
Article

Tort Law and the American Economy

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It is common to hear claims that tort law is undermining the ability of America to grow economically. Tort liability imposes costs on businesses, who complain about its detrimental effects on investment and innovation. While many of these reports are anecdotal, or even false, there is growing evidence on the economic effect of tort law. Tort reform proposals are pressed, and often passed, on the basis of economic concerns. In this narrative, the law is unduly pro-plaintiff, which discourages business investment and innovation and needlessly raises the costs of products.¹

Despite these common claims of the economic harms of tort law, there is a remarkable paucity of actual study on the question. Only very limited research exists on the effects of tort law on state economies, and much of that research considers only particular tort reforms and not the overall state of a state's law. Many factors will influence the economies of the various states, of which tort law is but one. However, if its economic effect were truly profound, one would expect to see some economic benefit, on some measure, for states with relatively pro-defendant tort law.

I examine the effects of tort law using indices created by two pro-defendant organizations, the United States Chamber of

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1. Some contend that the stories about the effect of tort law are distorted and overblown. *See generally* WILLIAM HALTOM & MICHAEL MCCANN, *DISTORTING THE LAW: POLITICS, MEDIA, AND THE LITIGATION CRISIS* (2004) (presenting evidence that interest groups and the media have greatly exaggerated unrepresentative stories about tort law). However, just as anecdotal evidence cannot prove a claim, neither can demonstrating the inaccuracy of such anecdotal evidence disprove the claim.

Commerce and the Pacific Research Institute. While both groups believe that tort law hampers the economy, there is no reason to think these organizations should have a bias for or against particular states in their rating system, and their position on tort law makes their metrics ideal for an independent test of tort law's effect.

This study considers those measures of state tort liability regimes and economic measures. I consider the often-used Chamber of Commerce measure of tort law (a perceptual measure) and the Pacific Research Institute's measure of specific legal doctrines. The findings should significantly inform tort reform debates. The primary reason offered for such reform is the perceived adverse economic consequences of tort doctrines.² A finding that tort law has such adverse effects would therefore be important. However, my research finds no such association between tort law and economic harm.

I. THE CONTROVERSY OVER TORT LAW

For decades now, a controversy has raged about tort law and its economic consequences. Defendants, especially businesses, complain of excessive, and often unfairly imposed, tort liability. The risks of tort liability allegedly include the unjustified transfer of wealth and the deterrence of valuable economic activity.³

Some argue that "litigants often exploit the litigation process strategically for private gain at the expense of social welfare."⁴ Philip K. Howard argues that the law is suffocating America.⁵ While occasional anecdotes about verdicts command public attention, the greater cost may be associated with the "complexity and expense of settling the vast majority of suits

2. There are also noneconomic concerns, such as distributional questions. See, e.g., Paul H. Rubin & Joanna M. Shepherd, *The Demographics of Tort Reform*, 4 REV. L. & ECON. 591, 593 (2008) (finding that tort reforms had a relatively more adverse effect on certain demographic groups, such as women, children, and the elderly). However, these concerns could be addressed through redistribution of greater wealth if tort reform did indeed produce more wealth.

3. Peter W. Huber & Robert E. Litan, *Overview*, in THE LIABILITY MAZE: THE IMPACT OF LIABILITY LAW ON SAFETY AND INNOVATION 1, 2 (Peter W. Huber & Robert E. Litan eds., 1991).

4. Randy J. Kozel & David Rosenberg, *Solving the Nuisance-Value Settlement Problem: Mandatory Summary Judgment*, 90 VA. L. REV. 1849, 1850 (2004).

5. PHILIP K. HOWARD, THE DEATH OF COMMON SENSE: HOW LAW IS SUFFOCATING AMERICA *passim* (1994).

that never go to trial, the chilling threat of suits over a widening range of issues, [and] the preparations needed to lessen the chances of being sued.”⁶ This results in the deployment of “larg[e] armies of vigilant lawyers engaged in a kind of legal equivalent of [a] defensive cold war.”⁷ This obviously comes at a cost to the economy.⁸

A. ECONOMICS OF TORT LAW

While tort litigation is commonly considered economically harmful, in theory it *should* be economically beneficial. The system is designed to force the internalization of costs imposed on others. A business would have less incentive to produce safe products if injured parties could not force the business to pay for their damages.⁹ This should cause more efficient product decisions, as businesses will not produce products whose harm (as measured in tort damages) exceeds their benefits. The economic costs associated with dangerous products may be considerable.¹⁰ Any failure to internalize these external costs would “violate the marginal conditions of optimal resource allocation and may become a major cause of inefficiencies.”¹¹ Tort law serves “social purposes,” most prominently the compensation of innocent victims and “detering behavior that presents risks that exceed their social value.”¹²

6. Pietro S. Nivola, *American Social Regulation Meets the Global Economy*, in *COMPARATIVE DISADVANTAGES? SOCIAL REGULATIONS AND THE GLOBAL ECONOMY* 16, 23 (Pietro S. Nivola ed., 1997). Less obvious costs, such as effects on morale, hours devoted to recordkeeping, and lack of innovation may add “tens of billions” of dollars to the true cost of tort liability in the United States. *Id.* at 34.

7. *Id.* at 23; *see also id.* at 34 (complaining that “firms must devote substantial resources to warding off predators even when no complaint has been filed”).

8. *Id.* at 23.

9. John D. Graham, *Product Liability and Motor Vehicle Safety*, in *THE LIABILITY MAZE: THE IMPACT OF LIABILITY LAW ON SAFETY AND INNOVATION*, *supra* note 3, at 120, 183–84.

10. *See* Sidney Shapiro et al., *The Social Costs of Dangerous Products: An Empirical Investigation*, 18 *CORNELL J.L. & PUB. POL’Y* 775, 791–829 (2009) (considering only three such dangerous products and concluding that they cost nearly \$5 billion since 1990).

11. Israel Gilead, *Tort Law and Internalization: The Gap Between Private Loss and Social Cost*, 17 *INT’L REV. L. & ECON.* 589, 589 (1997); *see also* Shapiro et al., *supra* note 10, at 777 (describing how the “tort system improves market efficiency by forcing the sellers of dangerous products to pay for costs that would otherwise be borne by other parties”).

12. Michael J. Saks, *Do We Really Know Anything About the Behavior of the Tort Litigation System—and Why Not?*, 140 *U. PA. L. REV.* 1149, 1150

Deterrence not only avoids negative accident costs but should also expand the number of economic transactions. People are relatively more reluctant to buy a product if it is more likely to harm them and if they have no recourse should such harm occur. Thus, in the “absence of standards, labels, and legal recourse against negligent producers, people might decline to purchase drugs, foods, and other consumer goods at prices that reflect their real economic value.”¹³ This would have the effect of decreasing economic activity and economic growth.

The expected economic benefits of tort law (beyond simply compensating deserving victims) stem largely from deterring the imposition of external costs on others for no compensation, such as by causing physical harm.¹⁴ The success of this deterrence is subject to empirical dispute. Some “studies of particular industries have found little evidence that American tort law consistently or significantly affects product design or safety.”¹⁵ However, some tort reforms in the area of medical malpractice apparently have resulted in an increase in medical misbehavior.¹⁶ Surveys of companies show a substantial number reporting that product liability law had induced them to improve the safety of their products.¹⁷ Unfortunately, numerous factors out-

(1992). The classic explication of these effects is discussed in GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* 26 (1970) (suggesting that “the principal function of accident law is to reduce the sum of the costs of accidents and the costs of avoiding accidents”).

13. Nivola, *supra* note 6, at 31.

14. See Joanna M. Shepherd, *Tort Reforms’ Winners and Losers: The Competing Effects of Care and Activity Levels*, 55 *UCLA L. REV.* 905, 910–11 (2008) (describing the theory of deterrence benefits).

15. ROBERT A. KAGAN, *ADVERSARIAL LEGALISM: THE AMERICAN WAY OF LAW* 142 (2001). There is no association of insurance premiums and injury rates. George L. Priest, *Products Liability Law and the Accident Rate*, in *LIABILITY: PERSPECTIVES AND POLICY* 184, 186 (Robert E. Litan & Clifford Winston eds., 1988). Nor was there a association between times of increased tort liability and changes in injury and death rates. *Id.* at 194. This research is more “exploratory” than conclusive, however, and failed to “distinguish other factors” that could be relevant to the findings. Huber & Litan, *supra* note 3, at 6.

16. See Claudia E. Lavenant et al., *Tort Reform and Physician Sanctioning*, 24 *LAW & POL’Y* 1, 10 tbl.1 (2002) (finding a correlation between joint-liability reform and higher rates of serious sanctions).

17. DON DEWEES ET AL., *EXPLORING THE DOMAIN OF ACCIDENT LAW: TAKING THE FACTS SERIOUSLY* 199 (1996) (reporting that 35% of companies had improved the safety of their products and 47% had improved product usage and warranties as a result of product liability law).

side the tort liability system influence product safety, making it difficult to isolate the effect of the law.¹⁸

At some level, the deterrence is simply logical economics. Those who must pay more for a given product (injuring others) will buy less of that product. The clearest evidence of this comes from the field of auto insurance. Some governments have eliminated traditional liability insurance in favor of no-fault systems in which compensation is unhinged from tortious behavior. A number of studies have found that this switch was accompanied by a statistically significant increase in auto accidents or fatalities.¹⁹ As injuring others became cheap, there were more injuries. Similar results have been found for the effect of dram shop laws.²⁰ At least major tort law changes clearly show the expected deterrent value of tort liability.²¹

18. Much product safety comes from consumer preferences and firms' reputations. Huber & Litan, *supra* note 3, at 22 (calling this the "principal impetus for developing and producing safe products"). Other factors include "moral principles discouraging people from needlessly inflicting risk and harm on others, the risk of hazardous behavior for the acting party's own safety, market forces driving unsafe products out or internalizing job hazards in wage differentials, and the regulatory programs put in place by the government." Ben C.J. van Velthoven, *Empirics of Tort*, in TORT LAW AND ECONOMICS 453, 454 (Michael Faure ed., 2009). An examination of these other factors in the context of automobile safety concluded that product liability was not strictly "necessary" to safety improvements, but that it was "often a sufficient or contributing cause of safety improvements." Graham, *supra* note 9. In addition, various government agencies also regulate the safety of many products and prevent the sale of unsafe products. Nicholas A. Ashford & Robert F. Stone, *Liability, Innovation, and Safety in the Chemical Industry*, in THE LIABILITY MAZE: THE IMPACT OF LIABILITY LAW ON SAFETY AND INNOVATION, *supra* note 3, at 367, 370.

