Center of Business and Economics (WWZ), University of Basel

May 2013

Do Lawyer-Legislators Protect Their Business? Evidence from Voting Behavior on Tort Reforms

WWZ Discussion Paper 2013/09

Ulrich Matter & Alois Stutzer

Corresponding authors:

Ulrich Matter

University of Basel
Faculty of Business and Economics
Peter Merian-Weg 6
CH-4002 Basel

Phone: +41(0)61 267 33 03
Mail: ulrich.matter@unibas.ch

Prof. Dr. Alois Stutzer

University of Basel
Faculty of Business and Economics
Peter Merian-Weg 6
CH-4002 Basel

Phone: +41(0)61 267 33 61
alois.stutzer@unibas.ch

A publication of the Center of Business and Economics (WWZ), University of Basel.

Do Lawyer-Legislators Protect Their Business?

Evidence from Voting Behavior on Tort Reforms

Ulrich Matter (University of Basel)

Alois Stutzer (University of Basel)

May 27, 2013

Abstract

Attorneys elected to the US House of Representatives and to US state legislatures are systematically less likely to vote in favor of tort reforms that restrict tort litigation, but more likely to support bills that extend tort law. This finding is based on the analysis of 54 votes at the federal and state level between 1995 and 2012. It holds when controlling for legislators' ideology and is particularly strong for term-limited lawyer-legislators. The empirical regularity is consistent with the hypothesis that lawyer-legislators, at least in part, pursue their business interests when voting on tort issues. Our results highlight the relevance of legislators' identities and individual professional interests for economic policy making.

Keywords: Lawyers, legislatures, rent-seeking, tort law, tort reform, voting behavior

JEL classification: D72, K13

Matter: University of Basel, Faculty of Business and Economics, Peter-Merian-Weg 6, 4002 Basel, Switzerland, phone: +41-(0)61 267 33 03, ulrich.matter@unibas.ch

Stutzer: University of Basel, Faculty of Business and Economics, Peter-Merian-Weg 6, 4002 Basel, Switzerland, phone: +41-(0)61 267 33 61, alois.stutzer@unibas.ch

We are grateful to Thomas Braendle, Reiner Eichenberger, Bruno Frey, Thorsten Henne, Jonathan Klick, Margaret Kyle, David Laibson, Simon Luechinger, Mark Miller, Florian Neumeier, Reto Odermatt, Catherine Sharkey, Michaela Slotwinski, Michael Stone and conference participants at the EPCS Meeting 2013 and the 2013 ZEW conference on fiscal performance as well as seminar participants at the University of Basel for helpful remarks. The functions used to compile the data through Project Vote Smart's application programming interface (PVS API) were written in the R programming language. To make these methods more accessible to a broader audience, an R-package called 'pvsR' that facilitates the compilation of data from PVS API for scientific analysis is currently under development. An online appendix to this paper is available on www.wwz.unibas.ch/matter/. Ulrich Matter acknowledges financial support from the WWZ Forum.

1 Introduction

Lawyers are numerously represented in many legislatures. This raises a serious agency issue in a representative democracy when they draft and reform law that affects their business. The issue is more general though and refers to the question of whether and how the professional background of legislators is to play a role in state policy making. This is an important aspect of how political selection might matter for economic policy.[1] Insights are important to inform the choice of institutions that govern the representation of interests in politics such as ethics laws, recusal and disclosure rules, and incompatibility regimes.

We concentrate on lawyers[2] holding a seat in the legislature, so called lawyer-legislators, for several reasons. They form one of the most prominent groups as they often hold many seats (around one third of the Representatives in the US House have a professional background as attorney). They are, with few exceptions, members of the same professional association (in the United States, i.e., the American Bar Association and in the case of trial lawyers, the American Association for Justice). Moreover, they are experts on law, their political mandate is complementary to their business activity, and – importantly – they are involved in drafting rules that, depending on their design and implementation, generate more or less frequent and expensive law suits.

An important area is tort law where lawyer-legislators face a conflict of interest. In particular in the United States, where estimates of the total transactions generated by the American tort law system amount to USD 265 billion in 2010; i.e., 1.82% of GDP (Towers Watson 2012). Attorney fees account for a large part of that with estimates being around 30% (US Council of Economic Advisers 2004). Plaintiff lawyers as well as defendant lawyers have a vital interest in preserving this system. In the literature on US-tort reform, the argument is carried over to lawyer-legislators trying to block reforms, that are meant to simplify and limit the scope of liability rules or restrict damages (e.g., Epstein 1988, Zywicki 2000, Rubin 2005). However, no systematic empirical evidence supports this claim so far. Related literature focuses on the dynamics of tort reform and what drives certain types of reforms in the aggregate (Klick and Sharkey 2009, Miceli and Stone 2013).

[1] An introduction to the economic analysis of political selection is provided in Besley (2005). Analyses for specific professional groups refer to businessmen (Gehlbach et al. 2010) and public servants (Braendle and Stutzer 2010, 2011). This research pursues a positive analysis complementing older work on the "overrepresentation" of specific professional groups (e.g. Luce 1924).

[2] Our definition of lawyer in this study is based on the professional background of a person and not only on his or her education. Somebody who holds a degree from a law school but never practiced law is not counted as lawyer.

In this paper, we analyze whether lawyer-legislators are more likely to vote against tort reforms aimed at a reduction of the number and the size of tort cases. We do this by studying the voting behavior in the US House of Representatives as well as in 16 US state legislatures between 1995 and 2012. The empirical analysis is based on a custom-made data set that we have compiled using new computational techniques to draw information from the rich online resource *Project Vote Smart*. We conduct the analysis separately for the federal and the state level. Based on the econometric analysis of eleven votes, we find that attorneys at the federal level vote with a 10 percentage points lower probability in favor of reforms ceteris paribus. At the state level and based on 31 votes, the probability for lawyer-legislators is 6 percentage points lower. At the federal level, the effect is more pronounced for attorneys belonging to the Democrats than for those belonging to the Republican Party. In general, Republicans are more likely than Democrats to support reform bills that restrict liability. Finally, our analysis allows us to contribute to the question whether the gender of legislators matters for the design of tort law. This question considers the suggested disproportionally negative impact of certain types of tort reforms on women.[3] Indeed, female legislators are found to ceteris paribus support tort reforms that restrict liability at the federal level less than their male colleagues.

In supplementary tests, we address a series of alternative explanations. First, we study whether attorneys in politics consistently vote differently from non-attorneys. We find neither evidence for a systematic and distinctive vote pattern in a repeated random sample of votes on other issues than tort, nor evidence that the voting behavior can be explained by ideological differences based on legislators' entire roll call records. Second, we investigate whether lawyer-legislators' voting behavior caters to specific preferences in their electorate rather than being motivated by business interests. We do not find evidence for this refined median voter hypothesis. Legislators in the US House of Representatives who competed against attorneys in the electoral race are not more likely to oppose restricting tort reforms than legislators who face competitors with any other professional background. For a restricted sample of votes at the state level, we find, however, some support that electoral incentives matter. Lawyer-legislators who face a binding term limit are more likely to vote in favor of an extensive tort law.

Throughout this study we conduct a positive politico-economic analysis. Our contribution should, therefore, not be interpreted as an assessment of the tort reform process from a welfare perspective. We do not discuss what tort law regime might be socially preferable. We rather view our work as micro-evidence on the

[3]See Section 2 for a review of the arguments.

underlying forces that are driving the tort reform process and shape law in general.

This paper is organized as follows. In Section 2, we first review the arguments that emphasize the specific role of lawyers in legislatures. Second, we derive the political economy hypothesis that lawyer-legislators are more likely to oppose tort reforms. Section 3 describes the prerequisites for our empirical analysis, i.e., the data and the empirical strategy. The main results on voting behavior at the federal and the state level are presented in Section 4. In Section 5, we present complementary results from robustness checks and refined identification strategies. Section 6 offers concluding remarks.

2 Lawyer-legislators' interests in tort reforms

2.1 Lawyers in legislature

General sentiments about lawyer-legislators differ widely. On the one hand, there are concerns about the presence of lawyers in parliament going as far back as medieval England, where attorneys have temporarily been banned from parliament "because of their interest in stirring up lawsuits" (Warren 1911 cited in Roth and Roth 1989: 31). On the other hand, having legal skills is obviously an advantage when making laws. This is particularly the case for attorneys who hold offices or are members of committees related to the judicial system as pointed out by Hain and Piereson (1975). Moreover, lawyers as well as politicians are members of the so-called "talking professions" (Norris and Lovenduski 1995), hence a law school graduate's rhetoric skills are clearly of advantage in politics.

The presence of lawyers in legislatures is especially prominent in the United States. Figure 1 illustrates the percentage of lawyer-legislators across US state legislatures in 2011.

[Figure 1 about here]

The significant presence of attorneys in US politics has attracted the attention of the social sciences at least since De Tocqueville (1838: 260), who describes the lawyers in America as "[...] the only enlightened class whom the people do not mistrust, [which is why] they are naturally called upon to occupy most of the public stations. They fill the legislative assemblies and are at the head of the administration; they consequently exercise a powerful influence upon the formation of the law and upon its execution". More recent work on lawyer-legislators focuses on their personal characteristics and attitudes as well as their

motives to enter politics.[4] On this basis, several theoretical suggestions concerning the lawyer-legislators' behavior and capabilities in office have been put forward. A prominent theory proposes that many lawyers already have a political career in mind, when they choose to go to a law school. They are aiming at high positions in the government or public services and enter the legislature to start their careers (Podmore 1977). This perspective suggests that lawyer-legislators act close to the preferences of their party and the electorate in order to enhance their political careers. An opposing view comes from Schlesinger (1957) who argues that attorneys enter politics only for a short time period in order to boost their careers in private law practice. According to this latter perspective, lawyer-legislators are more likely to act according to the policy preferences of the legal profession and/or the clients they are representing. Graves' (1946) observation, that lawyer-legislators were too busy dealing with their legal services business to focus on important legislative matters, supports this point of view.

Other prevalent theories about lawyer-legislators' behavior focus on their formative education at law school and their specific professional skills. Hyneman (1940: 569) sees the attorney as an "accepted agent" of all political groups of the American people, who represents the citizens in legislature in the same manner as his clients in court. In a similar vein, Derge (1959: 432) describes the lawyer-legislator as an "intellectual jobber and contractor". However, he also points out that his clients come from special interest groups rather than the public in general. According to Graves (1946), the legal training at the law schools makes lawyer-legislators rather conservative and likely to defend the status quo. Miller (1995: 27) adds that legal training leads to a strong "rule and rationality orientation" that might threaten the political substance of lawyer-legislators' work in office.

Unlike this previous work on lawyer-legislators, we apply a straightforward political economics perspective. Lawyer-legislators – as all politicians – have individual preferences and goals that they pursue given their scope of action. In particular, we focus on the lawyer-legislators' prospects of increasing their expected monetary income. On the one hand, lawyer-legislators earn a fixed income from holding office, which depends on their re-election. On the other hand, lawyer-legislators can generate additional income by offering their legal services to private clients while serving in legislature.[5] Moreover, their potential future earnings after having

[4]Note that in this literature the term lawyer-legislator is sometimes used in a broader sense than how we defined it in the introduction of this paper. In the literature overview presented here, lawyer-legislator does, therefore, not exclusively refer to the professional background of a legislator. It might solely refer to her or his educational background. However, we think that the theoretical arguments discussed in this section do also hold for our more restrictive definition of a lawyer-legislator.

[5]The politicians' trade-off between engagement in parliamentary work and potential outside earnings has recently received a

left politics are expected to depend on their actions as politicians. In this framework, a lawyer-legislator who wants to maximize his monetary income thus faces a trade-off between using the political mandate to increase his outside and future earnings, on the one hand, and the support of his party and the electorate in order to be re-elected, on the other hand.

