency Fees (Hourly Fee States)	Medical Malpractice	454	83	18.3%***
	Auto	4838	468	9.7%
Non-Limit States	Medical Malpractice	287	14	4.9%***
	Auto	3474	353	10.2%

*** The difference between these two percentages is statistically significant at the greater than 1% level.

Panel B: Probit estimate of the probability of dropping a case (State Court Data) – Marginal Effects

	(1)	(2)
Limit	-0.013	
	(0.031)	
Medical Malpractice	-0.029	0.001
	(0.019)	(0.027)
Limit * Medical Malpractice	0.138**	0.115
	(0.064)	(0.090)
Effective "tax" rate * Medical Malpractice		0.115
		(0.090)
Effective "tax" rate		-0.029
		(0.057)
Log(Number of Plaintiffs)	0.017*	0.017*
	(0.009)	(0.009)
Log(Number of Defendants)	-0.017*	-0.017**
	(0.009)	(0.009)
At least one defendant is an insurance company	-0.014	-0.016
	(0.018)	(0.017)
At least one defendant is a hospital	-0.001	0.001
	(0.030)	(0.031)
At least one defendant is individual	-0.000	-0.000
	(0.019)	(0.018)
The plaintiff alleges emotional distress	0.048	0.049
	(0.038)	(0.039)
The plaintiff alleges no bodily injuries	0.014	0.015
	(0.017)	(0.017)
Case was referred to alternative dispute resolution	-0.088***	-0.088***
	(0.020)	(0.021)
Non-economic damages are capped in the state	0.054	0.051
	(0.047)	(0.044)
The collateral resources rule has been weakened in the state	0.038*	0.039*
	(0.023)	(0.023)
The state allows pretrial interest	0.023	0.023
	(0.020)	(0.026)
The state caps punitive damages	0.044*	0.043**
	(0.026)	(0.022)
The state has a products defense	0.005	0.007
	(0.022)	(0.020)
The state has an evidence standard	-0.010	-0.009
	(0.023)	(0.024)
The state has bifurcated trials to determine punitive damages	-0.079***	-0.081***
	(0.017)	(0.018)
Observations	9052	9052

Standard errors clustered on State in parentheses in Panel B.
* significant at 10%;
** significant at 5%;
*** significant at 1%

Table 3: Analysis of the probability of dropping a case. Florida Data

Panel A: Table 3: Proportion of dropped cases pre and post 1985 limit (Florida Data)

Period	Total Cases	Dropped Cases	Proportion
Pre Limits (1985)	1938	440	22.7 percent**
Post-Limits (1985-1986)	1064	279	26.2 percent**

**Difference is statistically significant at the 5% level.

Panel B: Probit Estimates of the Probability of Dropping a Case (Florida Data)

Variable	Marginal Effect (Standard Error)
Post 1985 limit on contingent fees	0.038**
	(0.017)
The primary defendant is a dentist	0.038
	(0.093)
The primary defendant is a hospital	0.148***
	(0.055)
The primary defendant is a doctor	0.156***
	(0.041)
The primary defendant is a HMO	0.090
	(0.101)
The defendant is not board certified	-0.003
	(0.020)
The alleged malpractice took place in the emergency room	-0.043
	(0.027)
The alleged malpractice took place while the plaintiff was a inpatient	-0.022
	(0.026)
The alleged malpractice took place in the defendants office	-0.072**
	(0.028)
The alleged malpractice took place in the operating room	0.008
	(0.019)
The alleged malpractice involves obstetrics/gynecology	-0.022
	(0.024)
The alleged malpractice involved anesthesia	-0.067
	(0.044)
The plaintiff injuries resulted in death	-0.159*
	(0.083)
The plaintiff injuries are emotional	-0.025
	(0.104)
The plaintiff injuries classified as permanent and grave	-0.160***
	(0.059)
The plaintiff injuries classified as permanent and major	-0.125*
	(0.072)
The plaintiff injuries classified as permanent and minor	-0.138*
	(0.073)
The plaintiff injuries classified as permanent and significant	-0.121
	(0.079)
The plaintiff injuries classified as temporary and insignificant	-0.065
	(0.091)
The plaintiff injuries classified as temporary and major	-0.132*
	(0.071)
The plaintiff injuries classified as temporary and minor	-0.122
	(0.080)
The plaintiff is male	0.012
	(0.016)
Observations	3002