19. See J. David Cummins et al., *The Incentive Effects of No-Fault Automobile Insurance*, 44 J.L. & ECON. 427, 454–55 (2001) (finding association of no-fault systems and higher fatality rates in the United States); Elisabeth M. Landes, *Insurance, Liability, and Accidents: A Theoretical and Empirical Investigation of the Effects of No-Fault Accidents*, 25 J.L. & ECON. 49, 49–50 (1982) (finding increased accident losses in no-fault states in America); R. Ian McEwin, *No-Fault and Road Accidents: Some Australasian Evidence*, 9 INT'L REV. L. & ECON. 13, 14 (1989) (confirming this effect in New Zealand); Marshall H. Medoff & Joseph P. Magaddino, *An Empirical Analysis of No-Fault Insurance*, 6 EVALUATION REV. 373, 388 (1982) (identifying no-fault laws as a significant factor in state loss ratios); Peter L. Swan, *The Economics of Law: Economic Imperialism in Negligence Law, No-Fault Insurance, Occupational Licensing and Criminology*, AUSTL. ECON. REV., 3d Quarter 1984, at 92, 100 (identifying increased accident and injury risks in New Zealand).

20. See, e.g., Frank J. Chaloupka et al., *Alcohol-Control Policies and Motor-Vehicle Fatalities*, 22 J. LEGAL STUD. 161, 184 (1993); Lan Liang et al., *Precaution, Compensation, and Threats of Sanction: The Case of Alcohol Servers*, 24 INT'L REV. L. & ECON. 49, 67–68 (2004); Kathryn Whetten-Goldstein et al., *Civil Liability, Criminal Law, and Other Policies and Alcohol-Related Mo-*

A recent study of malpractice liability²² may provide the most convincing evidence of tort costs and benefits. The authors of this study used the generosity of local juries as their measure of tort liability.²³ They found that a 10% reduction in malpractice costs would reduce Medicare health care expenditures by at most 1.2%, but that a 10% increase in malpractice costs would reduce mortality by about 0.2%.²⁴ Given the value of a life, the net effect of malpractice liability is probably positive. Moreover, the authors considered only mortality;²⁵ assuming that a similar effect would apply to morbidity, the benefits of malpractice law would be still greater. This analysis was only one study, though, and limited to medical malpractice.

Indeed, there is an argument that there is not enough tort law in America and that economic inefficiency results from insufficient liability. A very small percentage of injured Americans file suit, even when another party may be responsible.²⁶ Considerable research in the area of medical malpractice shows that most parties with legitimate cases took no legal action.²⁷ An insufficient number of filed claims could also lead to an inadequate amount of deterrence, and some suggest the real “tort crisis” is that “too few victims claim.”²⁸ In addition, when suits

tor Vehicle Fatalities in the United States: 1984–1995, 32 ACCIDENT ANALYSIS & PREVENTION 723, 729–32 (2000).

21. For a good summary of the research on the deterrent effect of tort law, see van Velthoven, *supra* note 18.

22. Darius N. Lakdawalla & Seth A. Seabury, *The Welfare Effects of Medical Malpractice Liability* (Nat'l Bureau of Econ. Research, Working Paper No. 15,383, 2009), available at <http://www.nber.org/papers/w15383.pdf>.

23. *Id.* at 3.

24. *Id.* at 4.

25. *Id.*

26. Only about ten percent of those who suffer from accidents file suit. See DEBORAH HENSLER ET AL., COMPENSATION FOR ACCIDENTAL INJURIES IN THE UNITED STATES 110 (1991).

27. See David A. Hyman & Charles Silver, *Medical Malpractice Litigation and Tort Reform: It's the Incentives, Stupid*, 59 VAND. L. REV. 1085, 1089–91 (2006) (summarizing studies to this effect). Two examples are Lori Andrews, *Studying Medical Error in Situ: Implications for Malpractice Law and Policy*, 54 DEPAUL L. REV. 357, 370 (2005) (reporting that just over one percent of patients who suffered a medical error filed suit), and David M. Studdert et al., *Negligent Care and Malpractice Claiming Behavior in Utah and Colorado*, 38 MED. CARE 250, 250 (2000) (reporting that 97% of those patients who suffered a negligent injury did not sue).

28. Richard L. Abel, *The Real Tort Crisis—Too Few Claims*, 48 OHIO ST. L.J. 443, 447, 460 (1987) (emphasis added); see also Saks, *supra* note 12, at 1183–89 (summarizing research to this effect).

are filed and won, the amount of damages may be unduly low.²⁹ Thus, the economic problems with our tort system may be the opposite of those commonly claimed. The safety problems associated with chemicals may be ascribed to this insufficiency of litigation.³⁰

Theoretically, a good tort system should be economically beneficial. The conservative, pro-tort reform public interest organization, the Pacific Research Institute, explained:

An efficient tort system is an important part of a thriving free-enterprise economy. It ensures that firms have proper incentives to produce safe products in a safe environment, and that truly injured people are fully compensated. An efficient tort system results in greater trust among market participants, leading to more trading, and eventually a higher standard of living for individuals in the society. An efficient tort system benefits all.

A poor tort system, on the other hand, imposes excessive costs on society, not the least of which is foregone production of goods and services. There is growing evidence that U.S. tort costs are far greater than other countries' costs and that much of the difference is due to excessive litigation and lawsuit abuse. All of us shoulder the burden of an excessively expensive and inefficient tort liability system through higher prices, lower wages, decreased returns on investment in capital and land, restricted access to health care, and less innovation.³¹

Tort law is not per se harmful to the economy, but an inefficient tort system is. Therefore, the question is whether the American system is, as PRI claims, unduly pro-plaintiff and imposing excessive costs, or if it is more reasonable and efficient, producing net benefits to society. Originally, many thought that "judge-made rules tend to be efficiency-

29. Most malpractice actions containing strong legal claims receive much less than full compensation of even their economic losses. KAGAN, *supra* note 15, at 140. A study of dangerous products found that tort compensation was less than the actual costs of those products. W. Kip Viscusi, *Toward a Diminished Role for Tort Liability: Social Insurance, Government Regulation, and Contemporary Risks to Health and Safety*, 6 YALE J. ON REG. 65, 95-97 (1989) (reporting that the amounts of judgments and settlements in product liability litigation was often less than the actual losses suffered by the victim). Compensation awarded in wrongful death actions is much less than the amount that economists have calculated as the reasonable value of a life. See Frank Cross & Charles Silver, *In Texas, Life Is Cheap*, 59 VAND. L. REV. 1875, 1916-23 (2006).

30. See Ashford & Stone, *supra* note 18, at 367 (finding the liability from torts well below the benchmark for optimal deterrence of harms).

31. LAWRENCE J. MCQUILLAN & HOVANNES ABRAMYAN, U.S. TORT LIABILITY INDEX: 2008 REPORT 1 (2008), available at http://www.pacificresearch.org/docLib/20080222_2008_US_Tort_Liability_Index.pdf.

promoting.”³² The basic theory is that the common law evolves through litigated cases, though many claims are settled.³³ When a rule is inefficient, creating deadweight losses, there is a greater incentive to litigate to have it overturned.³⁴ Given enough challenges, the inefficient rule will be changed, while efficient rules are less likely to be litigated.³⁵ This process steers the common law in the direction of greater economic efficiency.³⁶ Some have even maintained that “[c]ommon law does not fit in a rent-seeking world.”³⁷

The notion of common law efficiency has come under considerable criticism, however. Judges see only a small number of cases applying a rule, and the cases they see may well be unrepresentative.³⁸ Barriers to efficiency include the stickiness of legal rules and the fact that rules of law are public goods in which we can expect litigants to under-invest.³⁹ Given the path dependence of precedent,⁴⁰ an inefficient rule may be amplified as it is increasingly litigated.⁴¹

Public choice analysis, commonly applied to legislative analysis, can also be applied to judicial decision making, and may seriously undermine claims of economically efficient legal evolution. Repeat players, such as large companies, may manipulate their settlement practices so as to channel the law in a

32. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 523 (4th ed. 1992).

33. See, e.g., George Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. LEGAL STUD. 65, 65–66 (1977).

34. Paul H. Rubin, *Why Is the Common Law Efficient?*, 6 J. LEGAL STUD. 51, 61 (1977).

35. See, e.g., John C. Goodman, *An Economic Theory of the Evolution of the Common Law*, 7 J. LEGAL STUD. 393, 393–94 (1978); Priest, *supra* note 33, at 75; Rubin, *supra* note 34.

36. Goodman, *supra* note 35, at 394; Priest, *supra* note 33, at 81; Rubin, *supra* note 34, at 61.

37. Roger Meiners & Bruce Yandle, *Common Law and the Conceit of Modern Environmental Policy*, 7 GEO. MASON L. REV. 923, 956 (1999).

38. See generally Gillian Hadfield, *Biases in the Evolution of Legal Rules*, 80 GEO. L.J. 583, 605–14 (1992) (discussing the effect of restricted information on judicial efficiency).

39. Adam J. Hirsch, *Evolutionary Theories of Common Law Efficiency: Reasons for (Cognitive) Skepticism*, 32 FLA. ST. U. L. REV. 425, 429 (2005).

40. Michael J. Gerhardt, *The Limited Path Dependency of Precedent*, 7 U. PA. J. CONST. L. 903, 941 (2005). “Path dependence” refers to the “history of problems that had to be solved in the past but that may be irrelevant today.” Mark J. Roe, Commentary, *Chaos and Evolution in Law and Economics*, 109 HARV. L. REV. 641, 641 (1996).

41. See Hirsch, *supra* note 39, at 428 (“[T]he doctrine of precedent stacks the adversarial deck against a party who seeks to revise a rule, whether or not the existing rule is efficient.”).

direction favorable to their future liability risks.⁴² The evolution of nuisance law to favor industrial polluters has been cited as an example of this effect.⁴³ Such precedent purchasing through litigation would undermine an efficient common law of tort, presumably making the law unduly pro-defendant. The “haves” would tend to come out ahead in court battles.⁴⁴ Insofar as this effect operates, it suggests that tort law is doing too little to internalize externalities.

Some have argued that plaintiffs’ lawyers engage in similar practices to expand tort liability law. Todd Zywicki argues that the “driving force behind many of the innovations in tort law in recent decades has been the plaintiffs’ bar, pushing for expansion of liability under the tort system as well as increasing complexity in the tort system.”⁴⁵ Defense lawyers have no economic incentive to counteract this effect, because they too profit from additional litigation.⁴⁶ Judges may be complicit in these efforts.⁴⁷ This process has allegedly “made a mockery of the law and has eliminated a wide range of otherwise viable goods and services from the American marketplace.”⁴⁸

The empirical evidence supporting this claim is limited. One study examined the development of the abolition of privity doctrine for product liability and attributed it to rent-seeking

42. See Frank B. Cross, *The Judiciary and Public Choice*, 50 HASTINGS L.J. 355, 366–68 (1999) (discussing the possibility of “precedent-purchasing”).