While all members of a legislature can engage in politics to support special interest groups with a view to personal profit in return (future earnings or financial support for their campaigns), lawyer-legislators' private business interests, the legal services industry, depend extensively on the design of the law. Hence, attorneys in legislature can directly, and in various ways, influence the very basis of their outside and future earnings. Some legislation has an influence on the demand for legal services, while other legislation directly influences the prices of legal services (for a general account of the market for lawyers, see Hadfield 2000). The former refers to rules that provide incentives to resolve disputes in court and/or generate the need for legal advice in order to avoid becoming involved in litigation in the first place. A simple example of this would be where the legal code is over-complex and provides numerous opportunities to litigate against natural or legal persons, and leads to substantial information asymmetry between attorneys and their clients (see, e.g., White 1992 on complexity). High prices for legal services can be achieved either by directly setting them by law or indirectly by easing anti-trust laws to facilitate price fixing.[6] Other drivers of prices are the procedural rules that define the extent to which attorneys are free to set up contingency fee agreements.

2.2 Lawyer-legislators and tort reforms

Many of the rules that have a considerable impact on the income of lawyers can be found in US tort law. The US tort system has doubtlessly become big business for many lawyers (see the numbers reported in the introduction). Whether the system is also beneficial to consumers is controversially discussed, and US tort law has almost constantly been under reform pressure since the early 1980s (Sugarman 2002).[7] In fact, by

lot of attention in political economics research. Theoretical considerations are formulated in Caselli and Morelli (2004), Besley (2005) as well as Mattozzi and Merlo (2008). Empirical evidence concerning politicians' compensation, outside earnings and effort in office are presented in Gagliarducci et al. (2010).

[6]Fixing prices for legal services is not unknown in the USA. Until the 1970s, the American Bar Association (ABA) had been recommending minimal fees to its members. In 1974, the United States Supreme Court judged that practice as price fixing and therefore as a violation of the Sherman Act (Handberg 1976).

[7]Whether this reform process is indeed transforming the US tort system towards a socially optimal regime is a controversial issue in the Law and Economics literature. If any opinions of scholars can be descried, they are, at least in the early phase of the reform process, rather in favor of tort reforms (see the symposium on the economics of liability in the *Journal of Economic Perspectives*, Shapiro 1991). In this study however, we do not discuss which type of tort system is preferable from a welfare perspective.

2012 almost all state legislatures had passed one or several bills to change their mainly common-law-based law of torts. More recently, tort reform has also become a federal issue with several bills being passed by the US House of Representatives. The great majority of these reforms aims at reducing the number of tort suits as well as the amount of damages awarded. Avraham (2007), investigating the effect of six different types of tort reforms on medical malpractice settlement payments, shows that some reforms indeed have a negative impact on the number of annual payments while others reduce average awards. The reforms thus reduce the demand for certain legal services, and in some cases, also their price. Lawyers associations are clearly opposing these reforms (Rubin and Bailey 1994, Rubin 2005) and lawyer-legislators might be loyal representatives of such special interest groups. The reforms also potentially reduce lawyer-legislators' outside and future income, in particular, if they are not full-time legislators. But even full-time representatives in the US House are likely to be affected by such reforms through their potential future income, taking into account that they are often only elected for two years. Besides that, lawyers as full-time legislators are likely to have close ties with other colleagues in the legal profession and/or are co-owners of a law firm. Attorneys in legislatures therefore have an incentive to prevent such reforms in order to protect their business. They have many ways to do so. They can oppose or water-down tort reform legislation in the judiciary committee of the respective legislature. Another option is to actively organize opposition to the proposed bill, if necessary involving logrolling. The most obvious action is to vote against it. Since the latter action is clearly observable, we propose the following hypothesis to empirically test the theoretical considerations:

Legislators with a professional background as attorney vote with a higher probability against tort reforms aiming at a reduction of the number of suits and the amount of damages awarded than the average legislator from other professional backgrounds.

In the few cases that a bill on tort reform actually extends the liability, we expect, based on the same theoretical considerations, lawyer-legislators to support it in the interest of their business.

The existing literature on lawyer-legislators' voting behavior does not directly test political economy hypotheses. It rather explores differences in voting behavior between attorneys and other legislators across a broad range of issues with no consistent conclusion.[8]

[8]On the one hand, Dyer (1976) finds only a relatively small difference between lawyers and non-lawyers for voting on no-fault insurance proposals in four different US state legislatures, while Engstrom and O'Connor (1980) find lawyer-legislators to be more supportive of reforms that strengthen the legislative branch of government than non-lawyers. On the other hand, Derge

2.3 Partisan considerations and women in legislature

Regarding voting behavior on tort reform bills, the professional background of the legislators is of course not the only relevant factor. First of all, there is party affiliation. It has been argued that tort reforms have become a highly partisan issue with the Republicans defending the interests of the business community in favor of reforms and the Democrats being pro plaintiff and against reforms (Sugarman 2002). However, historically and ideologically the positions concerning tort reform of these two parities are not clear (Sugarman 2006). According to Zywicki (2000), the Democrats' opposition to such reforms can partly be explained with generous campaign contributions from trial lawyers. Anecdotal evidence suggests furthermore that lawyer-legislators of the Democrats tend to be trial lawyers, whereas Republican lawyer-legislators tend to be defendant lawyers. We take this aspect into account by restricting the sample in some analyses to Democrats or Republicans only.

Second, the gender of representatives might be of particular importance when studying voting behavior in the context of tort reforms. Recent research has shown that women's identities matter for policy outcomes and that women in legislatures have different voting patterns than men, especially if the votes are about issues concerning children, family or women.[9] Even though tort law does not de jure treat women differently from men, there are arguments that it affects women de facto differently. It has been argued that caps on non-economic damages have adverse effects on women and the elderly (Finley 2004 cited in Sharkey 2005). Women are likely to be awarded less in direct economic damages, because they either do not work or earn less. Damages on pain and suffering are therefore crucial for the total amount of damages they can receive. With non-economic damages capped, attorneys might therefore "disproportionately screen out claims by women", making it harder for women to claim any damages (Sharkey 2005: 490). Moreover, in the particular field of medical malpractice tort law, Rubin and Shepherd (2008) find that caps on non-economic damages have a disproportionate positive effect on the non-motor-vehicle accidental death rates of women relative to men. Shepherd (2008) also finds evidence for her hypothesis that restrictions of non-economic damages and punitive damages disproportionally reduce doctors' care levels for women and that women at the same time

(1959, 1962), investigating votes on bills with different social and economic issues in three US state legislatures, finds no evidence for a systematically different voting behavior of lawyer-legislators and generally no tendency for lawyer-legislators to vote with cohesion. Green et al. (1973: 450) investigate the voting behavior of lawyers in US Congress on issues specifically related to the US Supreme Court over the years 1937 to 1968 and conclude in the same vein as Derge that "the legal profession variable is justifiably branded as irrelevant".

[9] See Chattopadhyay and Duflo (2004) for women in politics and policy outcomes and Swers (2001) for an overview of female representatives' behavior in US state legislatures and US Congress.

benefit less from these reforms' increases in doctors' activity levels. Some of the votes analyzed in this paper concern medical malpractice issues.

3 Empirical analysis

3.1 Data

In order to test our hypothesis, we have compiled a data set with the voting records from 54 votes on 41 different bills concerning tort law issues in 16 different US state legislatures and the US House of Representatives between 1995 and 2012.[10] All 11 votes on the federal level concern bills that restrict liability. In that sense, they are typical tort reform bills, aimed at reducing the amount of damage payments and/or the number of tort cases, e.g., by introducing non-economic damages caps. At the state level, 12 of the total 43 votes concern bills that extend the existing tort liability, e.g. remove non-economic damages caps. Each voting record consists of a list of all members of the respective legislature and how they voted. Our dependent variable composed from these voting records is equal to 1 if the representative voted yes (or pair yes) and 0 if he or she voted no (or pair no).[11]

We have linked these voting records to biographical information on each representative in terms of his or her professional background, party affiliation, gender, bar affiliation as well as age and level of education. We take the latter two pieces of information into account in order to control for socio-demographic characteristics that are potentially correlated with voting behavior. Thereby, the variable higher education captures legislators with a college degree. In addition, we include an indicator variable that is equal to 1 if the legislator holds a degree from a law school (i.e., a JD, SJD, LLM or LLB) but neither has been working as an attorney nor is a member of a bar association. The covariates attorney, Republican, female, bar associate (but not attorney), and higher education are also coded as 1/0 indicator variables.

Overall, only eleven observations from federal voting records are removed from the data set due to missing biographical data. Biographical data on members of state legislatures often lack dates of birth. We therefore

[10]The US states included in our analysis are Arizona, Colorado, Florida, Illinois, Kansas, Louisiana, Michigan, Missouri, North Carolina, New Jersey, Nevada, Oklahoma, Pennsylvania, Tennessee, Utah, and Wisconsin. The choice of these states is not explicit, but due to the data compilation process described in this section. Section A.3 in the Appendix presents a list with all votes used in our study.

[11]Voteless members, e.g., delegates, and members who abstained from voting are excluded from the data set. Including absentees as legislators favoring the status quo (with the dependent variable equal to zero) does not meaningfully affect the results either qualitatively or economically. Details of these alternative analyses are available on request.

exclude the variable age in our state-level analyses.[12] The adjusted data set consists of 4,656 observations from federal votes and 3,018 observations from state-level votes. Table 1 shows some descriptive statistics for all the explanatory variables.

[Table 1 about here]

Figure 2 provides a first impression of how these variables of interest are jointly distributed, which indicates support for the basic hypothesis. Legislators with a professional background as attorneys seem to be less likely to vote yes in reforms that potentially harm the legal services industry.

[Figure 2 about here]

All our data is drawn from Project Vote Smart (PVS) using the open source interface pvsR.[13] PVS maintains an online data collection on candidates for and officials in public office in the United States, including legislators of the US Congress and US state legislatures. It provides voting records on so called "key-votes" which are selected by a group of political scientists and journalists from all US states. According to Project Vote Smart (2012), the main criteria for this selection are:

1. "The vote should be helpful in portraying how a member stands on a particular issue."
2. "The vote should be clear for any person to understand."
3. "The vote has received media attention."
4. "The vote was passed or defeated by a very close margin."

Usually all of these four criteria must be met.[14] This helps to ensure that the votes we analyze are, in a broad sense, of political relevance. Within this pool of key bills, we have used an algorithm to search in each bill description for tort law-related terms such as "tort", "product liability", and "medical malpractice".[15] The

[12] However, we also check for the robustness of the results when including the age variable and thereby lose observations. The results remain qualitatively the same (details for this analysis can be provided on request).

[13] See www.votesmart.org, www.votesmart.org/share/api.

[14] In some cases, exceptions are made, e.g., if there was no close margin, but the vote received an unusually large amount of coverage in the media.

[15] In particular, we searched in the title of the bill, the described highlights of the bill as well as in the synopsis of the bill. The search algorithm as well as a list of all the tort law-related terms used in it can be found in the online appendix to this paper.

resulting list of votes was then checked manually to make sure that only votes clearly concerning tort reforms are included.[16]

Legislators' individual characteristics were extracted from PVS' biographical data records based on a similar search algorithm as used for the automatic bill selection.[17] We coded a representative as having a professional background as attorney if the section "Professional Experience" mentioned either "attorney", "lawyer", "private law practice" or "law firm".[18] The focus of our empirical analysis is thus on the occupation as attorney and not on the field of study. If a representative obtained a "BA" or a higher college degree, we defined him as having a higher education. Variables capturing party affiliation, gender, age, bar admission, and law degrees are directly taken from the representatives' biographical records.[19]

Our data compilation technique allows us to gain accurate biographical information on hundreds of representatives from different legislatures. This is generally a difficult task, because biographical data usually has several different sources, each being differently structured. Furthermore, the way the original information is collected supports its accuracy, since there are no obvious incentives for representatives to strategically give wrong information about themselves. The data is easily accessible through the internet, and thus exposed to screening by political opponents as well as the media.