Robust standard errors in parentheses
* significant at 10%

** significant at 5%
*** significant at 1%

Table 4 Tobit Model of Expected Time to Settlement – State Court Data

Variable	Coefficient (Standard Error)
Constant	6.016*** (.0563)
Limit	.1541*** (.031)
Medical Malpractice	.5114*** (.0828)
Limit*Medical Malpractice	.21** (.0857)
Log(Number of Plaintiffs)	.1409*** (.02845)
Log(Number of Defendants)	.2767*** .02347)
At least one defendant is an insurance company	-.2015*** (.05689)
At least one defendant is a hospital	-.2622*** (.08065)
At least one defendant is individual	-.1461*** (.0494)
Plaintiff alleges Emotional Distress	.1465 (.102)
Plaintiff alleges no bodily injuries	.03608 (.0626)
Case was referred to alternative dispute resolution	.4384*** (.0289)
Non-economic damages are capped in the state	-.3594*** (.074)
The collateral resources rule has been weakened in the state	-.1225*** (.0295)
The state allows pretrial interest	-.2705*** (.0376)
The state caps punitive damages	.1462*** (.0344881)
The state has a products defense	-.1683*** (.0314)
The state has an evidence standard	-.2145*** (.03516)
The state has bifurcated trials to determine punitive damages	.5125 (.07801)
Observations	9052

* significant at greater than 10 percent level
** significant at greater than 5 percent level
*** significant at greater than 1 percent level

Table 5: Tobit Model of Expected Time to Settlement – Florida Data

Variable	Coefficient (Standard Error)
Constant	7.556*** (.0375)
Limit	.111*** (.0189)
Stock of Cases	-.0442*** (.00734)
Observations	3968

* significant at greater than 10 percent level
** significant at greater than 5 percent level
*** significant at greater than 1 percent level

Figure 1: Filed Cases Spiked in Florida Just Prior to November 1985 Restriction on Contingency Fees