43. See Paul H. Rubin, *Common Law and Statute Law*, 11 J. LEGAL STUD. 205, 216–17 (1982).

44. See Marc Galanter, *Why the “Haves” Come Out Ahead: Speculations on the Limits of Legal Change*, 9 LAW & SOC’Y REV. 95, 123–24 (1974).

45. Todd Zywicki, *Public Choice and Tort Reform 4* (George Mason Univ. Sch. of Law, Law & Econ. Working Paper No. 00-36, 2000), available at http://www.law.gmu.edu/assets/files/publications/working_papers/00-36.pdf?q=avoiding-tort-liability-avoiding-tort-liability-what-works; see also Paul H. Rubin & Martin J. Bailey, *The Role of Lawyers in Changing the Law*, 23 J. LEGAL STUD. 807, 808 (1994) (claiming that the “shape of modern product liability law is due to the interests of tort lawyers”).

46. Zywicki, *supra* note 45, at 6–7. Richard Epstein has suggested that it is “in the interest of defendant firms to have a pro-plaintiff set of rules, which makes their own defensive efforts worthwhile for the manufacturers that hire them.” Richard A. Epstein, *The Political Economy of Product Liability Reform*, 78 AM. ECON. REV. 311, 313 (1988). Legal academics may also share culpability in this process. See Zywicki, *supra* note 45, at 19–22.

47. See Lester Brickman, *On the Relevance of the Admissibility of Scientific Evidence: Tort System Outcomes Are Principally Determined by Lawyers’ Rates of Return*, 15 CARDOZO L. REV. 1755, 1793 (1994) (arguing that “policy-oriented jurists” have a “symbiotic relationship” with plaintiffs’ attorneys).

48. GORDON TULLOCK, *THE CASE AGAINST THE COMMON LAW* 52 (The Locke Institute, *The Blackstone Commentaries* No. 1, 1997).

litigation by tort lawyers.⁴⁹ Another found that states with more lawyers were quicker to abandon contributory negligence in favor of comparative negligence.⁵⁰ Both studies have serious shortcomings, not least that the new pro-plaintiff documents seem more economically efficient.⁵¹ The research did not effectively distinguish between judicial and legislative adoption of doctrines, however, and study of additional doctrines did not confirm the results.⁵²

Additionally, even if the rules of tort law were efficient, the system could still fail in practice.⁵³ The “performance of the liability system quickly becomes theoretically ambiguous if the system imposes transactions costs or erroneously assigns liability.”⁵⁴ It may be that the costs of operating the tort law system are so great that they outweigh any practical economic benefits. Litigation costs themselves are great and may equal or even exceed the amount paid out to deserving plaintiffs.⁵⁵ The high transaction costs may also distort payments. Defendants may choose to settle wholly illegitimate claims simply because the costs of litigation exceeded the settlement payments.⁵⁶

49. Rubin & Bailey, *supra* note 45.

50. Christopher Curran, *The Spread of the Comparative Negligence Rule in the United States*, 12 INT'L REV. L. & ECON. 317, 327 (1992).

51. See Frank B. Cross, *The Role of Lawyers in Positive Theories of Doctrinal Evolution*, 45 EMORY L.J. 523, 574–75 (1996) (citing research to this effect).

52. *Id.* at 575–79.

53. See Huber & Litan, *supra* note 3 (noting that “[r]egardless of its net overall effects, the tort system may still be inefficient” because of the costs of administering it).

54. DANIEL P. KESSLER, THE ECONOMIC EFFECTS OF THE LIABILITY SYSTEM 4 (The Hoover Institution on War, Revolution and Peace, Essays in Public Policy No. 91, 1999).

55. See Steven B. Hantler et al., *Is the “Crisis” in the Civil Justice System Real or Imagined?*, 38 LOY. L.A. L. REV. 1121, 1125 (2005) (reporting that plaintiffs were “receiving less than 50% of the money spent on litigation”); Joni Hersch & W. Kip Viscusi, *Tort Liability Litigation Costs for Commercial Claims*, 9 AM. L. & ECON. REV. 330, 330 (2007) (reporting that total transaction costs for each dollar received by claimants reach \$0.83 in cases where a suit was filed with an attorney).

56. See Randy J. Kozel & David Rosenberg, *Solving the Nuisance-Value Settlement Problem: Mandatory Summary Judgment*, 90 VA. L. REV. 1849, 1857 (2004) (discussing this problem). However, the materiality of such nuisance settlements is unknown. Lance P. McMillian, *The Nuisance Settlement “Problem”: The Elusive Truth and a Clarifying Proposal*, 31 AM. J. TRIAL ADVOC. 221, 224 (2007).

The transaction costs of tort litigation exceed those of alternative compensation schemes like workers' compensation.⁵⁷ On the other hand, the cheaper schemes generally do not attempt to distinguish between deserving and undeserving injured parties, sacrificing the efficiency advantages of tort law. The costs are associated primarily with this differentiation and may therefore be useful.⁵⁸ Screening out bad claims is key to the law and its efficiency. Studying this effect, Charles Silver found no evidence that alternative dispute resolution systems were more efficient and concluded that the tort litigation system operated efficiently.⁵⁹ In any event, the high administrative costs of the tort law system must be considered when assessing its economic effect.

Tort law may fail to efficiently apportion liability because each case is so unique. There is a contention that whether a tort plaintiff is compensated "in a product liability case depends on various matters of chance such as the relative skills of the attorneys on each side, the composition of the jury, and the timing of case resolution relative to the timing of information about injury causation coming to light."⁶⁰ Random variation in numerous surrounding facts could produce inefficient results even with an efficient set of legal standards.⁶¹ If so, the tort system could function inefficiently, much like a lottery,⁶² though some suggest this is unlikely.⁶³ Consequently, one must

57. See 1 AM. LAW INST., REPORTERS' STUDY: ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY 119 (1991) (suggesting that workers' compensation administrative costs are only 15–20% of overall payouts, while the tort system's costs are 50–55%).

58. Charles Silver, *Does Civil Justice Cost Too Much?*, 80 TEX. L. REV. 2073, 2078–80 (2002).

59. See *id.* at 2106–07 (finding that without ADR, litigants in the existing tort system "are minimizing litigation costs on their own").

60. Steven Garber, *Product Liability, Punitive Damages, Business Decisions and Economic Outcomes*, 1998 WIS. L. REV. 237, 291 n.138.

61. See Huber & Litan, *supra* note 3, at 21 (claiming that "the uncertainty of the tort system is its greatest vice, magnifying risks of liability while disconnecting them from unduly risky conduct").

62. See, e.g., Troyen A. Brennan & Philip K. Howard, Op-Ed., *Heal the Law, Then Health Care*, WASH. POST, Jan. 25, 2004, at B7 (commenting that "[t]he legal system today is a string of ad hoc decisions" and "[j]ustice . . . is basically random").

63. See Hyman & Silver, *supra* note 27, at 1086–87 (characterizing the liability system as a market of "sophisticated, economically-oriented repeat players" who "have the knowledge and incentives to select efficient means to accomplish their respective ends" and noting that "[g]iven this backdrop, their behavior and the behavior of the system . . . should not be random"). The au-

consider both the substantive rules of tort law and procedural factors in evaluating the American tort liability system.

It is possible that, notwithstanding all these limitations on the efficiency of tort litigation, it could still be economically beneficial. Tort law can be a substitute for government regulation and international comparisons have found this to be the case.⁶⁴ When compared with legislative solutions, “litigation may in fact be an efficient means of resolving social conflicts.”⁶⁵ More pro-defendant tort law regimes could be associated with more aggressive regulatory regimes, and reliance on tort litigation may be economically beneficial.

B. TORT COSTS

As noted above, there is a widespread belief that the tort system imposes unfair costs on defendants, creating economic inefficiency and harming society at large. Some researchers have sought to measure these costs and quantify their magnitude.

Pacific Research Institute (PRI) recently alleged that excessive tort costs in the United States amount to \$589 billion per year.⁶⁶ This estimate, though, is simply a comparison of the estimated costs of torts in the United States with those of other advanced countries.⁶⁷ This is an unreliable measure, because tort law plays different roles in different nations.⁶⁸ In the United States, tort costs may be higher because the direct government regulatory system (with criminal enforcement) in this nation is smaller, with more reliance placed on civil justice

thors suggest that empirical studies of the system show it to be “stable and predictable” and able to sort “valid from invalid claims reasonably well.” *Id.* at 1087.

64. KAGAN, *supra* note 15, at 126–28.

65. Tonja Jacobi, *The Role of Politics and Economics in Explaining Variation in Litigation Rates in the U.S. States*, 38 J. LEGAL STUD. 205, 206 (2009).

66. LAWRENCE J. MCQUILLAN ET AL., PAC. RESEARCH INST., JACKPOT JUSTICE: THE TRUE COST OF AMERICA’S TORT SYSTEM xiii (2007). This study came under considerable criticism, though. See Tom Baker, Herbert Kritzer & Neil Vidmar, *Jackpot Justice and the American Tort System: Thinking Beyond Junk Science* 2, 3 (William Mitchell Coll. of Law Legal Studies Research Paper Series, Paper No. 95, July 2008), available at <http://ssrn.com/abstract=1152306> (contending that the report was advocacy disguised as science); Richard Posner, *Is the Tort System Costing the United States \$865 Billion a Year?*, THE BECKER-POSNER BLOG (Apr. 1, 2007, 7:22 PM), <http://www.becker-posner-blog.com/2007/04/is-the-tort-system-costing-the-united-states-865-billion-a-year--posner.html> (identifying various errors in the study methodology).

67. See Baker, Kritzer & Vidmar, *supra* note 66, at 8.

68. See *id.*

through torts.⁶⁹ Robert Kagan has demonstrated this international effect, with an argument that America should rely more on regulation and less on tort litigation.⁷⁰ This may be true, but it means that the net costs of tort law cannot be measured across countries because they have different institutions devoted to achieving the accident-reducing goal of tort law and the data to make such a comparison does not exist.