3.2 Empirical strategy

We apply different estimation strategies to empirically test our hypothesis. For reasons of simplicity, we start with a linear probability model (LPM) estimated with OLS. Formally, this can be described as

$$p_i = P(y_i = 1|x_i) = E(y_i|x_i) = x_i'\beta \tag{1}$$

[16] In total, 21 votes identified by the automated search process were later removed during the manual check. The main reason for exclusion was that the bills neither limit tort liability nor extend it (e.g., a bill that revises tax laws for small businesses and thereby also regulates how punitive damages can be taxed.). A table with details on all excluded votes and the reasons for exclusion is presented in the online appendix to this paper.

[17] Biographical data on candidates and officials provided by PVS in so-called 'candidate profiles' are based on a biographical form that each candidate is asked to fill in when running in a general election. Candidates or elected politicians can update this biographical form later on.

[18] The search algorithm to extract information from the biographical records is presented in the online appendix to this paper (with an example of how it was used to identify lawyer-legislators).

[19] To foreclose (based on PVS' biographical records) whether a legislator with a law degree has never practiced law is in some cases not straightforward (i.e., some legislators mention that they are co-founders or partners of a company without mentioning the company's line of business). We therefore cross-checked our data on all legislators that we identified as having a law degree but neither having a professional background as attorney nor being a bar member with other data sources (e.g., the legislature's official website, the legislators' wikipedia entries, and the websites of firms the legislator was founding or working for according to his biographical record).

where p_i is the probability, that representative i votes yes, y_i is the dependent variable describing the representative's vote, x_i is a vector of explanatory variables describing representative i, and β is the vector of regression coefficients. The linear probability model has the advantage of permitting a straightforward interpretation of the coefficients. They can be read as marginal effects of the corresponding variables on the probability of voting 'yes'. Moreover, the interaction effects that we include in some specifications would be difficult to estimate and interpret in a nonlinear model (see Ai and Norton 2003 for a short discussion of the issue). The downside of this approach is that modeling a probability in this manner suffers from misspecification in the sense that the estimated $\beta's$ might imply probabilities that are greater than 1 or less than 0.[20] We therefore additionally estimate a logit model in the form of

$$p_i = P(y_i = 1|x_i) = F(x_i'\beta) = \frac{\exp(x_i'\beta)}{1 + \exp(x_i'\beta)}. \tag{2}$$

Independently of the estimation approach, we control in a flexible way for the variation in unmeasured characteristics of the constituencies across states by including state dummies in the pooled analysis at the federal level. Moreover, we control for bill fixed effects in all pooled analyses at the federal and the state level.

The maximum likelihood estimation of different specifications of (2) with our dataset implies, in several cases, a nonidentifiability problem due to complete separation. The separation arises, because some explanatory variables (or linear combinations of them) are perfectly predictive of voting yes or no, e.g., at the federal level, the sole representative of Alaska always voted yes, hence the state indicator "Alaska" is a perfect predictor of voting yes. It could be argued that removing observations of the representative of Alaska from the sample is a reasonable approach to deal with this problem. However, the problem also arises in some estimations of individual votes. In these cases, the separation problem occurs due to crucial explanatory variables such as the party- or the attorney-indicator (e.g., because in some votes at the state level all attorneys voted against the reform). Removing these variables from the sample is for obvious reasons not a sound solution to the separation problem. To overcome this problem, we therefore apply the Bayesian approach suggested by Gelman et al. (2008) to estimate the coefficients of the logit models (i.e., Bayesian logit estimation).[21] The estimated coefficients can be interpreted like the ones from a usual logit model.

[20] SeeHorrace and Oaxaca 2006 for details and possible consequences with respect to biasness and inconsistency.

[21] Gelman et al. (2008) recommend independent Cauchy distributions for all logistic regression coefficients as a default prior

For several of them, we calculate discrete effects on the probability of voting in favor of a reform.[22] This facilitates their interpretation and allows a comparison with the OLS estimates. We report discrete effects as the mean of all individual differences in predicted probabilities in the respective sample. Formally, this can be expressed as

$$\frac{1}{n}\sum_{i=1}^{n}[F(x_i'\hat{\beta}|x_{il}=1) - F(x_i'\hat{\beta}|x_{il}=0)] \tag{3}$$

where F denotes the cumulative density function of the logistic distribution, x_i is a vector of explanatory variables describing observation i, $\hat{\beta}$ is a vector of the estimated coefficients, and x_{il} is the indicator variable of interest (e.g. attorney).[23]

Additionally to the usual adjusted R-squared or pseudo R-squared measures, we present for all estimated models also the area under the ROC-curve (AUC) as a measure to assess the goodness-of-fit of each model.[24]

Based on the empirical strategy, we first analyze attorneys' differential voting behavior. Second, a series of robustness checks as well as complementary tests of the business interest hypothesis are conducted.

4 Results I: Attorneys' voting behavior

We present our main results separately for reform bills at the federal level and for those at the state level. Additionally, we present for both levels estimations based on subsamples only containing Democrats or Republicans, respectively. We primarily test whether attorneys are statistically significantly less likely to

model in the Bayesian GLM framework. Among other applications, they demonstrate the effectiveness of their method with a model predicting the probability of a Republican vote for president depending on a voter's demographic characteristics. In cases where no complete separation exists and estimation using maximum likelihood is feasible, we cross-check the coefficients from the Bayesian method with those estimated with maximum likelihood. In all these cases, the results are qualitatively the same and often close to being numerically identical. For reasons of simplicity, we therefore present in all applications of logit models in this study only the coefficients estimated with the Bayesian method.

[22] We favor discrete effects over marginal effects for two reasons. First, applying the partial derivative formula to estimate marginal changes in probabilities in a logit model can yield nonsensical results that violate the rule that probabilities should sum to 1 (Caudill and Jackson 1989). Second, in our setting the explanatory variables of most interest are all binary, and computing the effect of an infinitesimal change of such variables can be highly inaccurate (Winkelmann and Boes 2006) and, with regard to content, inappropriate (i.e., the effect of an infinitesimal change in having a professional background as attorney).

[23] Based on the arguments presented in Hanmer and Ozan Kalkan (2013), we prefer this approach over presenting discrete effects for a typical (average) observation. In order to make our results fully comparable with other studies, we additionally report for our main results the size of discrete effects for the average observation.

[24] The Receiver Operating Characteristic (ROC) curve summarizes the true positive rate and the false positive rate of a comparison of predicted outcomes (based on the estimated coefficients) and the real outcomes. The area under this curve can be used as a simple measure of fit with a (realistic) minimum of 0.5 (random classification) and a maximum of 1. For a detailed introduction, see Fawcett (2006).

vote for reforms that restrict tort litigation (or more likely to support extensions of tort law). Moreover, we also test whether the effect differs between attorneys from the Republican and the Democratic party.

Our focus is on estimates based on pooled data from many votes. However, we also present results for single votes in order to check whether the general findings are driven by one or very few of the votes.

4.1 Tort reform bills at the federal level

Table 2 presents the results based on eleven votes in the US House of Representatives. All estimations include state and bill fixed effects. According to the OLS estimation in specification (1), attorneys are 10.3 percentage points less likely than non-attorneys to vote in favor of reforms. The effect is highly statistically significant and supports the hypothesis that lawyer-legislators' voting behavior is directed towards protecting their business. If an interaction term between attorney and party affiliation is included, the baseline effect for attorneys from the Democratic Party is -0.13 (t-value = -4.33), and the linear combination for Republican attorneys is -0.07 (t-value = -5.39). The effect holds ceteris paribus. In particular, it takes into account that Republicans are around 75.6 percentage points more likely to support reform bills than Democrats. Moreover, female legislators are less likely than their male colleagues to support tort reforms. The estimated partial correlation is -9.8 percentage points. No statistically different voting behavior is observed for people with a higher education and with a higher age. Interestingly, legislators that have a degree from a law school but are not practicing law are not less likely to support reforms. While the finding has to be put in perspective given the sample of 105 votes from 24 representatives, it suggests that studying law does not generally motivate legislators to vote against reforms. In contrast, associates of the bar association for whom no law practice is observed follow the attorneys in their voting behavior. Attorneys and their fellow interest group members thus vote aligned. The AUC values indicate that the fitted models perform very well at predicting yes-votes correctly. The party indicator is not surprisingly the main driver of high AUC values. However, including the attorney-indicator increases the AUC value even further in all specifications.

[Table 2 about here]

The re-estimation of the baseline specification applying a Bayesian logit approach in specification (2) indicates that the main findings are robust to the estimation method. As the Bayesian logit coefficients cannot be interpreted directly, we report effects calculated as the mean of all discrete differences in probabilities in

our sample.[25] While non-attorneys have a baseline probability to support reform bills of 0.58, the probability is 0.48 or 10 percentage points lower for attorneys. For Republicans versus Democrats, the difference is 76 percentage points. Finally, female legislators are 9 percentage points less likely to support tort reforms than male legislators according to this alternative estimation approach.[26] In two additional specifications (3) and (4), Bayesian logit models are estimated separately for a sample of only Democrats and one of only Republicans. The results indicate that attorneys in both parties deviate systematically from their fellow members' voting behavior. The estimations should be treated with caution though, as the minority outcome (0 or 1) becomes a rare event in the two subsamples (i.e., within parties, deviations in voting behavior are relatively seldom). This renders exact estimations of effects difficult and we thus do not further discuss the magnitude of the coefficients.

Tables 8 and 9 in the Appendix show that the findings for the pooled data are not driven by single votes. For ten of the eleven bills at the federal level, we find that attorneys are less likely than non-attorneys to support them. In nine cases, the partial correlation is also statistically significant. For the variable party affiliation, we find strong positive effects for Republicans throughout. For female legislators, the estimated support of reforms is statistically significantly lower than for male legislators in nine out of eleven cases.

4.2 Tort reform bills at the state level

Results for state-level tort reforms based on pooled data are presented in Table 3. All estimations include bill fixed effects. The baseline specification (1) shows similar results for the state as for the federal level. Attorneys are less likely to support bills that restrict tort law than non-attorneys. The estimated statistically significant effect is -6.7 percentage points. Republicans are 83.6 percentage points more likely to support restricting reforms than Democrats. Unlike at the federal level, female legislators do not vote significantly differently from male legislators. The level of education seems also not to make a difference for voting behavior in tort issues.

[Table 3 about here]

[25] Figure 5 in the Appendix illustrates how the individual discrete effects are distributed in our samples.

[26] Discrete effects based on the average observation are substantially larger. According to this alternative measure, the difference in the probability of voting in support of a reform bill is -29 percentage points for attorneys, +84 percentage points for Republicans, and -28 percentage points for women.

The main results hold if the theoretically more appropriate Bayesian logit estimator is applied. According to the discrete effects based on the coefficients in specification (2), attorneys are on average 6 percentage points less likely and Republicans 84 percentage points more likely to support restricting tort reforms at the state level than non-attorneys and Democrats.

For the twelve votes on bills that proposed an extension of tort law at the state level, the results in specifications (3) and (4) reveal an inversion of the partial correlations consistent with the central hypothesis of our study. The average effects based on the coefficients of the Bayesian logit model indicate that attorneys are 8 percentage points more likely to support an extension of tort law than non-attorneys. Republicans support it with a 82 percentage points lower probability than Democrats. Consistent with the idea that women benefit relatively more from an extended tort law than men, results for female legislators indicate a higher support by 6 percentage points.[27]

The generality of the main result for attorneys across the individual votes at the state level is graphically presented in Figure 3. Discrete effects on probabilities of voting yes from single Bayesian logit models are plotted separately for bills that involve an extension and for bills that involve a restriction of tort law. The shape of the marks indicates the statistical significance of the partial correlations. The distribution of discrete effects clearly shows that for extensions of tort law, support by attorneys is higher in all but one case. For bills that proposed a restriction of tort law, attorneys in most cases are less likely to vote yes than non-attorneys. There are only five cases where the effect is small and positive (but none of them is statistically significant). These results are not only congruent with our hypothesis that lawyer-legislators vote on tort issues in favor of their business, but they also contradict the prevalent theory that lawyer-legislators' actions in office are conservative and mainly aimed at defending the status quo. Although the lawyer-legislators' voting behavior in votes on typical tort reform bills restricting tort liability might be interpreted as a preference towards the status quo, this does not at all hold for bills that extend tort liability.