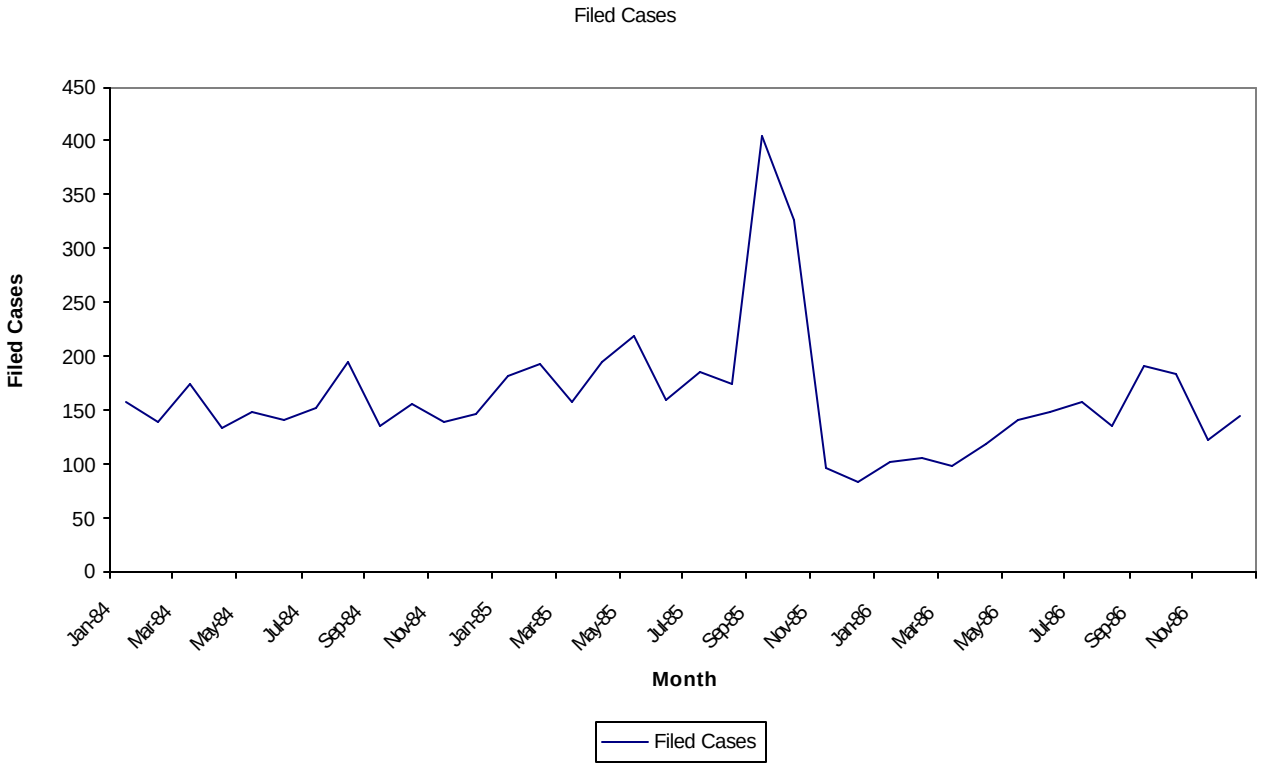


Figure 2a: The probability of dropping a case in Florida before and after contingency fees were limited. Locally weighted smoothing over the entire sample.

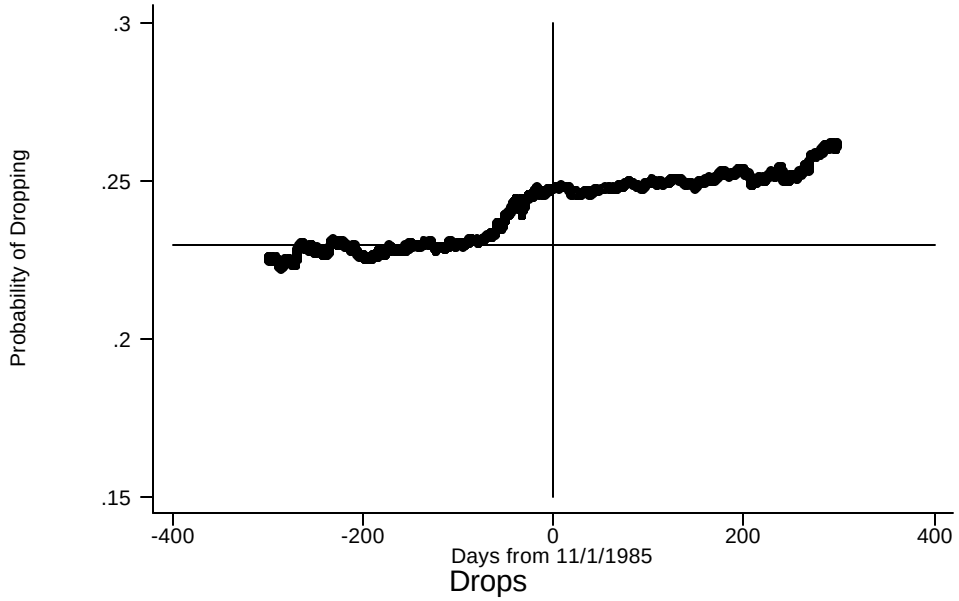
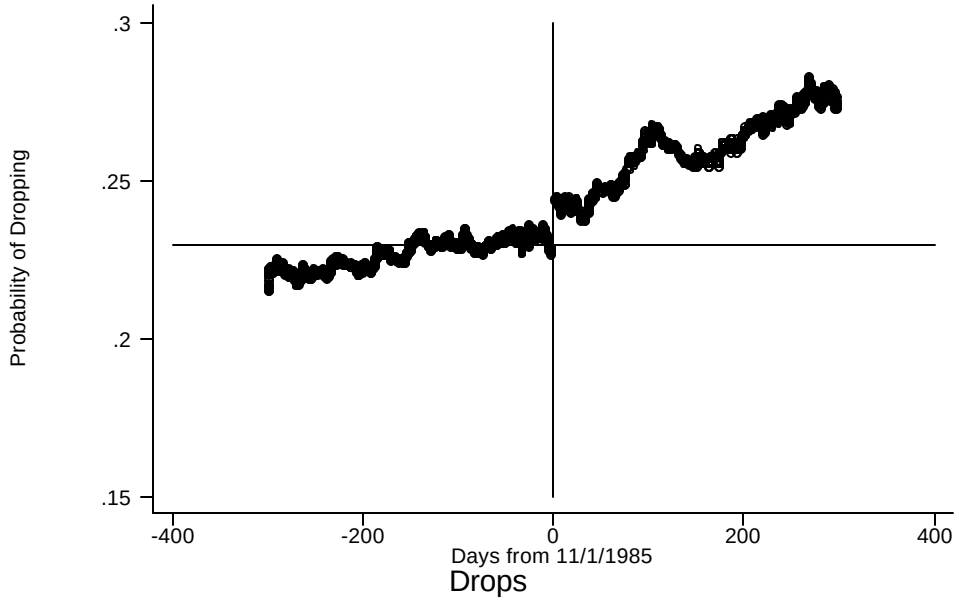