Another study, by the Council of Economic Advisers under President George W. Bush, put the annual direct costs of the tort litigation system at \$180 billion (1.8% of GDP), representing a functional tax of 2% on consumption, 3% on wages, or 5% on capital income.⁷¹ This analysis made no at-

69. See KAGAN, *supra* note 15, at 127–28.

70. *Id.* at 126–55; see also Marc Galanter, *Real World Torts: An Antidote to Anecdote*, 55 MD. L. REV. 1093, 1141 (1996) (emphasizing that unlike the other nations studied, “we do not have an administrative state with intensive governmental regulation of risks, nor do we have a comprehensive welfare state”). The lessened tort liability in other nations may be due to factors such as public entitlements or alternative compensation systems. WERNER PFENNINGSTORF & DONALD J. GIFFORD, A COMPARATIVE STUDY OF LIABILITY LAW AND COMPENSATION SCHEMES IN TEN COUNTRIES AND THE UNITED STATES 160 (1991); see also Baker, Kritzer & Vidmar, *supra* note 66, at 9 (observing that “[o]ther countries have stronger regulatory mechanisms that eliminate the need for some types of tort claims” or have “[s]ocial welfare systems [that] may reduce the need to rely upon tort claims for support and compensation after injury”).

71. COUNCIL OF ECON. ADVISERS, WHO PAYS FOR TORT LIABILITY CLAIMS? AN ECONOMIC ANALYSIS OF THE U.S. TORT LIABILITY SYSTEM 1 (2002). These estimates came from TILLINGHAST-TOWERS PERRIN, U.S. TORT COSTS: 2000, TRENDS AND FINDINGS ON THE COSTS OF THE U.S. TORT SYSTEM (2002). The Council of Economic Advisers recognizes that not all these costs are excessive but estimates that \$136 billion of them are. COUNCIL OF ECON. ADVISERS, *supra* at 10. Although it was relied upon by President Bush’s Council of Economic Advisers, the reliability and accuracy of the Tillinghast estimates have been criticized. See, e.g., Baker, Kritzer & Vidmar, *supra* note 66, at 4 (suggesting that “regulators deliberately designed the reporting system to require the insurance industry to err on the high side” and that a third of the costs were based on malpractice and self-insured expenditures “for which there [were] no reliable, publicly available data”); Lawrence Chimerine & Ross Eisenbrey, *The Frivolous Case for Tort Law Change: Opponents of the Legal System Exaggerate Its Costs, Ignore Its Benefits* 2–3 (Econ. Policy Inst., Briefing Paper No. 157, 2005) (noting that the study disregarded benefits, exaggerated costs, showed no correlation with economic outcomes, included the insurance industry’s own administrative expenses, and included other flawed costs). Other research has concluded that the cost of insuring products liability is only about 0.2% of corporate revenues. CARL T. BOGUS, WHY LAWSUITS ARE GOOD FOR AMERICA: DISCIPLINED DEMOCRACY, BIG BUSINESS, AND THE COMMON LAW 219 (2001).

tempt to consider the countervailing economic benefits associated with tort litigation, however.⁷²

Critics of the tort system often characterize the costs of litigation as a “tort tax.”⁷³ The former board chairman of Home Depot complained that a “tort tax” cost every American \$2400 per year.⁷⁴ One writer opined in the *Wall Street Journal* that tort costs represented over 2% of the gross national product and would amount to \$4.8 trillion over a ten year period.⁷⁵ A later opinion piece updated this figure to estimate the cost of torts at over \$865 billion per year.⁷⁶

There are some obvious flaws in these cost estimates for the tort system. In addition to failing to consider the benefits of tort litigation, such measures of cost make the economic mistake of conflating an economic transfer with an economic cost. This money expended on the tort system is not lost to society, but simply transferred to other parties (from defendants to plaintiffs, lawyers, and others who gain from the system). When a verdict transfers money to a plaintiff, that event is a cost to the defendant but not directly to society. Society has the same wealth, some of it is simply held in different hands.⁷⁷ “Because the tort action results in a direct transfer payment, there is no deadweight loss in the economic analysis model”⁷⁸

Of course, some transfer payments may result in deadweight loss. If money is transferred from a person who would

72. Chimerine & Eisenbrey, *supra* note 71.

73. See PETER W. HUBER, LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES 3–5 (1988). Over twenty years ago, Peter Huber claimed the existence of such a tort tax was harming the United States’ commercial competitiveness. *Id.* at 228–30.

74. See Editorial, *A Barrister’s Baloney*, INVESTOR’S BUS. DAILY (L.A.), Dec. 5, 2008, at A10.

75. Jim Copland, Op-Ed., *The Tort Tax*, WALL ST. J., June 11, 2003, at A10.

76. Lawrence J. McQuillan & Hovannes Abramyan, Op-Ed., *The Tort Tax*, WALL ST. J., Mar. 27, 2007, at A18.

77. This distinction is often discussed in antitrust law, where economists typically do not regard the excess profits of a monopolist as an economic loss to society. See, e.g., Maurice E. Stucke, *Should the Government Prosecute Monopolies?*, 2009 U. ILL. L. REV. 497, 505 (observing that “antitrust economists are generally agnostic about these wealth transfers”); Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699, 711 (1977) (suggesting that the “transformation of benefits from one form (consumers’ surplus) to another (profit) is treated as a wash under the conventional welfare economics model”).

78. Donald V. Macdougall, *The Exclusionary Rule and Its Alternatives—Remedies for Constitutional Violations in Canada and the United States*, 76 J. CRIM. L. & CRIMINOLOGY 608, 644 (1985).

use it more efficiently to one who would use it less efficiently, there is some deadweight loss. More relevant to tort law, if the law over-deters, it may prevent the introduction of useful products, which could produce a net loss to society.⁷⁹ Of course, if the law under-deters, the social loss comes from insufficient tort liability and inefficient allocation of risk.⁸⁰ The point is that one cannot simply use the amount of tort liability payments as a measure of the system's economic costs. The true cost estimates come in the form of indirect effects on society, positive or negative.

One central indirect effect is on product innovation and development.⁸¹ Defenders of the tort system argue that it offers a great benefit by encouraging safer products, as business seeks to avoid the costs of liability associated with producing a less safe product.⁸² A model system would require manufacturers to internalize the external harms caused by their business. However, critics of the tort system contend that it actually discourages innovation and new products.⁸³ While an optimal tort liability system should encourage efficient innovation, "unchecked and unbalanced tort law can limit the availability of necessary medical services, discourage innovation, lead to the removal of useful and safe products and devices from the marketplace, and increase costs to consumers."⁸⁴ Some suggest that "the broad and unpredictable sweep of U.S. liability law deters innovation."⁸⁵ There are numerous examples of various products, in-

79. See Deborah J. La Fetra, *Freedom, Responsibility, and Risk: Fundamental Principles Supporting Tort Reform*, 36 IND. L. REV. 645, 647 (2003).

80. Cf. R. William Ide III, *The Role of the Justice System in the Product Liability Debate*, in PRODUCT LIABILITY AND INNOVATION: MANAGING RISK IN AN UNCERTAIN ENVIRONMENT 37, 43 (Janet R. Hunziker & Trevor O. Jones eds., 1994) (describing American's product liability system as a competitive advantage in the global marketplace when "it provides a fair, open system in which consumers with legitimate claims can be protected while also shielding manufacturers against unwarranted claims").

81. Such innovation is generally regarded as crucial to economic well-being. See Gideon Parchomovsky & Alex Stein, *Torts and Innovation*, 107 MICH. L. REV. 285, 286 (2008). See generally DAVID WARSH, KNOWLEDGE AND THE WEALTH OF NATIONS: A STORY OF ECONOMIC DISCOVERY (2006) (addressing the importance of innovation to economic growth).

82. *Ide*, *supra* note 80, at 40–41.

83. La Fetra, *supra* note 79.

84. Victor E. Schwartz et al., *Fostering Mutual Respect and Cooperation Between State Courts and State Legislatures: A Sound Alternative to a Tort Tug of War*, 103 W. VA. L. REV. 1, 2 (2000).

85. Huber & Litan, *supra* note 3.

cluding medical advances, that were not introduced because of liability fears.⁸⁶

For the critics of our current system, even “the prospect of tort liability . . . inhibits innovation.”⁸⁷ The theory is that liability is so costly and unpredictable that companies will shun new product development out of fear for future unforeseen liability. Michael Porter contends that our system of product liability “is so extreme and uncertain as to retard innovation.”⁸⁸ Some products are occasionally cited in support of this contention, such as vaccines and small aircraft production.⁸⁹ A Conference Board survey has reported that some businesses have abandoned new products because of liability fears,⁹⁰ though some caution is warranted in interpreting survey results.⁹¹

Yet others argue that the threat of tort liability has served its purpose in deterring unsafe product innovation.⁹² Benjamin Barton examined playground design as an example of the

86. *See id.* at 7.

87. La Fetra, *supra* note 79, at 646; *see also* Richard J. Mahoney & Stephen E. Littlejohn, *Innovation on Trial: Punitive Damages Versus New Products*, 246 SCI. 1395, 1395–96 (1989) (blaming the threat of punitive damages for discouraging new product innovation); Parchomovsky & Stein, *supra* note 81, at 286 (contending that tort law’s reliance on custom as a standard has the effect of discouraging innovation).

88. MICHAEL E. PORTER, THE COMPETITIVE ADVANTAGE OF NATIONS 649 (1990); *see also* Man C. Maloo & Benjamin A. Neil, *Products Liability Exposure: The Sacrifice of American Innovation*, 13 J. PROD. LIAB. 361, 362 (1991) (contending that “[t]he fear of products liability lawsuits, and a legal system which encourages their institution and permits huge damage awards, are having a chilling effect on technological innovation”); Dick Thornburgh, *America’s Civil Justice Dilemma: The Prospects for Reform*, 55 MD. L. REV. 1074, 1078 (1996) (arguing that “[t]he threat of liability has significantly inhibited the product development and innovation needed to provide improved services to consumers and to assure a leadership role . . . worldwide”).

89. *See, e.g.*, Bruce E. Peterman, *General Aviation Engineering in a Product Liability Environment*, in PRODUCT LIABILITY AND INNOVATION: MANAGING RISK IN AN UNCERTAIN ENVIRONMENT, *supra* note 80, at 62, 62–67 (small aircraft); John P. Wilson, *The Resolution of Legal Impediments to the Manufacture and Administration of an AIDS Vaccine*, 34 SANTA CLARA L. REV. 495, 504 (1994) (vaccines).

90. E. PATRICK MCGUIRE, THE IMPACT OF PRODUCT LIABILITY 17–18 (The Conference Bd., Research Reports No. 908, 1988).

91. *See* Huber & Litan, *supra* note 3, at 8 (noting that survey respondents, “especially top-level corporate officials, can be quick to blame external forces for problems arising elsewhere”).