[Figure 3 about here]

[27] The effects computed for the average observation are again larger. In the case of restricting reforms on the state level, the difference in the probability of voting in support of a reform bill is -22 percentage points for attorneys and +90 percentage points for Republicans. In the case of extending reforms, the difference in the probability of voting in support of a reform bill is +23 percentage points for attorneys, -86 percentage points for Republicans and +17 percentage points for female legislators.

5 Results II: Tests of alternative explanations

The results shown above clearly indicate that lawyer-legislators' voting behavior in votes on tort issues is distinct from legislators with a different professional background. The partially differential voting behavior of legislators with a law degree, but not practicing law, moreover suggests that lawyer-legislators' voting behavior cannot simply be ascribed to their superior knowledge of the law. Rather than reflecting business interests, the results may, however, also come about because lawyer-legislators vote differently in general or cater to their electorate. We explore these alternative explanations in the following two subsections.

5.1 Are lawyer-legislators simply different?

Attorneys might generally vote differently from other legislators on various issues including tort law. While such an explanation runs counter to the existing empirical literature on the general voting behavior of lawyer-legislators (as discussed in Section 2.2 of this study), we want to directly confront it with our data. First, we analyze whether lawyer-legislators vote systematically differently in votes on various other bills by a similar magnitude as observed for tort reforms. Second, we test whether the difference in voting behavior can be statistically accounted for by lawyer-legislators' complete roll call records. Third, we study whether the voting pattern is more pronounced for lawyer-legislators who indicate recent activity as attorneys than for those who practiced more in the past. Business interests for the former group are expected to be stronger while both groups might have above average faith in an extended tort system.

Voting behavior on other bills

In order to analyze lawyer-legislators' votes on bills other than tort law, we again draw on PVS' rich roll call data base. We compile a data set of all PVS key votes available for the US House as well as the same states and years as in our set of tort reform votes. In total, this includes 328 records from the US House and 400 bills on the state level. From this pool of votes, we consecutively draw 200 random samples of the same size and composition as our set of tort reform votes (i.e., each sample of randomly drawn votes consists of eleven votes on the federal level and 43 votes on the state level with the respective number of votes for each state as in our original analysis of tort reforms). We then estimate our Bayesian logit baseline specifications (as in Tables 2 and 3) with each of these samples for the federal and the state level. From each of the 400

fitted models we record the value and statistical significance (as a z-value) of the coefficient for the attorney indicator. If lawyer-legislators indeed were to vote very often with the same cohesion as in tort reform issues, we would expect the coefficient of the attorney indicator to be frequently highly statistically significant and of similar magnitude as in our main analyses. The results are presented in Figure 4, where we plot the resulting z-values against the value of the coefficients separately for the federal and the state level. Additionally, we include the value of the attorney coefficients and their respective z-values from our original analyses as black dots as well as dashed grey lines in the plots. This allows a direct comparison with the results stemming from the randomly drawn set of votes.

[Figure 4 about here]

The resulting plots indicate that it is possible to gain some statistically significant coefficients for attorneys in arbitrary sets of votes on various issues. The size and statistical significance of the coefficients, however, never come close to those of the coefficients in our original analyses. The voting behavior of lawyer-legislators that we observe in votes on tort law issues can thus not be explained by lawyer-legislators voting differently in general.

Lawyer-legislators complete roll call record

The stance on tort reforms might reflect a general political orientation that characterizes lawyer-legislators independently of their specific business interests. To account for the general political orientation, we include an aggregated measure of roll call votes for each legislator in our model. Specifically, we employ the prominent DW-Nominate roll call measure.[28] Its first dimension coordinate is generally interpreted as a representative's ideology on a liberal-conservative scale (from -1: most liberal to +1: most conservative). This measure of "ideology" reflects a composition including a representative's values as well as financial interests and other aspects that contribute to a specific roll call record. For reasons of data availability, the robustness check is restricted to the analysis of the votes in the US House of Representatives. Table 4 shows the results.

[Table 4 about here]

[28] See Poole and Rosenthal (1985) for a general introduction and Voteview.com (2012) for details on the estimated DW-Nominate scores used in this paper.

The DW-Nominate coordinate proves to be a powerful variable in explaining voting behavior in our setting. The respective coefficient in the model estimated with OLS (specification 1) is 0.74, indicating that legislators who are one standard deviation more conservative than average support a restricting tort reform proposal by a 34 percentage points higher probability. With Bayesian logit, the coefficient is 7 (specification 2). In both cases, the estimates are statistically significant at the 1% level. This finding is consistent with our previously presented result that Republicans are more likely to vote in favor of restricting reforms than Democrats. While the coefficient of the party indicator is still statistically significant at the 1% level in all specifications, it is considerably smaller than in the specifications presented in Table 2. On the one hand, the ideology measure thus explains more of the variation in voting behavior on tort reforms than a sole party indicator can. The R-squared is increased from 0.66 to 0.76, and the McFadden R-squared from the Bayesian logit from 0.62 to 0.76. On the other hand, however, party politics still plays a role in voting on tort issues beyond individual politicians' ideologies. The gender difference is not sizable and statistically significant anymore when controlling for the complete roll call record of legislators. This suggests that there are no gender-specific aspects in voting behavior on tort reforms that go beyond what is captured in such an ideology measure (reflecting women legislators' generally more liberal position). Remarkably, the attorney indicator remains an important explanatory factor both in magnitude and in statistical significance (being on the 1% level in all the four specifications in Table 4). Relative to the effect of one standard deviation of the DW-Nominate 1st dimension, the coefficient for the attorney indicator is about 0.4 ($= |-1.298/(0.462 \times 6.96)|$) in the Bayesian logit model. In the OLS estimation, the effect amounts to 5.8 percentage points (relative to the 10.3 percentage points in the baseline estimation in Table 2). The difference in lawyer-legislators' voting behavior on tort issues can thus not be statistically accounted for by their complete roll call record. The additional findings are thus consistent with our basic hypothesis that lawyer-legislators are more likely than an average legislator with another professional background (but the same ideology) to vote against tort reforms that harm the legal industry.

Voting behavior of legislators with a more or less recent engagement as attorney

Lawyer-legislators might view the tort system differently due to their experience, and they might put in general more faith in solving social issues via an extended tort system that favors litigation. This view might well be self-serving. It is difficult to separate from straight business interests though. In order to address

this alternative explanation, we analyze variation within the group of lawyer-legislators. If business interests are the main driving force of the observed voting pattern, legislators who are more likely to have a recent or current engagement as attorney are expected to favor an extended tort law more than their fellows with a less recent primary occupation as attorney. If it is faith in tort litigation, no such difference is expected. Accordingly, we split the attorney indicator into two variables. The first variable is equal to 1 if the legislator mentions an occupation as attorney as the most recent professional activity in his biographical record (i.e., if he or she mentions such an activity on the first line in the professional experience section) and 0 otherwise. The second attorney variable is equal to 1 if the legislator mentions any occupation as attorney that lies either farther back in time or is not mentioned as the primary occupation (i.e., if he or she mentions such an activity anywhere but on the first line in the professional experience section) and 0 otherwise. In a pooled estimation including the federal and state level votes analyzed above, we test whether the approval of an extended tort law in these two subgroups is statistically significantly different. While recently active attorneys are 9.61 percentage points more likely to support an extended tort law than non-attorneys, the respective effect for the other attorneys is 4.9 percentage points. The coefficients for the two subgroups of the corresponding Bayesian logit model are statistically different with a p-value of 0.5e-03. If federal votes, and state level votes for a restricted and an extended tort law are separately analyzed, the effects go in the same direction for federal votes (p-value of the difference=0.003) and extensions of tort law at the state level (p-value of the difference=0.004) but not for bills restricting state tort law (p-value of the difference=0.459).[29] Overall, this pattern fits the interpretation that business interest (and not a generally higher faith in the tort system) is a major force behind the differential voting behavior.

5.2 Do lawyer-legislators follow specific voter preferences?

Whether attorneys in politics happen to cater with their voting decision to specific voter preferences opposing tort reforms independent of their business interests is inherently difficult to judge. In our empirical analysis for the US House of Representatives, we control in a most flexible way for variation in tort-specific policy preferences across US states and include state fixed effects. However, there might still be specific voter preferences reflected in the election of an attorney that characterize an electoral district independent of, for instance, general ideology. We thus ask whether non-attorneys responding to an attorney challenger

[29] All results of this analysis are presented in the online appendix to this paper.

are less likely to vote in favor of restricting tort reforms. An illustrative analysis, finally, explores whether lawyer-legislators vote differently when not facing re-election incentives due to term limits.

Voter preferences for tort reforms

Is there a specific voter preference that is reflected when attorneys are elected and does this affect lawyer-legislators' voting behavior? This question captures a possible alternative explanation based on a median voter model in which the observation of an attorney as a representative reflects underlying voter preferences in favor of an extensive tort law that is conducive to litigation. If this holds, lawyer-legislators face electoral incentives to vote against restricting reforms independently of their private interests. Importantly, the same incentives would also matter for non-attorneys elected in the respective electoral district. We test this idea by analyzing the voting behavior of legislators who defeated an attorney in the electoral competition. If, based on the developed argument, the nomination of an attorney reflects specific preferences in the electoral district, this is expected to be reflected also in roll call votes of the elected (non-attorney) candidate. This is presumed to hold particularly if the election was won by a small margin, indicating that both candidates had positioned themselves close to each other.

Due to the restricted availability of data on the candidates not elected in previous elections, we conduct this analysis focusing on the US House of Representatives after the year 2000. In a first step, we use data from the US Federal Election Commission to identify the challenger(s) of each legislator in the general election prior to the respective vote(s) on tort reforms. We also record by what margin they were beaten in the election. We then apply our search algorithms on their PVS candidate profiles to identify challengers with a professional background as attorney. Based on this information, we code three indicator variables. One that is equal to 1 if a legislator's opponent in the previous election had a professional background as attorney. Two other indicators split up the first variable and capture whether the challenger was an attorney and was beaten by a small margin (challenger gained more than 40% of the votes) or not (challenger got 40% or fewer of the votes). We include these variables once in our baseline specification from Table 2 and once in the extended model including the DW-Nominate coordinate. Table 5 presents the fitted models.

[Table 5 about here]

For the simple attorney-opponent indicator (disregarding the vote margin) included in specification (1),

the coefficient is negative like the one for attorneys. However, it is relatively small and far from being statistically significant. Moreover, the estimation with separate indicators for legislators that beat an attorney with a small and a large margin presented in specification (2) reveals that the negative sign is driven by those legislators who beat an attorney challenger with a large margin. This runs counter to what we would expect if the voting behavior were motivated by the forces in a median voter world. Adding the ideology measure in specifications (3) and (4) does not lead us to a different conclusion. The relative sizes of the attorney-opponent coefficients (and therefore the relative sizes of their marginal effects) are even smaller and the coefficients are far from statistically significant. There is no evidence that the identified specific characteristic of the competing candidates affects the voting behavior of legislators. Hence, the distilled median voter hypothesis, that legislators from districts nominating or electing attorneys generally vote less in favor of reforms restricting tort law, is not corroborated.