Figure 2b: The probability of dropping a case in Florida before and after contingency fees were limited. Locally weighted smoothing pre and post November 1, 1985.



Appendix Table 1: Summary Statistics for Dropped Sample (State Court Data)

Variable	Mean	St. Dev
Dropped	0.101414	0.301893
Limit * Medical Malpractice	0.050155	0.218276
(1-Limit)* Medical Malpractice	0.031706	0.175225
Limit * Auto	0.534468	0.498838
(1-Limit)* Auto	0.383783	0.486333
Log(Number of Plaintiffs)	0.259563	0.403229
Log(Number of Defendants)	0.460805	0.521573
At least one defendant is an insurance company	0.047503	0.212725
At least one defendant is a hospital	0.058772	0.23521
At least one defendant is individual	0.938135	0.240923
The plaintiff alleges emotional distress	0.013257	0.114379
The plaintiff alleges no bodily injuries	0.046067	0.209642
Case was referred to alternative dispute resolution	0.247901	0.431818
Non-economic damages are capped in the state	0.18924	0.391721
The collateral resources rule has been weakened in the state	0.395824	0.489054
The state allows pretrial interest	0.135219	0.341976
The state caps punitive damages	0.536014	0.498729
The state has a "products defense"	0.521653	0.499559
The state has an "evidence standard"	0.505413	0.499998
The state has bifurcated trials to determine punitive damages	0.159523	0.366183
N	9052	

Appendix Table 2: Summary Statistics for Dropped Sample (Florida Data)

Variable	Mean	St. Dev
Drop	0.2234	0.41655
Post 1985 limit on contingent fees	0.48806	0.4999
The primary defendant is a dentist	0.03159	0.17492
The primary defendant is a hospital	0.26708	0.44247
The primary defendant is a doctor	0.65145	0.47655
The primary defendant is a HMO	0.0133	0.11457
The defendant is not board certified	0.20722	0.40535
The alleged malpractice took place in the emergency room	0.13089	0.33731
The alleged malpractice took place while the plaintiff was a in patient	0.63377	0.48181
The alleged malpractice took place in the defendants office	0.18123	0.38524
The alleged malpractice took place in the operating room	0.30169	0.45903
The alleged malpractice involves obstetrics/gynecology	0.12712	0.33313
The alleged malpractice involved anesthesia	0.02328	0.15079
The plaintiff injuries resulted in death	0.27464	0.44637
The plaintiff injuries are emotional	0.03885	0.19324
The plaintiff injuries classified as permanent and grave	0.05336	0.22476
The plaintiff injuries classified as permanent and major	0.06998	0.25514
The plaintiff injuries classified as permanent and minor	0.13165	0.33814
The plaintiff injuries classified as permanent and significant	0.12953	0.33582
The plaintiff injuries classified as temporary and insignificant	0.05577	0.2295
The plaintiff injuries classified as temporary and major	0.08071	0.27242
The plaintiff injuries classified as temporary and minor	0.15931	0.36599
The plaintiff is male	0.47869	0.49958
N	6615	