92. *See, e.g.*, Mary L. Lyndon, *Tort Law and Technology*, 12 YALE J. ON REG. 137, 148–70 (1995) (arguing that the existing tort liability structure provides appropriate safety incentives for future innovation).

threat of tort liability producing valuable innovation.⁹³ Viscusi and Moore have conducted analyses that generally show that at lower product liability costs, innovation is encouraged but that unusually high costs can deter valuable innovation.⁹⁴ One study, though, compared tort costs as a percentage of GDP and overall research and development spending and found no correlation between the two.⁹⁵

Another commonly invoked cost of the tort system is international competitiveness.⁹⁶ The unusually high liability costs of the American system purportedly make our products less able to compete with the output of other countries with less intrusive systems of tort law.⁹⁷ The infamous Texaco/Pennzoil decision alone reportedly harmed our competitiveness by increasing the costs of doing business, inhibiting business transactions, and creating uncertainty.⁹⁸

A survey of senior executives found that a majority believed that “the U.S. civil justice system significantly hampers the ability of U.S. companies to compete with Japanese and European companies.”⁹⁹ The Commerce Department has reported that “[f]ear of litigation is among the top issues listed by senior executives who manage internationally owned U.S. businesses.”¹⁰⁰ Studies by Eurochambres and the Organization

93. Benjamin H. Barton, *Tort Reform, Innovation, and Playground Design*, 58 FLA. L. REV. 265, 270 (2006).

94. W. Kip Viscusi & Michael J. Moore, *Product Liability, Research and Development, and Innovation*, 101 J. POL. ECON. 161, 161–64 (1993).

95. Chimerine & Eisenbrey, *supra* note 71, at 10.

96. See, e.g., Ji Yao Shen et al., *Challenges Facing U.S. Manufacturing and Strategies*, 23 J. INDUS. TECH., Apr.–Oct. 2007, at 1, 5 (declaring that the American “tort system undermines the competitiveness of U.S. manufacturers”); Philip Shuchman, *It Isn’t that the Tort Lawyers Are So Right, It’s Just that the Tort Reformers Are So Wrong*, 49 RUTGERS L.J. 485, 504 (1997) (noting that “[m]any concerned groups, public and private, claim that U.S. product liability laws are a significant factor and sometimes the most important cause of what is perceived as a decline in the competitiveness of U.S. firms in the international market”).

97. See Thornburgh, *supra* note 88, at 1077–78.

98. John Diebold, *The Texaco-Pennzoil Aftershocks*, N.Y. TIMES, Feb. 22, 1988, at A19 (examining the effects of the decision allowing a \$10.53 billion tort award in *Pennzoil Co. v. Texaco, Inc.*, 481 U.S. 1 (1987)).

99. *The Verdict from the Corner Office*, BUS. WK., Apr. 13, 1992, at 66, 66. However, another survey of risk managers of major American companies found that “the impact of the liability issue seems far more related to rhetoric than to reality.” NATHAN WEBER, PRODUCT LIABILITY: THE CORPORATE RESPONSE 2 (The Conference Bd., Research Reports No. 893, 1987).

100. U.S. DEPT’ OF COMMERCE, THE U.S. LITIGATION ENVIRONMENT AND FOREIGN DIRECT INVESTMENT 2 (2008).

for International Investment likewise found concern over tort liability among international investors, who cited it as a drawback to investing in the United States.¹⁰¹ However, the actual effects of tort litigation are uncertain, and there is little reliable evidence on this issue.¹⁰²

The costs of the alleged tort tax may also be exaggerated. One thorough study estimated that the average cost was “at most . . . as high as 2 percent of the cost of all products and services sold in the United States,”¹⁰³ and the author found no material association between liability costs and exports among the seven industries studied.¹⁰⁴ Similarly, the Commerce Department observed that foreign investment in this country surged at a time when tort costs as a percentage of GDP were at their peak.¹⁰⁵ It appears that greater liability “might sharpen, rather than blunt, the competitive edge of U.S. producers,” as their products had an enhanced reputation for quality.¹⁰⁶

Moreover, to evaluate the costs of the tort tax internationally, one must consider the benefits of tort litigation.¹⁰⁷ The net costs of any tort tax must also be reduced by actual taxes collected by other nations in their public compensation systems that replace tort law. Ultimately the research on the economic effect of the United States tort liability system is indeterminate, unless these effects are considered.

C. THE ECONOMICS OF TORT LAW IN COURTS AND THE LEGISLATURE

The concern over the economic effects of tort law has found its way into some judicial decisions. Justice Ketchum of the West Virginia Supreme Court has argued that medical moni-

101. *Id.* at 5–6.

102. *See id.* at 10 (noting that “not enough evidence or research currently exists to determine the litigation environment’s actual effects” on foreign direct investment, so that “additional quantitative data is needed to guide policymakers”).

103. Robert E. Litan, *The Liability Explosion and American Trade Performance: Myths and Realities*, in *TORT LAW AND THE PUBLIC INTEREST* 127, 128–29 (Peter H. Schuck ed., 1991).

104. *Id.* at 143.

105. U.S. DEP’T OF COMMERCE, *supra* note 100, at 11.

106. Nivola, *supra* note 6, at 36.

107. *See* PORTER, *supra* note 88 (noting that product liability “can benefit competitive advantage by acting like a sophisticated buyer to encourage the development of better products”). Porter believes, though, that the U.S. system fails to achieve this benefit because product liability litigation is excessive. *Id.*

toring claims could leave the state's "economy in shambles."¹⁰⁸ This was simply an impressionistic evaluation, though, that did not use the research on the economic effects of tort law.

The research on economic effects has been invoked in some recent opinions. Courts have been loath to rely directly upon this research, considering this a "policy dispute[]." ¹⁰⁹ More frequently, courts have deferred to the legislature's findings on the economic research. Thus, the Supreme Court of Ohio noted that the legislature reasonably used studies from the National Bureau of Economic Research, the Council of Economic Advisors, and Tillinghast-Towers Perrin, as well as a Harris poll and testimony from a state officer when finding that tort litigation represented "a challenge to the economy."¹¹⁰

This sort of economic research should be relevant to the state of tort law. Although it is not the only factor (matters of distributive justice may be considered), economic consequences surely are relevant to at least legislative action. Concerns over economic and other external effects have influenced the tort reform movement in state legislatures. Moreover, such pragmatic concerns may influence the judiciary, even if they are not expressly relied upon in opinions.¹¹¹ Hence, the evaluation of economic effects may be legally salient.

II. RESEARCH ON TORT LAW AND THE ECONOMY

If the tort litigation climate in a given state significantly affects economic performance, then one would expect that the tort litigation climate should have an effect on business decisions. The business consultants at McKinsey & Co. have reported that "tort risks are second in importance in deciding where to establish operations."¹¹² The Chamber of Commerce reported that as many as 82 percent of survey respondents said

108. *Perrine v. E.I. Du Pont De Nemours & Co.*, 694 S.E.2d 815, 918 (W. Va. 2010) (Ketchum, J., concurring in part and dissenting in part).

109. *Judd v. Drezga*, 103 P.3d 135, 140 (Utah 2004); *see also* *Lebron v. Gottlieb Mem'l Hosp.*, 930 N.E.2d 895, 919 (Ill. 2010) (finding that "[p]ublic policy determinations of this kind are ultimately a matter for the legislature").

110. *Arbino v. Johnson & Johnson*, 880 N.E.2d 420, 434 (Ohio 2007) (quoting 2004 Ohio Laws 8,024).

111. *Cf.* RICHARD A. POSNER, *HOW JUDGES THINK* 230 (2008) (suggesting that most judges are pragmatists in practice).

112. Lawrence J. McQuillan & Mark Kriss, Op-Ed., *To Revive New York's Economy, Attack Lawsuit Abuse*, N.Y. DAILY NEWS, Nov. 18, 2009, http://www.nydailynews.com/opinions/2009/11/18/2009-11-18_to_revive_new_yorks_economy_attack_lawsuit_abuse.html.

that the legal climate was a factor in business location decisions.¹¹³ Such a significant factor should show up in economic outcome measurements.

Some research has already tested the effects of tort law on economic variables. Much of this research has involved particular areas of law (such as medical malpractice), individual doctrines (such as joint and several liability) or discrete economic measures (such as labor productivity). Unfortunately, there is little research on overall economic effects of the tort litigation environment. The research that exists is generally not rigorous. This Section begins by reviewing the leading empirical studies on economic effects of tort law.

A. STUDIES OF TORT REFORM

A movement to reform tort law, generally in a pro-defendant direction, began in the 1980s and continues to this day.¹¹⁴ Some have sought to assess the effects of tort law by examining the before and after effects of tort reform, typically with respect to the operation of the legal system. Thus, placing caps on noneconomic damages was associated with reduced litigation¹¹⁵ and reduced damage awards.¹¹⁶ A variety of reforms had the effect of reducing general liability losses.¹¹⁷ However, these studies do not directly measure the overall economic effects of tort reform.

Some have analyzed the general economic effects of tort reform, including medical malpractice and its effect on the

113. John N. Frank, *Do Legal Costs Really Drive Up the Cost of Doing Business in North America? And Is This the Year That All Changes?*, FORWARD ONLINE (May/June 2004), <http://forward.msci.org/articles/0605tort.cfm> (discussing HARRIS INTERACTIVE, 2005 U.S. CHAMBER OF COMMERCE STATE LIABILITY SYSTEMS RANKING STUDY 13 (2005)).

114. For a summary of tort reform efforts and their consequences, see generally CONG. BUDGET OFFICE, *THE EFFECTS OF TORT REFORM: EVIDENCE FROM THE STATES* (2004).

115. Mark J. Browne & Robert Puelz, *The Effect of Legal Rules on the Value of Economic and Non-Economic Damages and the Decision to File*, 18 J. RISK & UNCERTAINTY 189, 190–91 (1999).

116. See Albert Yoon, *Damage Caps and Civil Litigation: An Empirical Study of Medical Malpractice Litigation in the South*, 3 AM. L. & ECON. REV. 199, 203 (2001) (finding that average recovery by plaintiffs decreased after medical malpractice damage caps were implemented).

117. Glenn Blackmon & Richard Zeckhauser, *State Tort Reform Legislation: Assessing Our Control of Risks*, in TORT LAW AND THE PUBLIC INTEREST, *supra* note 103, at 272, 274; W. Kip Viscusi et al., *The Effect of 1980s Tort Reform Legislation on General Liability and Medical Malpractice Insurance*, 6 J. RISK & UNCERTAINTY 165, 176–80 (1993).

medical profession or insurance.¹¹⁸ Other early research considered the effect of liability reforms on state labor productivity.¹¹⁹ The authors found a dramatic effect, with states that adopted tort reform having significantly greater increases in aggregate labor productivity.