Lawyer-legislators without re-election incentives

If lawyer-legislators vote on tort reform issues systematically in favor of their business, we would expect them to do so even more when they are de jure in their last term (so-called lame duck lawyer-legislators). Re-election incentives disappear and constraints by the party leadership, campaign supporters, campaign contributors and the electorate become much weaker (see, e.g., Besley and Case 1995). In order to test this refined hypothesis, we pool the available data from the four states with lifetime term limits in our data set.[30] We code the voting behavior so that support for an extended tort law is captured when our dependent variable is equal to 1.[31] Furthermore, we include an indicator variable that is equal to 1 if a legislator is de jure in his or her last term (a lame duck) at the time of the vote as well as an interaction term with the attorney variable. Based on this latter interaction term, we test whether lawyer-legislators are more likely to vote in favor of an extended tort system when not facing re-election incentives. The results are presented in Table 6. All specifications are estimated with OLS in order to facilitate the interpretation of the coefficient for the interaction term.

[Table 6 about here]

[30] We restrict the analysis to states/years with lifetime term limits, because the arguments concerning re-election incentives are straightforward in this case. With a consecutive term limit, a legislator might directly run for a seat in the other chamber or might be allowed to rerun again for election to his original seat after only two years.

[31] The restricted sample includes 10 votes on bills restricting tort liability in the state legislatures of Oklahoma and Missouri and 5 votes on bills extending tort liability in the state legislatures of Michigan and Nevada.

Specifications (1) and (2) show the main average effect for attorneys in the full and in the restricted pooled sample. Attorneys' support for an extended tort law is 6.6 percentage points higher in the former and 4.3 percentage points higher in the latter case. Specification (3) indicates that the overall effect for attorneys compounds a small positive effect of 2.7 percentage points (t-value=0.91) for attorneys who have the possibility to run again and a large positive effect of 8.6 percentage points (t-value=2.31) for attorneys who face a binding term limit. The linear combination for attorneys facing a binding term limit amounts to 11 percentage points and is statistically significant at the 5% level. In our restricted sample, legislators who are in their mandated last term do not generally vote systematically differently on tort issues than legislators not serving their last term. In specification (4), the indicator variable capturing a general last term effect is excluded, leaving the results for the main variables of interest qualitatively unchanged. The illustrative evidence is thus consistent with our refined hypothesis that the pursuit of personal business interests is more likely when facing weaker electoral incentives. Visa versa, the phenomenon of attorneys' voting behavior overall cannot be explained by specific voter preferences.

5.3 What if...? Hypothetical voting results assuming a strict recusal rule for attorneys

We finish the empirical part of this study with an explorative simulation of the possible vote outcomes if there were a strict recusal rule applied for attorneys in decisions on tort law. The simulation is not meant to provide a basis for a policy recommendation, but rather to deliver an assessment of the material importance of attorneys' voting behavior (being indicative of their influence in committees and the legislative process in general). Many state legislatures formulate general (and vague) recusal standards in their parliamentary rules of procedure.[32] However, attorneys and non-attorneys alike rarely see reasons to recuse in everyday parliamentary life (see, e.g., Carpinello 1989). In our data set on tort reform bills, the absence/abstention rate for any reason is 2.4%. We do not measure a systematic difference between attorneys (2.3%) and non-attorneys (2.4%).

Ignoring any reactions and dynamics resulting from a strict recusal rule, Table 7 reports the number of bills that would have passed if lawyers had not participated. At the federal level, the outcome for the ten

[32] An overview of currently existing recusal standards is provided by the National Conference of State Legislatures on their Internet portal at www.ncsl.org/legislatures-elections/ethicshome/50-state-table-voting-recusal-provisions.aspx.

bills that passed would not have been different. However, at the state level, 30 instead of 28 (of the total of 31) bills that restrict tort law would have passed. Regarding bills that extended tort law, only 10 out of the actual 12 reforms bills would have been approved. Lawyer-legislators thus were pivotal in four out of 43 cases at the state level.

[Table 7 about here]

6 Concluding remarks

Attorneys elected to the US House of Representatives and to US state legislatures are systematically less likely to vote in favor of tort reforms that restrict tort litigation, but more likely to support bills that extend tort law than non-attorneys. This finding is based on the analysis of eleven votes at the federal level and 43 votes at the state level (or in total of 7,674 decisions of individual legislators) between 1995 and 2012. The empirical regularity is consistent with our hypothesis that lawyer-legislators, at least in part, pursue their business interests when they vote on tort issues. A set of alternative explanations is explored that, however, cannot account for the observed pattern in voting behavior. Additionally, we find that legislators from the Republican party are more in favor of restricting tort law. Finally, women support restricting tort reform bills systematically less than men ceteris paribus. This difference, however, can be accounted for by their individual roll call record in other bills as captured in a measure of ideology.

In a broader perspective, the findings highlight the relevance of legislators' identities and individual professional interests for economic policy making. Legislatures should thus not solely be understood as platforms where policy preferences of constituents and special interest groups are balanced. It rather matters, how institutions shape incentives for citizens to pursue a political career and for parties to nominate candidates with specific characteristics. In our context, institutional factors that narrow the lawyer-legislators' discretionary scope of action and/or affect the demand and supply of lawyers for political mandates might well affect the substance of tort law. Recusal rules and ethic laws in general aimed at limiting lawyer-legislators' conflicts of interest are known in the US Congress and many US state legislatures, but their merit and effectiveness is far from clear (Carpinello 1989). Furthermore, little is known about the institutional determinants of the

representation of lawyers in politics so far (for an exception, see Rosenson 2006).

Our work suggests further research in at least two directions. First in terms of methods, we believe that data from sources such as PVS offer great potential for quantitative research (or data-driven computational social science, Lazer et al. 2009) in areas such as political economics, political science and empirical legal studies. The data allows fully reproducible research in terms of data collection, data editing and data analysis. Studies can relatively easily be replicated and extended with additional waves of data such as new voting records. Moreover, new opportunities are opened up in combining accurate data sources on individual politicians' behavior and their identities. Second, in terms of substance, it might be worthwhile to further explore tort law as endogenous to the political process. What are the determinants of tort reforms? This might help to disentangle economic outcomes attributed to tort law from underlying political forces.

References

Ai, C. and Norton, E. C. (2003). Interaction Terms in Logit and Probit Models. *Economics Letters*, 80(1):123–129.

Avraham, R. (2007). An Empirical Study of the Impact of Tort Reforms on Medical Malpractice Settlement Payments. *Journal of Legal Studies*, 36(S2):183–229.

Besley, T. (2005). Political Selection. *Journal of Economic Perspectives*, 19(3):43–60.

Besley, T. and Case, A. (1995). Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition. *American Economic Review*, 85(1):25–45.

Braendle, T. and Stutzer, A. (2010). Public Servants in Parliament: Theory and Evidence on its Determinants in Germany. *Public Choice*, 145(1-2):223–252.

Braendle, T. and Stutzer, A. (2011). Selection of Public Servants into Politics. WWZ Discussion Paper 2011/06, Faculty of Business and Economics, University of Basel.

Carpinello, G. F. (1989). Should Practicing Lawyers Be Legislators? *Hastings Law Journal*, 41:87–130.

Caselli, F. and Morelli, M. (2004). Bad Politicians. *Journal of Public Economics*, 88(3-4):759–782.

Caudill, S. B. and Jackson, J. D. (1989). Measuring Marginal Effects in Limited Dependent Variable Models. *Journal of the Royal Statistical Society. Series D*, 38(3):203–206.

Chattopadhyay, R. and Duflo, E. (2004). Women as Policy Makers: Evidence from a Randomized Policy Experiment in India. *Econometrica*, 72(5):1409–1443.

De Tocqueville, Alexis (1838). *Democracy in America*. G. Dearborn & Company, New York, NY, 3rd edition.

Derge, D. R. (1959). The Lawyer as Decision-Maker in the American State Legislature. *Journal of Politics*, 21(3):408–433.

Derge, D. R. (1962). The Lawyer in the Indiana General Assembly. *Midwest Journal of Political Science*, 6(1):19–53.

Dyer, J. A. (1976). Do Lawyers Vote Differently? A Study of Voting on No-Fault Insurance. *Journal of Politics*, 38(2):452–456.

Engstrom, R. L. and O'Connor, P. F. (1980). Lawyer-Legislators and Support for State Legislative Reform. *Journal of Politics*, 42(1):267–276.

Epstein, R. A. (1988). The Political Economy of Product Liability Reform. *American Economic Review*, 78(2):311–315.

Fawcett, T. (2006). An Introduction to ROC Analysis. *Pattern Recognition Letters*, 27(8):861–874.

Finley, L. M. (2004). The Hidden Victims of Tort Reform. *Emory Law Journal*, 53(3):1263–1314.

Gagliarducci, S., Nannicini, T., and Naticchioni, P. (2010). Moonlighting Politicians. *Journal of Public Economics*, 94(9–10):688–699.

Gehlbach, S., Sonin, K., and Zhuravskaya, E. (2010). Businessman Candidates. *American Journal of Political Science*, 54(3):718–736.

Gelman, A., Jakulin, A., Pittau, M. G., and Su, Y.-S. (2008). A Weakly Informative Default Prior Distribution for Logistic and Other Regression Models. *Annals of Applied Statistics*, 2(4):1360–1383.

Graves, W. B. (1946). *American State Government*. Heath and Company, Boston, 3rd edition.

Green, J. J., Schmidhauser, J. R., Berg, L. L., and Brady, D. (1973). Lawyers in Congress: A New Look at Some Old Assumptions. *Western Political Quarterly*, 26(3):440–452.

Hadfield, G. K. (2000). The Price of Law: How the Market for Lawyers Distorts the Justice System. *Michigan Law Review*, 98(4).

Hain, P. L. and Piereson, J. E. (1975). Lawyers and Politics Revisited: Structural Advantages of Lawyer-Politicians. *American Journal of Political Science*, 19(1):41–51.

Handberg, R. B. J. (1976). The 1974 Term of the United States Supreme Court. *Western Political Quarterly*, 29(2):298–312.

Hanmer, M. J. and Ozan Kalkan, K. (2013). Behind the Curve: Clarifying the Best Approach to Calculating Predicted Probabilities and Marginal Effects from Limited Dependent Variable Models. *American Journal of Political Science*, 57(1):263–277.

Horrace, W. C. and Oaxaca, R. L. (2006). Results on the Bias and Inconsistency of Ordinary Least Squares for The Linear Probability Model. *Economics Letters*, 90(3):321–327.

Hyneman, C. S. (1940). Who Makes Our Laws? *Political Science Quarterly*, 55(4):556–581.

Klick, J. and Sharkey, C. M. (2009). What Drives the Passage of Damage Caps? In *Empirical Studies of Judicial Systems Around the Globe*. Institutum Jurisprudentiae, Academia Sinica.

Lazer, D., Pentland, A., Adamic, L., Aral, S., Barabási, A.-L., Brewer, D., Christakis, N., Contractor, N., Fowler, J., Gutmann, M., Jebara, T., King, G., Macy, M., Roy, D., and Van Alstyne, M. (2009). Computational Social Science. *Science*, 323(5915):721–723.

Luce, R. (1924). *Legislative Assemblies: Their Framework, Make-Up, Character, Characteristics, Habits, and Manners*. Houghton Mifflin Company, Boston.

Mattozzi, A. and Merlo, A. (2008). Political Careers or Career Politicians? *Journal of Public Economics*, 92(3–4):597–608.

Miceli, T. J. and Stone, M. P. (2013). The Determinants of State-Level Caps on Punitive Damages: Theory and Evidence. *Contemporary Economic Policy*, 31(1):110–125.

Miller, M. (1995). *The High Priests of American Politics: The Role of Lawyers in American Political Institutions*. University of Tennessee Press, Knoxville.

Norris, P. and Lovenduski, J. (1995). *Political Recruitment: Gender, Race, and Class in the British Parliament*. Cambridge University Press, Cambridge, UK.

Podmore, D. (1977). Lawyers and Politics. *British Journal of Law and Society*, 4(2):155–185.

Poole, K. T. and Rosenthal, H. (1985). A Spatial Model for Legislative Roll Call Analysis. *American Journal of Political Science*, 29(2):357–384.

Project Vote Smart (2012). 2012 National Key Votes, http://www.votesmart.org/bills [last visited: 2/4/2013].

Rosenson, B. A. (2006). The Impact of Ethics Laws on Legislative Recruitment and the Occupational Composition of State Legislatures. *Political Research Quarterly*, 59(4):619–627.

Roth, A. and Roth, J. (1989). *Devil's Advocates: The Unnatural History of Lawyers*. Nolo Press, Berkeley, CA.

Rubin, P. H. (2005). Public Choice and Tort Reform. *Public Choice*, 124(1/2):223–236.

Rubin, P. H. and Bailey, M. J. (1994). The Role of Lawyers in Changing the Law. *Journal of Legal Studies*, 23(2):807–831.

Rubin, P. H. and Shepherd, J. M. (2008). The Demographics of Tort Reform. *Review of Law and Economics*, 4(2).

Schlesinger, J. A. (1957). Lawyers and American Politics: A Clarified View. *Midwest Journal of Political Science*, 1(1):26–39.

Shapiro, C. (1991). Symposium on the Economics of Liability. *Journal of Economic Perspectives*, 5(3):3–10.

Sharkey, C. M. (2005). Unintended Consequences of Medical Malpractice Damages Caps. *New York University Law Review*, 80(2):391–512.

Shepherd, J. M. (2008). Tort Reforms' Winners and Losers: The Competing Effects of Care and Activity Levels. *UCLA Law Review*, 55(4):914–919.

Sugarman, S. D. (2002). United States Tort Reform Wars. *University of New South Wales Law Journal*, 25(3):849–853.

Sugarman, S. D. (2006). Ideoloigcal Flip-Flop: American Liberals Are Now the Primary Supporters of Tort Law. In Tiberg, H. and Clarke, M., editors, *Essays on Tort, Insurance, Law and Society in Honour of Bill W. Dufwa*. 1105-1102, Jure Forlag AB, Stockholm.

Swers, M. (2001). Understanding the Policy Impact of Electing Women: Evidence from Research on Congress and State Legislatures. *PS: Political Science and Politics*, 34(2):217–220.

Towers Watson (2012). *U.S. Tort Costs Trends 2011 Update*. Towers Watson, New York, NY.

US Council of Economic Advisers (2004). *Economic Report of the President*. US Council of Economic Advisers, Washington, DC.

Voteview.com (2012). DW-Nominate Scores, http://www.voteview.com/dwnominate.asp [last visited: 2/4/2013].

Warren, C. (1911). *A History of the American Bar*. Little, Brown and Co., Boston, MA.

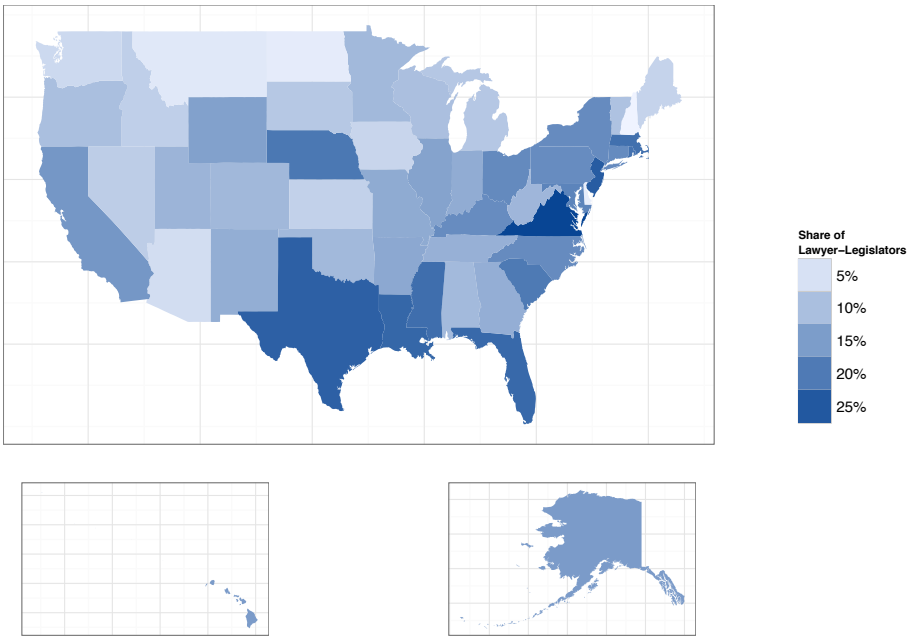
White, M. J. (1992). Legal Complexity and Lawyers' Benefit from Litigation. *International Review of Law and Economics*, 12(3):381–395.

Winkelmann, R. and Boes, S. (2006). *Analysis of Microdata*. Springer, Berlin.

Zywicki, T. J. (2000). Public Choice and Tort Reform. George Mason Law and Economics Research Paper 00-36, George Mason University School of Law.

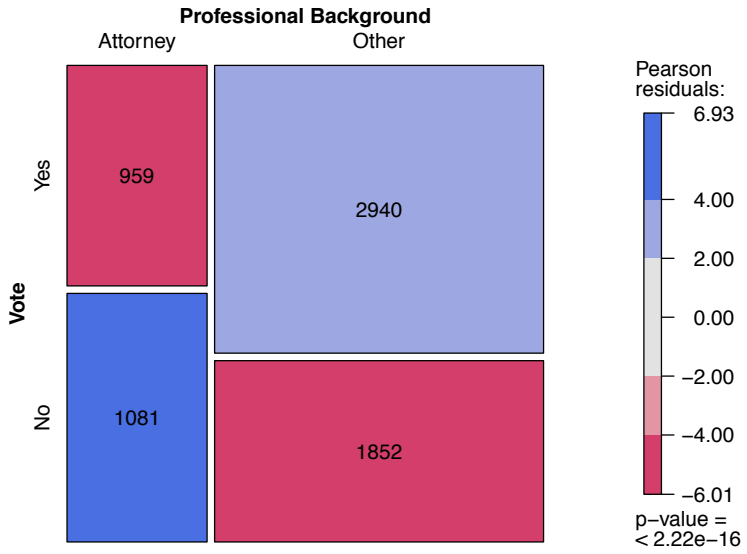
Figures and tables

Figure 1: The fraction of lawyer-legislators across US states in 2011



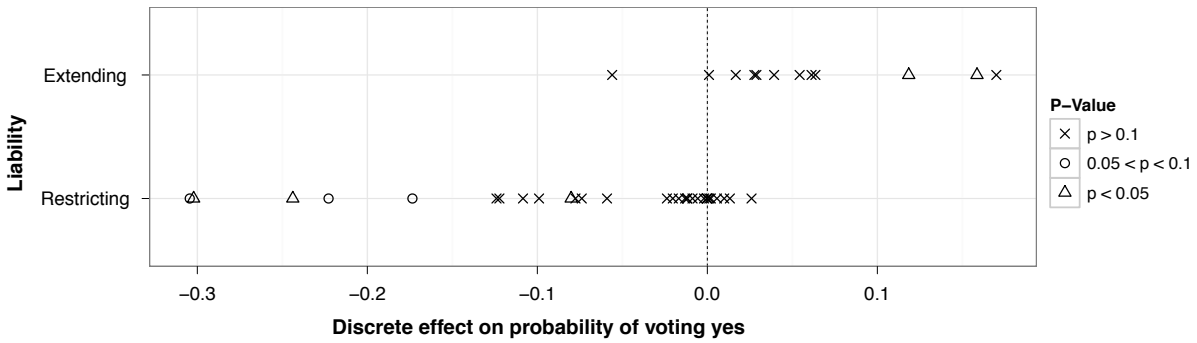
Notes: Percentage of legislators with a professional background as lawyer in a state's legislature.
Data source: Own compilation based on Project Vote Smart.

Figure 2: Mosaic plot of votes by professional background



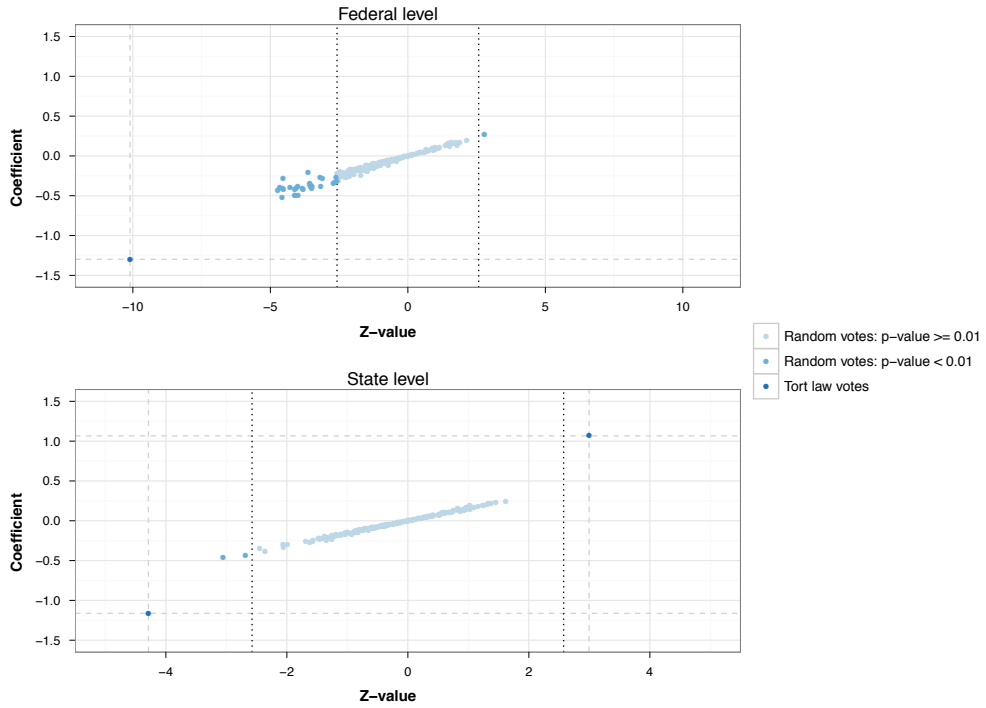
Notes: Graphical display of the association between the professional backround of a legislator and her or his voting behavior (based on a Pearson chi-squared test of independence, p-value reported in plot). The width of the cells represents the relative share of the professional background categories, while the hight of the cells refers to the proportion of votes within each category. The shading of the cells refers to the sign and magnitude of the respective Pearson residuals. Additionally, the number of observations per cell is presented. The raw difference in the share of yes votes amounts to -14.34 percentage points (= 47.01% -61.35%). Federal and state-level votes on restricting reforms are included.
Data source: Own compilation based on Project Vote Smart.

Figure 3: Distribution of the discrete effects for the attorney variable in individual votes (state-level)



Notes: Discrete effects for the attorney variable coefficients from individually estimated Bayesian logit models for 12 votes extending tort law and 31 votes restricting it in US states. The shading of the dots indicates the statistical significance of the effects.
Data source: Own compilation based on Project Vote Smart.

Figure 4: Attorney-coefficient in randomly drawn vote samples



Notes: Plot of z-values against coefficient values of the attorney indicator from 400 estimated Baysian logit models (i.e., 200 estimations of model (2) in Table 2 in the case of federal votes and 200 estimations of model (2) in Table 3 in the case of state-level votes). For each dot, a random sample of votes has been drawn from a large pool of 328 votes in the US House and 400 votes from US state legislatures, respectively. The vote pool consists of all key votes available for the same years and chambers as the tort law votes used in our main analysis. The coefficient values and z-values estimated with our tort reform data set are added to the plot as black dots and dashed grey lines. The black dotted lines indicate the z-values corresponding to the 1% statistical significance level.
Data source: Own compilation based on Project Vote Smart.