The study's simple definition of labor productivity (gross state product divided by employment) may be unreliable. Various other factors can influence labor productivity, including the composition of business for a particular state. The authors considered effects in different industry sectors, but the results were rather mixed—in some cases increased liability was associated with significant productivity increases, in others not.¹²⁰ The authors controlled for political and interest group factors,¹²¹ but a vast number of possible third factors were not controlled for and may well explain the results. The authors acknowledged a possible endogeneity bias (that tort reform correlated with unobserved determinants of productivity) but had no means to test this effect.¹²² Moreover, while labor productivity is a very important economic factor, the study did not measure the externalities from liability reform and largely misses the economic benefits (i.e. deterrence) of tort liability.

Another study sought to measure the benefits of tort law through accident reduction, but hypothesized that excessive tort law could increase accidents by discouraging innovative and beneficial products.¹²³ The authors measured the effects of tort reforms such as limits on punitive and noneconomic damages, provision for prejudgment interest, collateral source rules, and joint and several liability on states' accidental, non-

118. See, e.g., Ronen Avraham et al., *The Impact of Tort Reform on Employer-Sponsored Health Insurance Premiums*, J.L. ECON & ORG. (forthcoming), available at <http://jleo.oxfordjournals.org/content/early/2010/12/30/jleo.ewq017.full.pdf> (finding that certain tort reforms reduced insurance premiums slightly, by one to two percent).

119. Thomas J. Campbell et al., *The Link Between Liability Reforms and Productivity: Some Empirical Evidence*, 1998 BROOKINGS PAPERS ON ECON. ACTIVITY: MICROECONOMICS, at 107, 108.

120. *Id.* at 126–29.

121. *Id.* at 127.

122. *Id.* at 133.

123. Paul H. Rubin & Joanna M. Shepherd, *Tort Reform and Accidental Deaths*, 50 J.L. & ECON. 221, 235–36 (2007). This hypothesis is grounded in other research showing that there is an optimal level of tort law for innovation and that excess tort liability may reduce beneficial product safety innovation. Viscusi & Moore, *supra* note 94.

motor vehicle death rates.¹²⁴ They found that some tort reforms (such as damage caps) had the effect of reducing accident rates, though other reforms (reforms related to product liability and one type of collateral source reform, admit evidence) were associated with increases.¹²⁵ Overall, states with tort reforms generally had greater decreases in accident rates than those without such reforms and the authors estimated that the net effect of tort reform was to save approximately 24,000 lives.¹²⁶ While this study did not measure economic effects, it struck at the very economic purpose of tort law—to deter causing accidents.

One of the authors, though, subsequently reached different conclusions when examining malpractice laws. She found that caps on total damages and collateral source reforms were associated with an *increase* in deaths.¹²⁷ In addition, the migration of doctors to reform states may have increased deaths in neighboring states, and the reforms disproportionately harmed women.¹²⁸ Much like the general studies on the deterrent effect of tort law, the result of research on tort reform effects is ambiguous. While the authors sought to control for other determinants of death rates, they could consider only a few, and many uncontrolled third variables may have been the true explanation of the results.

As a general rule, studies of tort reform have significant limitations because they do not consider the baseline level of tort law that is being reformed. This may produce selection bias and endogeneity problems. Suppose that there is some optimally efficient state of tort law (say at 0.5). States with more pro-plaintiff tort law systems (say at 0.75) that adopt pro-defendant reforms should show economic benefits. However, a state with more pro-defendant baseline tort law (say at 0.25) that adopted similar pro-defendant reforms would not show these benefits, because it would be moving further away from the optimum. Thus, a study of reform without considering the baseline tort law reformed may produce distorted results.

Consider how a focus on tort reform legislation might yield misleading results in the tort context. It is plausible that more pro-plaintiff states, with inefficient baseline law, are more likely to adopt tort reforms. Because these states begin with a

124. Rubin & Shepard, *supra* note 123, at 229.

125. *Id.*

126. *Id.* at 235.

127. See Shepherd, *supra* note 14, at 970.

128. *Id.*

baseline that is excessive, those reforms should tend to show positive effects. But the positive effect comes not from the content of the reforms themselves so much as from the shift in the underlying baseline. One could not necessarily expect other states, with a baseline tort law that is more pro-defendant, to gain positive results from further tort reforms. Similarly, the association between tort reform and reduced accidental deaths might be an artifact of the states that adopted tort reform being those where such action was beneficial.

This is evident from the study of the effect of tort reform measures on labor productivity.¹²⁹ Reforms that decreased liability had a very positive, statistically significant, effect on labor productivity in the finance, insurance, and real estate sector.¹³⁰ However, the study found that reforms that increased liability also had a (slightly less) positive, statistically significant effect on labor productivity in this sector.¹³¹ While this might be attributable to mere random noise, it also might show an efficient selection effect—those states were moving their baseline law in the direction of optimality.

This possible selection effect bias is but one example of how studies of tort reform may be skewed. Research on costs shows that the states most likely to adopt medical malpractice tort reform are also those with managed care,¹³² so that the results may not simply be attributable to the tort reform but instead to a third factor, or a third factor combined with tort reform. Consequently, the baseline level of tort liability law must be examined.

While the studies of tort reform provide us with some information, the selection effect problems mean that they have significant limitations in describing the economic effects of tort law. It is the baseline overall status of tort law that must be evaluated economically. I move on to undertake such a test, using the Chamber of Commerce and PRI measures of interstate differences in tort law. The following Section presents my analysis of these scales on various economic measures.

129. Campbell et al., *supra* note 119, at 127.

130. *Id.*

131. *Id.*

132. See Darius N. Lakdawalla & Seth A. Seabury, *The Welfare Effects of Medical Malpractice Liability* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 15,383, 2009), available at <http://ssrn.com/abstract=1478801>.

B. THE ECONOMIC EFFECTS OF TORT LAW

As discussed above, some have studied the effect of tort law on economic variables, such as innovation.¹³³ Other research on individual products found that lessened liability tends to reduce product prices.¹³⁴ There is little rigorous evidence, though, on the overall economic effect of different tort liability standards.

Some existing research, though not peer reviewed, has gone beyond the tort reform context and sought to examine the effects of baseline tort standards, using the PRI and Chamber of Commerce measures. These studies will be discussed in more depth later in this paper. A PRI study found that states with better rankings on their measure of tort law had better state gross domestic product growth, labor earnings growth and tax revenue increases.¹³⁵

Another study used the Chamber of Commerce index and found that higher rankings on that scale were associated with better state per capita economic growth.¹³⁶ This brief study considered only state growth rates from 1995 to 1999.¹³⁷ The research contained no control variables whatsoever to account for possible third factors and its results are therefore quite tentative.

This existing research is relatively crude and conducted by conservative or business groups devoted to reducing tort liability. A liberal, anti-tort reform group has conducted its own research and found no association between tort costs and factors such as innovation and productivity.¹³⁸ This analysis was likewise crude, though, and may also have been infected by the bias of the researchers.

133. See Viscusi & Moore, *supra* note 94.

134. See, e.g., Richard L. Manning, *Changing Rules in Tort Law and the Market for Childhood Vaccines*, 37 J.L. & ECON. 247, 273 (1994); Richard L. Manning, *Products Liability and Prescription Drug Prices in Canada and the United States*, 40 J.L. & ECON. 203, 234 (1997).

135. LAWRENCE J. MCQUILLAN & HOVANNES ABRAMYAN, PAC. RESEARCH INSTITUTE, U.S. TORT LIABILITY INDEX: 2006 REPORT 71-77 (2006), available at http://www.pacificresearch.org/docLib/2006_Tort_Index.pdf.

136. TODD G. BUCHHOLZ & ROBERT W. HAHN, U.S. CHAMBER INST. FOR LEGAL REFORM, DOES A STATE'S LEGAL FRAMEWORK AFFECT ITS ECONOMY? 4-5 (2002), available at http://www.instituteforlegalreform.com/get_ilr_doc.php?id=1018.

137. *Id.* at 5.

138. Chimerine & Eisenbrey, *supra* note 71, at 10.

International evaluations are complicated by substantial differences among nations (other than tort litigation). The role of government in these countries differs, as do their cultures.¹³⁹ Moreover, reliable international data on litigation is quite limited. Consequently, cross-national research offers less promise for assessing the economic effects of tort litigation.

The American states offer greater promise as a laboratory for a general study of the effects of tort law. While there are various cultural and other differences among the states, they are surely more similar than different nations and are part of a single market, with little restriction on interstate commerce. A great deal of data is available on the states for use in an empirical analysis. The most uncertain data is on the state of different tort liability systems, and I use both the Chamber and PRI measures in this analysis.

It has been argued that “[m]uch of what we think we know about the behavior of the tort litigation system is untrue, unknown, or unknowable.”¹⁴⁰ Since this time, though, additional information has become available, such as the Chamber and PRI studies, which enable us to understand more. While I would not purport to have ascertained the final answers, this research may illuminate the effects of tort law on economic matters of interest.

III. THE MEASURES OF TORT LAW USED IN THIS STUDY

Quantitatively evaluating the effect of tort law on the economy requires some measure of the state of tort law. The United States provides the states as a laboratory—while our states share much tort law in common, they also have distinctive differences. History has seen some dramatic differences in state tort law (e.g., comparative vs. contributory negligence, strict product liability). Today, the differences in state tort law are not so great, but material differences remain, and they

139. See, e.g., Herbert M. Kritzer, *Propensity to Sue in England and the United States of America: Blaming and Claiming in Tort Cases*, 18 J.L. & SOC'Y 400, 400 (1991) (suggesting that different litigation practices in these nations “reflect fundamental cultural perspectives”).

140. Saks, *supra* note 12, at 1149; see also F. Patrick Hubbard, *The Nature and Impact of the “Tort Reform” Movement*, 35 HOFSTRA L. REV. 437, 476–77 (2006) (suggesting that “because of the limitations on the available data concerning the operation of the tort system and the effect of reforms, there is no way to be sure whether the tort system hinders innovation, competitiveness, or access to healthcare, whether it provides an improper level of incentives for safety, or whether tort reform will reduce any undesirable effects”).

have been considered significant. To conduct an empirical study of such differences requires some quantitative measure, and at least two are available and will now be summarized.

A. CHAMBER OF COMMERCE

In 2002, the United States Chamber of Commerce began publishing a survey evaluating state tort law systems, which has become the best-known rating system for tort law.¹⁴¹ The Chamber employed Harris Interactive to conduct telephone interviews of a “nationally representative sample of in-house general counsel, senior litigators and other senior attorneys who are knowledgeable about litigation matters at companies with annual revenues of at least \$100 million.”¹⁴² Of the 957 respondents, only 6% were from insurance companies.¹⁴³ The survey is not limited to tort litigation but also considers contract law.¹⁴⁴

The survey respondents were asked to give grades ranging from “A” to “F” on twelve topics. The issues rated for each state were¹⁴⁵:

- Having and enforcing meaningful venue requirements,
- Overall treatment of tort and contract litigation,
- Treatment of class action suits and mass consolidation suits,
- Punitive damages,
- Timeliness of summary judgment or dismissal,
- Discovery,
- Scientific and technical evidence,
- Non-economic damages,
- Judges’ impartiality,
- Judges’ competence,
- Juries’ predictability, and
- Juries’ fairness.

The respondents’ assessments are then cumulated to provide a mean grade for each category and the mean grades are averaged to provide an overall state grade.¹⁴⁶

141. Here, I analyze the 2008 study. HARRIS INTERACTIVE, 2008 U.S. CHAMBER OF COMMERCE STATE LIABILITY SYSTEMS RANKING STUDY (2008).

142. *Id.* at 6.

143. *Id.*

144. *Id.*

145. *Id.*

146. *Id.* at 7.

The topics are not ideal for a study of tort law. While some seem largely focused on tort issues (punitive damages, non-economic damages), others are much broader (e.g., assessing the quality of judges across the board). In addition the “overall treatment” category would seem to take account of other categories, yet they are all added together and given equal weight for an overall score.¹⁴⁷

The Chamber of Commerce ratings of tort law have been criticized by Theodore Eisenberg.¹⁴⁸ He complains that the Chamber’s survey reflects a biased sample, because it reflects only the views of those on the business side of litigation.¹⁴⁹ He also identifies an apparent correlation between ratings and state population.¹⁵⁰ Another potential bias arises from the fact that the survey’s respondents were provided with the results from preceding years.¹⁵¹ Eisenberg proceeds to demonstrate the apparent inaccuracy of the ratings on particular legal measures, such as punitive damages and class action treatment.¹⁵² The high intercorrelation of state assessments on different legal measures suggests to him that some underlying “latent” factor explains the relative ratings of the states.¹⁵³ In response to these criticisms, a representative of the survey company explained that the goal of the research was to measure perception, not the actual state of the law, and the negative effects of tort liability may primarily be the result of perceptions.¹⁵⁴

While the perception defense has some value, it undermines the true test of tort law, insofar as the rating may not reflect actual change in the laws. Alabama, for example, has seen

147. *Id.*

148. Theodore Eisenberg, *U.S. Chamber of Commerce Liability Survey: Inaccurate, Unfair, and Bad for Business*, 6 J. EMPIRICAL LEGAL STUD. 969 (2009).

149. *Id.* at 974–75.

150. *Id.* at 995–97. While Eisenberg suggests this is a reflection of the frequency of litigation, *id.*, it is also plausible that larger states may have features that produce more pro-plaintiff law.

151. *Id.* at 977.

152. *Id.* at 982–87.

153. *Id.* at 988–92.

154. See GARY L. GITTINGS & JOHN W. BAGBY, MANAGING PRODUCT LIABILITY TO ACHIEVE HIGHWAY INNOVATIONS 4 (Nat’l Coop. Highway Research Program, Synthesis of Highway Practice No. 265, 1998) (suggesting that “[p]erception versus reality of product liability [is] a barrier to innovation”); Alan S. Miller & Lawrence R. Holzman, *Products Liability and Associated Perceptions of Risk*, 19 ANN. REV. ENERGY & ENVIRON. 347, 353 (1994) (noting that “current perceptions of products-liability risk ‘chills’ innovation in technological endeavors”).

a significant change in its tort law regime, without a corresponding shift in Chamber of Commerce evaluations.¹⁵⁵ This suggests that actual tort law rules do not drive perceptions as measured by the survey, which would undermine any argument for changing actual rules. However, it is also possible that it takes time for perceptions to change. Businesses may wait to see how new legal rules influence trial practice before changing their impression of a state's tort environment.

The overall impact of Eisenberg's criticisms is uncertain. There is no reason to think respondents are biased between states. Moreover, business perceptions of state law could be the more accurate reflection of the effect of tort law in a given state.¹⁵⁶ Judges are very deferential to jury verdicts, and judges themselves may apply the law differently for ideological or other reasons. Finally, the existence of an underlying factor does not undermine the validity of the test—in fact, such a factor is precisely what we are talking about when we discuss the effects of tort law on the economy.

One study using the Chamber of Commerce measures provides some empirical evidence for its accuracy.¹⁵⁷ The authors used the scale as a variable to predict automobile liability expenses.¹⁵⁸ If there were no correlation between the Chamber's score and reality, there should be no correlation between the score and liability expense. Yet the study found a significant association between the Chamber's score and the two proxies used for automobile liability costs: premiums for automobile liability insurance per vehicle and automobile liability losses and loss adjustment expenses incurred per vehicle.¹⁵⁹ The authors found that if the liability environments in all states were at the level of the Chamber's top scoring state (Delaware), there would be a total savings of nearly \$23 billion.¹⁶⁰

155. Eisenberg, *supra* note 148, at 994–95. Indeed, a review of rankings over the years since 2002 shows a high level of intertemporal consistency (Delaware was ranked first every year), though some states show significant variation. See HARRIS INTERACTIVE, *supra* note 141, at 96.

156. Daniel Kessler, *Fault, Settlement, and Negligence Law*, 26 RAND J. ECON. 296, 296 (1995). The study concluded that the “letter of the law may be less important in shaping individual’s behavior than scholars have supposed.” *Id.* at 309.

157. Robert E. Hoyt & Lawrence S. Powell, *The Effect of Liability Environment on Tort System Costs: Evidence from Automobile Insurance* (Sept. 2005) (unpublished manuscript), available at <http://ssrn.com/abstract=808404>.

158. *Id.* at 21.

159. *Id.* at 14–18.

160. *Id.* at 19.

The results of this study give some assurance that the Chamber's measure captures something about the state's tort liability system, even if its measures for individual variables were considered unreliable. Others have expressed confidence in the Chamber's "ability to measure the quality of courts" as well.¹⁶¹ Perhaps the individual measures are not entirely accurate, but the overall measure may capture some latent feature of the state's judicial system that is either pro-plaintiff or pro-defendant. While this finding may limit the value of the scale for tort reform purposes, it can still be used for assessing the effect of the system on the economy. If the perceptions appeared to have a significant economic effect, independent of the content of the law itself, a state would certainly want to explore ways to change those perceptions.

B. PACIFIC RESEARCH INSTITUTE

A second index of different state tort liability systems was prepared by Pacific Research Institute (PRI).¹⁶² In contrast to the survey approach of the Chamber of Commerce, PRI attempted to measure the actual law of each state on twenty-eight separate measures, not merely perceptions of the law.¹⁶³ These measures include¹⁶⁴:

- Existence of a cap on appeal bonds,
- Existence of caps on non-economic damages (excluding medical-malpractice lawsuits),
- Existence of caps on punitive damages (excluding medical-malpractice lawsuits),
- Caps on damage awards in medical-malpractice lawsuits
- Nature of class-action rules,
- Existence of attorney contingency-fee limits (excluding medical-malpractice lawsuits),
- Use of contributory, comparative, or modified-comparative standard for plaintiff's negligence,
- Nature of rules on joint and several liability,
- Nature of rules on early offers of settlement,

161. *E.g.*, Daniel Berkowitz & Karen Clay, *The Effect of Judicial Independence on Courts: Evidence from the American States*, 35 J. LEGAL STUD. 399, 413 (2006).

162. MCQUILLAN & ABRAMYAN, *supra* note 31.

163. *Id.* at 3.

164. *Id.* at 24.

- Existence of an “*Illinois Brick* repealer” statute for anti-trust litigation,¹⁶⁵
- Existence of attorney-retention sunshine rules for state litigation,
- Reforms of collateral source rule,
- Nature of jury service rules,
- Existence of attorney-fee limits in medical malpractice cases,
- Pre-trial screening or arbitration in medical malpractice cases,
- Asbestos- and silica-liability rules,
- Construction liability rules,
- Existence of an FDA or FTC compliance defense,
- Retailer and manufacturer product liability rules,
- Exemptions for junk food or obesity claims,
- Appointment or election of state supreme court justices,
- Existence of a “harmful” attorney general,
- Nature of venue rules,
- Standards for expert witnesses,
- Conditions for expert witnesses in medical-malpractice litigation,
- Statute of limitations for medical-malpractice litigation,
- Size of juries and majority requirements, and
- Existence of a complex litigation court.

This index is focused more specifically on torts than the Chamber of Commerce measure, but does include some measures related to statutory enforcement or litigation more broadly.¹⁶⁶ The list of topics measured is quite extensive but some are rather narrow (e.g., availability of junk food lawsuits). The correlation among the different scores is quite low, in contrast to the Chamber survey.¹⁶⁷

The choice of some variables in the PRI list is questionable. For example, PRI assumes that the existence of a separate court for complex litigation is pro-defendant, but this could be

165. In *Illinois Brick Co. v. Illinois*, the Supreme Court held that only direct purchasers can sue for damages arising from antitrust violations. 431 U.S. 720, 746 (1977). Most states have passed laws, called “*Illinois Brick* repealers,” that allow other victims to sue as well. Robert H. Lande, *New Options for State Indirect Purchaser Legislation: Protecting the Real Victims of Antitrust Violations*, 61 ALA. L. REV. 447, 447–48 (2010).

166. MCQUILLAN & ABRAMYAN, *supra* note 31, at 24.

167. *Id.* at 40–45.

disputed.¹⁶⁸ PRI also prefers appointment to the election of state supreme court judges, but the effect of this process is by no means certain.¹⁶⁹ Presumably, these factors are based upon the perceptions of which legal variables are significant to business and in many cases the PRI variable was grounded in some research on the relevance of the particular variable to economic consequences.¹⁷⁰

PRI cumulates its legal scores into what it calls an input ranking of the overall state of a state's tort law.¹⁷¹ The twenty-eight separate variables were ranked among the states, and an average ranking was produced for the input index, giving each variable equal weight.¹⁷² This is of course questionable, as the effect of each variable is not the same. The numeric scores were also treated as linear differentials, though this may be inaccurate. In addition, the numeric scaling of each particular variable was necessarily arbitrary,¹⁷³ which is compounded by the

168. There is a theory that a specialized business court, characterized by PRI as a complex litigation court, would "attract top-notch judges, with expertise and sensitivity to business issues" or that such a court would "lead to more predictable, consistent and prudent" results. Ember Reichgott Junge, *Business Courts: Efficient Justice or Two-Tiered Elitism?*, 24 WM. MITCHELL L. REV. 315, 317 (1998). However, this has not been demonstrated by rigorous study, and the effect of such courts is "unproven." *Id.* at 318. If these courts were preferable to companies, one might expect that they would diminish reliance on arbitration clauses, but this does not appear to be the case. See Christopher Drahozal, *Business Courts and the Future of Litigation*, 10 CARDOZO J. CONFLICT RESOL. 491, 492 (2009).