Table 1: Summary statistics for the explanatory variables

	Federal votes			State-level votes		
Variable	N Obs. = 0	N Obs. = 1	Mean	N Obs. = 0	N Obs. = 1	Mean
Attorney	2992	1664	0.36	2496	522	0.17
Republican	2483	2173	0.47	1349	1669	0.55
Female	4063	593	0.13	2399	619	0.21
Higher education	503	4153	0.89	859	2159	0.72
Age	-	-	53.74	-	-	-
Law degree (not attorney, not bar member)	4551	105	0.02	2988	30	0.01
Bar associate (not attorney)	4564	92	0.02	3000	18	0.01
DW-Nominate (1st dim.)	-	-	0.08	-	-	-

Data sources: Own compilation based on Project Vote Smart and Voteview.com

Table 2: Voting behavior in federal tort reform votes (pooled data)

Dependent variable: Vote in support of reform=1				
Coefficients	(1)	(2)	(3)	(4)
Intercept	0.271 ***	-0.739	-0.434	6.485 ***
	(3.609)	(-1.474)	(-0.765)	(6.592)
Attorney	-0.103 ***	-1.298 ***	-1.416 ***	-1.439 ***
	(-5.194)	(-10.102)	(-9.077)	(-5.223)
Republican	0.756 ***	5.498 ***		
	(37.017)	(34.311)		
Female	-0.098 ***	-1.176 ***	-1.774 ***	0.156
	(-4.358)	(-6.456)	(-6.775)	(0.291)
Higher education	0.023	0.323 *	0.335	-0.048
	(1.015)	(1.672)	(1.332)	(-0.122)
Age/10	-0.009	-0.098 *	-0.025	-0.299 **
	(-0.884)	(-1.665)	(-0.350)	(-2.343)
Law degree (not attorney,	0.014	0.485	0.197	1.690
not bar member)	(0.183)	(1.412)	(0.511)	(1.166)
Bar associate (not attorney)	-0.113	-1.588 ***	-0.498	-2.314 ***
	(-1.633)	(-3.884)	(-1.065)	(-4.049)
N	4656	4656	2483	2173
(McFadden) R-squared	0.659	0.621	0.276	0.245
AUC	0.955	0.956	0.849	0.864
Method	OLS	Bayesian logit	Bayesian logit	Bayesian logit
Sample	All	All	Democrats	Republicans

Notes: OLS specification with standard errors clustered at the individual level. T-values (OLS) or z-values (Baysian logit) are in parentheses. Statistical significance: * 0.1>p>0.05, ** 0.05>p>0.01 and *** p<0.01. All specifications include state fixed effects and bill fixed effects. *Data source:* Own compilation based on Project Vote Smart.

Table 3: Voting behavior in state-level tort reform votes (pooled data)

Dependent variable: Vote in support of reform=1				
	Bills restricting tort law		Bills extending tort law	
Coefficients	(1)	(2)	(3)	(4)
Intercept	0.174 ***	-1.858 ***	1.005 ***	3.636 ***
	(6.255)	(-5.190)	(26.539)	(8.625)
Attorney	-0.067 ***	-1.163 ***	0.079 **	1.066 ***
	(-3.877)	(-4.289)	(2.253)	(2.995)
Republican	0.836 ***	6.422 ***	-0.826 ***	-5.265 ***
	(64.005)	(23.984)	(-34.276)	(-17.352)
Female	0.015	0.160	0.059 ***	0.812 **
	(0.857)	(0.694)	(3.000)	(2.471)
Higher education	0.014	0.329	-0.000	0.030
	(1.134)	(1.505)	(-0.020)	(0.106)
Law degree (not attorney,	-0.109 **	-1.616 **	0.049	0.352
not bar member)	(-2.054)	(-2.017)	(0.358)	(0.330)
Bar associate (not attorney)	-0.069	-0.739	0.170	1.555 *
	(-1.601)	(-0.582)	(0.944)	(1.772)
N	2165	2165	853	853
(McFadden) R-squared	0.747	0.715	0.699	0.632
AUC	0.974	0.974	0.954	0.954
Method	OLS	Bayesian logit	OLS	Bayesian logit

Notes: OLS specification with standard errors clustered at the individual level. T-values (OLS) or z-values (Baysian logit) are in parentheses. Statistical significance: * $0.1>p>0.05$, ** $0.05>p>0.01$ and *** $p<0.01$. All specifications include bill fixed effects. *Data source:* Own compilation based on Project Vote Smart.

Table 4: Voting behavior in federal tort reform votes including ideology measure (pooled data)

Dependent variable: Vote in support of reform=1				
Coefficients	(1)	(2)	(3)	(4)
Intercept	0.355 ***	-1.077 *	-1.106	5.749 ***
	(5.594)	(-1.779)	(-1.242)	(5.283)
Attorney	-0.058 ***	-1.298 ***	-1.353 ***	-1.243 ***
	(-3.780)	(-7.688)	(-5.465)	(-4.401)
Republican	0.204 ***	1.533 ***		
	(4.965)	(6.531)		
DW-Nominate 1st dimension	0.744 ***	6.972 ***	11.805 ***	0.956
	(15.782)	(21.462)	(16.256)	(1.409)
Female	-0.011	-0.384	0.060	0.153
	(-0.629)	(-1.495)	(0.170)	(0.278)
Higher education	0.030	0.207	0.352	-0.057
	(1.567)	(0.824)	(0.872)	(-0.140)
Age/10	0.019 ***	0.126	0.152	-0.255 *
	(2.580)	(1.625)	(1.290)	(-1.877)
Law degree (not attorney,	-0.006	0.193	-0.414	1.849
not bar member)	(-0.213)	(0.499)	(-0.674)	(1.292)
Bar associate (not attorney)	-0.028	-0.627	0.027	-1.599 ***
	(-0.477)	(-1.458)	(0.048)	(-2.955)
N	4412	4412	2360	2052
(McFadden) R-squared	0.763	0.757	0.7	0.248
AUC	0.977	0.98	0.98	0.871
Method	OLS	Bayesian logit	Bayesian logit	Bayesian logit
Sample	All	All	Democrats	Republicans

Notes: OLS specification with robust standard errors clustered at the individual level. T-values (OLS) or z-values (Baysian logit) are in parentheses. Statistical significance: * $0.1>p>0.05$, ** $0.05>p>0.01$ and *** $p<0.01$. All specifications include state fixed effects and bill fixed effects.
Data sources: Own compilation based on Project Vote Smart and Voteview.com.

Table 5: Voting behavior of legislators who defeated an attorney candidate (federal level, pooled data)

Dependent variable: Vote in support of reform=1				
Coefficients	(1)	(2)	(3)	(4)
Intercept	-1.974 **	-2.001 **	-0.497	-0.525
	(-2.337)	(-2.385)	(-0.503)	(-0.531)
Attorney	-1.632 ***	-1.632 ***	-1.852 ***	-1.847 ***
	(-6.281)	(-6.258)	(-5.577)	(-5.567)
Attorney as opponent	-0.567		-0.374	
	(-0.918)		(-0.567)	
Attorney as opponent		0.853		-0.081
(share of votes > 0.4)		(0.820)		(-0.074)
Attorney as opponent		-1.166 *		-0.462
(share of votes =< 0.4)		(-1.660)		(-0.604)
Republican	6.422 ***	6.438 ***	2.735 ***	2.742 ***
	(21.997)	(21.942)	(6.760)	(6.761)
DW-Nominate 1st dimension			6.040 ***	6.029 ***
			(11.811)	(11.764)
Female	-1.358 ***	-1.337 ***	-1.435 ***	-1.427 ***
	(-4.044)	(-3.996)	(-3.332)	(-3.310)
Higher education	0.298	0.287	-0.154	-0.145
	(0.782)	(0.761)	(-0.345)	(-0.325)
Age/10	0.020	0.028	0.060	0.063
	(0.182)	(0.248)	(0.454)	(0.475)
Law degree (not attorney,	-0.919	-0.942	-0.325	-0.328
not bar member)	(-1.442)	(-1.483)	(-0.458)	(-0.464)
Bar associate (not attorney)	-1.545 **	-1.452 **	-0.364	-0.349
	(-2.211)	(-2.083)	(-0.507)	(-0.485)
N	1934	1934	1934	1934
(McFadden) R-squared	0.735	0.736	0.815	0.815
AUC	0.977	0.977	0.987	0.987
Method	Bayesian logit	Bayesian logit	Bayesian logit	Bayesian logit

Notes: Z-values are in parentheses. Statistical significance: * 0.1>p>0.05, ** 0.05>p>0.01 and *** p<0.01. All specifications include state fixed effects and bill fixed effects.
Data source: Own compilation based on Project Vote Smart.

Table 6: Voting behavior of lawyer legislators in their last term (lame ducks)

Dependent variable: Vote in support of an extended tort law=1				
Coefficients	(1)	(2)	(3)	(4)
Intercept	0.815 ***	0.886 ***	0.888 ***	0.888 ***
	(29.890)	(28.466)	(28.562)	(28.686)
Attorney	0.066 ***	0.043	0.027	0.029
	(4.036)	(1.433)	(0.911)	(0.957)
Lame duck			-0.010	
			(-0.448)	
Attorney*lame duck			0.086 **	0.077 **
			(2.309)	(2.495)
Republican	-0.834 ***	-0.859 ***	-0.858 ***	-0.859 ***
	(-71.603)	(-43.893)	(-43.962)	(-43.963)
Female	0.007	0.018	0.017	0.017
	(0.509)	(0.681)	(0.639)	(0.649)
Higher education	-0.009	0.003	0.002	0.001
	(-0.758)	(0.133)	(0.095)	(0.072)
Law degree (not attorney,	0.100 **	0.116 **	0.115 **	0.116 **
not bar member)	(2.268)	(2.367)	(2.348)	(2.391)
Bar associate (not attorney)	0.067	0.115	0.119	0.119
	(0.796)	(0.866)	(0.885)	(0.897)
N	3005	1124	1124	1124
Adjusted R-squared	0.748	0.762	0.762	0.762
AUC	0.968	0.971	0.955	0.987
Method	OLS	OLS	OLS	OLS
Sample	Full	Restricted	Restricted	Restricted

Notes: T-values are in parentheses. Standard errors are clustered at the individual level. Statistical significance: * 0.1>p>0.05, ** 0.05>p>0.01 and *** p<0.01. All specifications include bill fixed effects.
Data source: Own compilation based on Project Vote Smart.

Table 7: Comparison of passed bills and hypothetically passed bills under a strict recusal rule

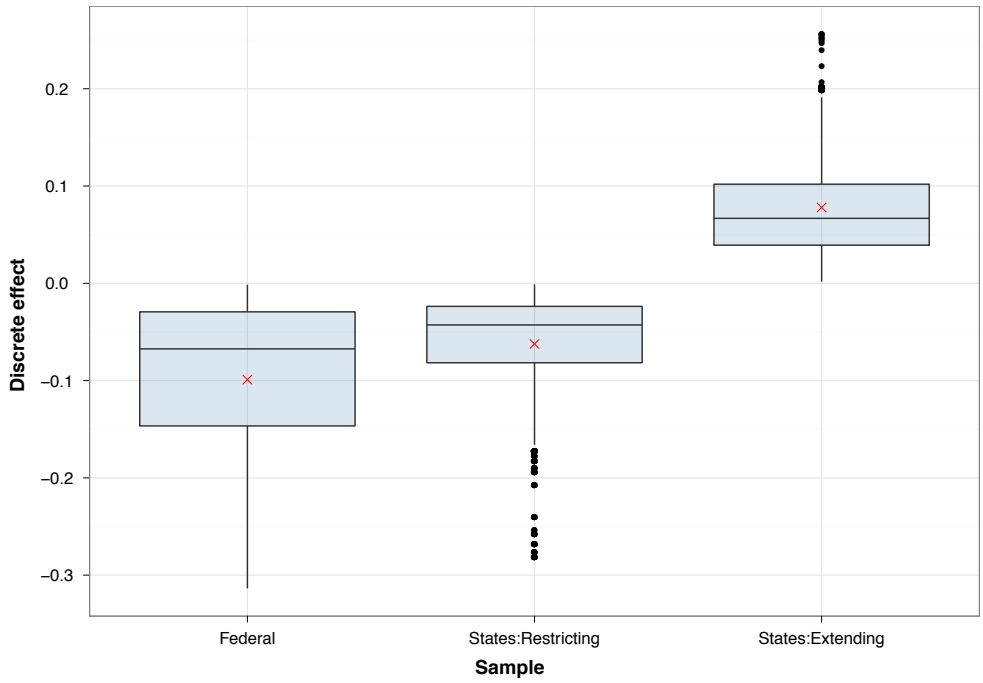
	Total	Pass actual	Pass under strict recusal rule
Federal tort reform bills	11	10	10
State reform bills restricting tort law	31	28	30
State reform bills extending tort law	12	12	9

Notes: The hypothetical results are based on the assumption that under a strict recusal rule, lawyers would not have been allowed to take part in the votes analyzed in this study and would therefore be counted as absent.

Appendix

A.1 Distribution of individual discrete effects

Figure 5: Box plots of individual discrete effects for the attorney indicator by sample



Notes: Each box plot illustrates the distribution of the predicted individual differences in the probabilities of voting in favor of the reform for the attorney indicator. The predicted probabilites are based on the fitted Bayesian logit models presented in the Tables 2 (for the federal level) and 3 (for the state level). The mean of the discrete effects is indicated with a cross.

A.2 Analysis of individual votes at the federal level

Table 8: Voting behavior in federal tort reform votes (individual votes), Part I

Dependent variable: Vote in support of reform=1					
	(1)	(2)	(3)	(4)	(5)
Bill-Number	HR 2425	HR 3103	HR 956	HR 956	HR 4250
Date	1995-10-19	1996-03-28	1996-03-29	1996-05-09	1998-07-24
Intercept	-1.756	0.390	0.993	1.185	-1.704
	(-1.362)	(0.323)	(0.867)	(1.012)	(-1.257)
Attorney	-0.599	-0.584 *	-1.246 ***	-1.156 ***	-0.691 *
	(-1.503)	(-1.669)	(-3.502)	(-3.242)	(-1.675)
Republican	5.910 ***	5.473 ***	4.641 ***	4.762 ***	5.694 ***
	(10.058)	(7.932)	(9.316)	(9.437)	(10.518)
Female	-1.239 **	-1.514 **	-0.666	-0.588	-1.598 **
	(-1.983)	(-2.505)	(-1.352)	(-1.206)	(-2.408)
Higher education	0.638	0.315	0.207	0.090	0.527
	(1.075)	(0.578)	(0.398)	(0.171)	(0.866)
Age/10	-0.021	-0.172	-0.240	-0.282	-0.022
	(-0.109)	(-0.972)	(-1.421)	(-1.643)	(-0.109)
Law degree (not attorney,	0.531	0.929	0.285	0.682	0.855
not bar member)	(0.592)	(0.977)	(0.325)	(0.715)	(0.906)
Bar associate (not attorney)	-0.859	-0.302	-1.749	-1.804	-1.533
	(-0.604)	(-0.265)	(-1.442)	(-1.493)	(-1.308)
N	432	418	417	421	426
(McFadden) R-squared	0.659	0.611	0.571	0.57	0.687
AUC	0.963	0.947	0.937	0.940	0.970

Notes: Bayesian logit models. Z-values are in parentheses. Statistical significance: * 0.1>p>0.05, ** 0.05>p>0.01 and *** p<0.01.
Data source: Own compilation based on Project Vote Smart.

Table 9: Voting behavior in federal tort reform votes (individual votes), Part II

Dependent variable: Vote in support of reform=1						
	(6)	(7)	(8)	(9)	(10)	(11)
Bill-Number	HR 2366	H Amdt 303	HR 5	HR 4280	HR 5	H Amdt 510
Date	2000-02-16	2001-08-02	2003-03-13	2004-05-12	2005-07-28	2009-11-07
Intercept	-1.055	-3.146 *	-2.061	-2.487 *	-0.522	-2.791
	(-0.841)	(-1.952)	(-1.457)	(-1.674)	(-0.325)	(-0.741)
Attorney	-1.943 ***	-1.208 **	-1.746 ***	-1.736 ***	-1.871 ***	0.129
	(-4.872)	(-2.484)	(-3.880)	(-3.805)	(-3.199)	(0.109)
Republican	4.401 ***	6.934 ***	5.311 ***	5.455 ***	6.500 ***	12.404 ***
	(10.814)	(9.708)	(11.149)	(11.370)	(10.790)	(6.025)
Female	-1.427 ***	-2.129 ***	-1.254 **	-1.203 **	-0.899	0.568
	(-2.811)	(-2.907)	(-2.098)	(-2.010)	(-1.371)	(0.370)
Higher education	0.415	0.903	0.467	0.319	0.019	-0.359
	(0.716)	(1.052)	(0.689)	(0.460)	(0.024)	(-0.211)
Age/10	0.027	0.155	0.089	0.142	-0.281	-0.685
	(0.148)	(0.693)	(0.436)	(0.676)	(-1.188)	(-1.165)
Law degree (not attorney,	0.708	-0.850	-0.436	-0.527	-0.297	0.019
not bar member)	(0.820)	(-0.552)	(-0.356)	(-0.446)	(-0.221)	(0.009)
Bar associate (not attorney)	-1.409	-1.438	-1.460	-1.406	-1.070	0.093
	(-1.379)	(-1.112)	(-1.177)	(-1.238)	(-0.873)	(0.041)
N	413	429	423	425	422	430
(McFadden) R-squared	0.593	0.755	0.683	0.685	0.792	0.982
AUC	0.948	0.983	0.969	0.971	0.987	1.000

Notes: Bayesian Logit models. Z-values are in parentheses. Statistical significance: * 0.1>p>0.05, ** 0.05>p>0.01 and *** p<0.01.
Data source: Own compilation based on Project Vote Smart.

A.3 Analyzed votes

State	Date	Bill Number	Title	Yes/No	Tort law	Liability
Nat	1995-10-19	HR 2425	Medicare Preservation Act of 1995	231/201	medical malpractice	restricted
Nat	1996-03-28	HR 3103	Health Insurance Portability bill	267/151	medical malpractice	restricted
Nat	1996-03-29	HR 956	Product Liability bill	259/158	product liability	restricted
Nat	1996-05-09	HR 956	Product Liability bill	258/163	product liability	restricted
Nat	1998-07-24	HR 4250	Patient Protection bill	216/210	medical malpractice	restricted
Nat	2000-02-16	HR 2366	Small Business Liability Reform bill	221/193	product liability	restricted
Nat	2001-08-02	H Amdt 303	Amendment to the Bipartisan Patient Protection Act	218/213	medical malpractice	restricted
Nat	2003-03-13	HR 5	Malpractice Liability bill	229/196	medical malpractice	restricted
Nat	2004-05-12	HR 4280	Medical Malpractice Liability Limitation Bill	229/197	medical malpractice	restricted
Nat	2005-07-28	HR 5	Malpractice Liability Reform Bill	230/194	medical malpractice	restricted
Nat	2009-11-07	H Amdt 510	Substitute Health Care and Insurance Law Amendments	176/258	medical malpractice	restricted
AZ	2007-01-29	SB 1032	Emergency Room Malpractice	16/12	medical malpractice	restricted
AZ	2007-05-10	SB 1032	Emergency Room Malpractice	26/29	medical malpractice	restricted
AZ	2011-04-06	HB 2191	Punitive Damage Awards	21/8	general	restricted
AZ	2011-04-11	HB 2191	Punitive Damage Awards	41/17	general	restricted
AZ	2012-02-28	SB 1336	Limiting Manufacturer Eligibility for Punitive Damages	19/11	product liability	restricted

CO	2008-03-03	SB 164	Increasing Caps on Medical Malpractice Lawsuits	18/16	medical malpractice	extended
FL	2006-03-16	HB 145	Joint and Several Liability Elimination	93/27	general	restricted
FL	2006-03-30	HB 145	Joint and Several Liability Elimination	27/13	general	restricted
FL	2009-05-01	HB 903	Capping Attorney Fees in Workers' Compensation Lawsuits	22/16	worker compensation	restricted
IL	2007-04-27	HB 1798	Wrongful Death Damages	63/52	wrongful death general	extended
IL	2007-05-17	HB 1798	Wrongful Death Damages	31/23	wrongful death general	extended
KS	2007-03-15	HB 2530	Physician Liability Exemption	109/14	medical malpractice	restricted
LA	2010-06-07	SB 731	Authorizing AG Contingency Fee Contracts.	21/16	general	extended
MI	2007-02-22	HB 4044	Repealing Drug Company Liability Protection	70/39	product liability	extended
MI	2007-02-22	HB 4045	Retroactive Drug Manufacturer Liability	60/49	product liability	extended
MI	2007-02-22	HB 4046	Pharmaceutical Company Liability	58/49	product liability	extended
MI	2009-03-26	HB 4317	Extending Pharmaceutical Manufacturer Liability	56/53	product liability	extended
MO	2012-02-08	SB 592	Establishes New Standards to Prove Workplace Discrimination	25/8	workplace discrimination	restricted
NC	2011-03-02	SB 33	Medical Malpractice Amendments	36/13	medical malpractice	restricted
NJ	2008-01-07	S 176	Expanding Damages for Wrongful Death	21/11	wrongful death general	extended

NJ	2008-01-07	S 176	Expanding Damages for Wrongful Death	41/32	wrongful death general	extended
NV	2009-04-20	AB 495	Removing Medical Malpractice Award Cap	26/15	medical malpractice	extended
OK	2006-03-15	HCS HB 3120	Tort Reform Bill	58/41	product liability	restricted
OK	2007-03-13	SB 507	Firearm Injury Liability and Tort Reform	42/5	product liability	restricted
OK	2007-04-17	SB 507	Comprehensive tort reform-Provide	57/39	product liability	restricted
OK	2007-04-19	SB 507	Comprehensive tort reform-Provide	25/23	product liability	restricted
OK	2009-02-18	HB 1602	Attorney Fee Limits	54/46	general	restricted
OK	2009-03-04	HB 1603	Tort Law Amendments	61/39	medical malpractice	restricted
OK	2009-04-22	HB 1602	Attorney Fee Limits	23/23	general	restricted
OK	2009-04-22	HB 1603	Tort Law Amendments	27/19	medical malpractice	restricted
OK	2011-02-23	SB 863	Compensation for Non-Economic Damages	29/18	general	restricted
PA	2011-04-11	HB 1	Comparative Negligence Provisions	112/88	general	restricted
PA	2011-06-21	SB 1131	Tort Amendments	32/18	general	restricted
PA	2011-06-27	SB 1131	Tort Amendments	116/83	general	restricted
TN	2006-05-17	SA 1505	Medical Malpractice Limits Amendment	13/16	medical malpractice	restricted
UT	2009-03-10	SB 79	Elevating Standard of Proof for Specific Medical Malpractice Lawsuits	53/18	medical malpractice	restricted
WI	2006-01-19	AB 766	Medical Malpractice Lawsuit Caps	63/36	medical malpractice	restricted

WI	2009-04-28	SB 20	Discriminatory Pay Compensation	18/15	workplace discrimination	extended
WI	2011-01-18	SB 1	Tort Law Amendments	19/14	general	restricted
WI	2011-01-20	SB 1	Tort Law Amendments	57/36	general	restricted
WI	2011-10-27	SB 12	Limits Attorney Fees in Consumer Cases	17/15	other	restricted
WI	2011-11-03	SB 202	Repeals Punitive Damages for Workplace Discrimination	17/16	workplace discrimination	restricted
WI	2012-02-21	SB 202	Repeals Punitive Damages for Workplace Discrimination	60/35	workplace discrimination	restricted

Notes: States are indicated with the official United States Postal Service abbreviation, whereas 'Nat' refers to votes at the federal level.
Data Source: Project Vote Smart.