169. See, e.g., Frank B. Cross, *Thoughts on Goldilocks and Judicial Independence*, 64 OHIO ST. L.J. 195, 196 (2003) (studying declarations of unconstitutionality and finding some effect of the merit plan selection system but not other forms of judicial selection); Victor Eugene Flango & Craig R. Ducat, *What Difference Does Method of Judicial Selection Make?*, 5 JUST. SYS. J. 25, 39 (1979) (finding little variation in judiciaries by selection method). There are various forms of appointment and elections (partisan or nonpartisan) among the states. The simple binary division may be misleading. And the conclusions favoring appointment can also be questioned. For example, merit plan selection methods (a form of appointment) have been linked to more appellate litigation. F. Andrew Hanssen, *On the Politics of Judicial Selection: Lawyers and State Campaigns for the Merit Plan*, 110 PUB. CHOICE 79, 80 (2002). Elections, conversely, may be used by business groups to turn tort law in a more pro-defendant direction, as occurred in Texas. See Anthony Champagne, *Tort Reform and Judicial Selection*, 38 LOY. L.A. L. REV. 1483, 1483-84 (2005) (discussing success in reversing pro-plaintiff Texas law).

170. MCQUILLAN & ABRAMYAN, *supra* note 31, at 23.

171. *Id.* at 40-45.

172. *Id.* at 39.

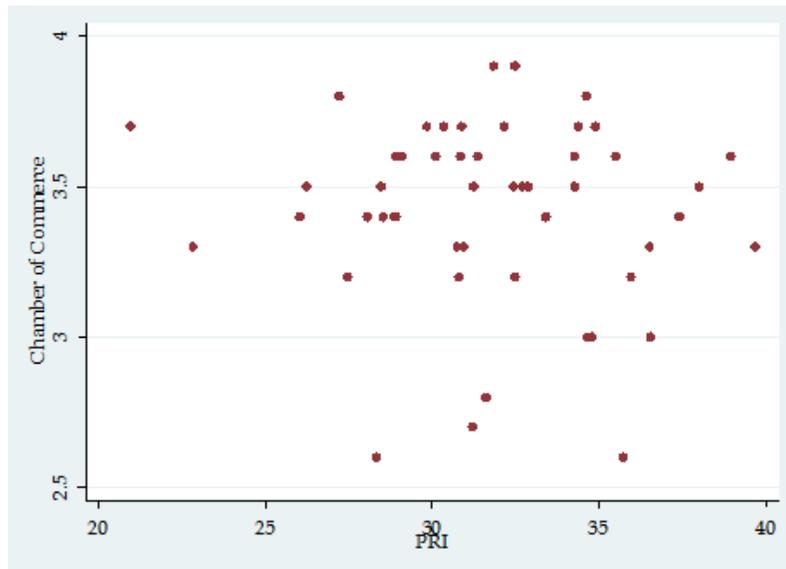
173. The rankings were between 1 and 50, but varied depending on the number of discernible gradations for the measure. *Id.* If the researchers could divide the states into three categories, they received numeric ratings of 1, 25.5,

cumulation of the numeric scores, but the overall figures may generally reflect the tort system of a state.

C. COMPARING THE SCALES

Both the Chamber of Commerce and PRI studies attempt to measure the characteristics of the states' laws and the degree to which they favor plaintiffs, and are often taken as evidence of the relative state liability regimes.¹⁷⁴ The Chamber and PRI scales, based respectively on perception and description of legal content, are also readily comparable. The association of states on the Chamber's overall measure and the PRI's input score scales is displayed in Figure 1. The metrics differ in that a lower score is better on the PRI scale but worse on the Chamber's scale. If they correlated as expected, one would see a line slanting downward from the upper-left to the lower-right of the graph.

Figure 1
Comparative Tort Liability Scores



and 50. If they were divided into five categories, the states would be rated at 1, 13.25, 25.5, 37.75, and 50. *See id.* Of course, there was no attempt to determine if the difference between 1 and 13.25 was equivalent to the difference between 37.75 and 50. *See id.*

174. *Id.* at 1; HARRIS INTERACTIVE, *supra* note 141, at 6.

There is no obvious association between the two metrics. The reasonably large number of data points in the upper-right quadrant of the graph represents states that the Chamber of Commerce considers relatively good on tort law but PRI grades as relatively bad. Illinois, for example, ranks forty-sixth on the PRI scale (fifth-worst state), but ranks fifth-best on the Chamber of Commerce measure. Large disparities also exist for other states. The highest level of agreement is probably for Louisiana, which ties for the worst state on the Chamber measure and is the eighth-worst state according to PRI.

One possible explanation for the lack of association is the simple fact that they do not purport to measure the same thing. The Chamber measures perceptions,¹⁷⁵ while PRI measures legal content.¹⁷⁶ Moreover, they do not even measure the same legal dimensions. A few broad issues, including general legal quality, are measured in the Chamber study,¹⁷⁷ while PRI measures numerous, often quite specific, legal doctrines.¹⁷⁸

Comparing the ratings for expert evidence between the two scales is informative. PRI measures the standard for admissibility of expert witnesses with a scale including use of the more rigorous *Daubert* standard.¹⁷⁹ The Chamber measured perceptions of the state's standards for scientific and technical evidence,¹⁸⁰ which is vague but seems similar to the PRI standard. Figure 2 presents the state scores on the two measures. A true correlation should show a downwards slanting line.

175. See *supra* note 154 and accompanying text.

176. See *supra* note 163 and accompanying text.

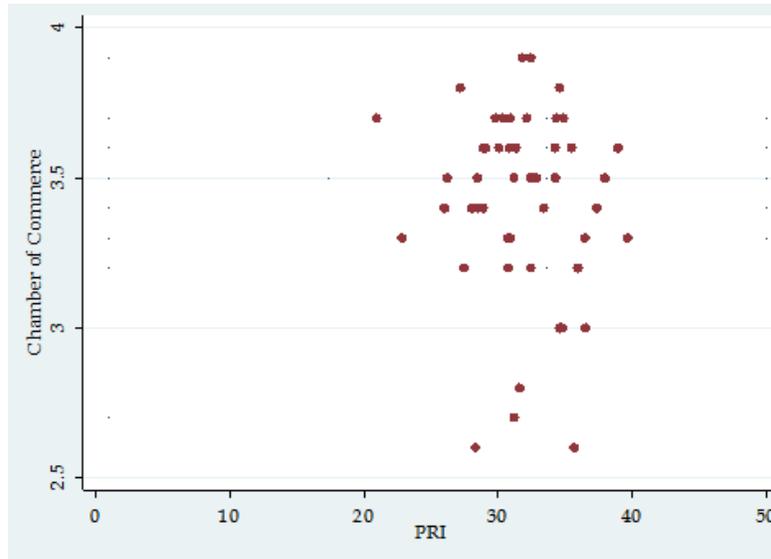
177. See *supra* notes 144–47 and accompanying text.

178. See *supra* note 164 and accompanying text.

179. MCQUILLAN & ABRAMYAN, *supra* note 31, at 36–37.

180. See *supra* note 145 and accompanying text.

Figure 2
Comparative Expert Evidence Scores



Both scales purport to measure roughly the same thing. A regression of the two shows no significant association between the measures. Further exploration reveals that the one PRI variable that has the strongest expected statistically significant relationship with the Chamber's overall measure was the election of state supreme court justices, not any of the specific doctrinal measures. The lack of correlation for the two measures is surely troubling.

Given the lack of association between the two measures of tort law, it may be that measured business perceptions do not reflect the substance of the state's law. It seems reasonable to assume that if tort law is indeed important to business success the two would be highly correlated. Perhaps some states have done effective public relations work and fooled businesses about the nature of their tort system. Or perhaps one (or both) of the measures is simply inaccurate (such as suggested by Eisenberg's evaluation of the Chamber of Commerce study). It is also possible that PRI's measures of actual legal content missed the issues that businesses consider truly important as assessed by the Chamber's survey of business perceptions. In this research,

I will use both measures to examine economic effects of tort law.¹⁸¹

IV. AN ANALYSIS OF ECONOMIC EFFECTS OF STATE TORT LAW

This Part presents my empirical assessment of the economic effects of tort law in the United States, using the Chamber and PRI measures. Evaluating the economic effect of tort law is difficult. For one thing, which variables most accurately demonstrate the effects of tort law on the economy is far from clear. One must also control for third variables that may prove the true determinant of state economic measures.

One additional problem with state law comparisons involves spillover effects. The laws of a given state will affect practices in other states. A national enterprise must consider the laws of all states in its manufacturing and production decisions. A plaintiff might arise from any state, and the opportunity for plaintiff forum shopping allows litigation to focus on the most pro-plaintiff jurisdiction. While in theory such an enterprise may forego participation in a given state, doing so necessarily involves sacrificing a great deal of business. Thus, differences in state law may not matter so much if, for example, each business must adapt to the content of the strictest state law. While this spillover effect does not entirely undermine interstate comparisons, it mutes their relative effects. State courts may even discriminate against out-of-state defendants.¹⁸² Practically speaking, this spillover effect means that any discovered differences are probably understatements of the true economic effects of tort law.

A. INDEPENDENT VARIABLES

The object of this study is to test the effect of tort law, which requires some measure of the state of tort law in a state. There is no one conclusive measure, so I will employ several, discussed below. I also control for various other factors that

181. In its 2006 report, PRI suggested that the “two rankings are best viewed as complements.” MCQUILLAN & ABRAMYAN, *supra* note 135, at 53.

182. See, e.g., Eric Helland and Alexander Tabarrok, *Exporting Tort Awards*, 23 REG., no. 2, 2000 at 21, 23–26 (finding that states tend to impose higher liability on out-of-state defendants). At least for elected state judiciaries, the “ability to transfer vast amounts of wealth from out-of-state corporations may be the crucial factor driving the tort law crisis.” Zywicki, *supra* note 45, at 15.

may be correlated with the dependent variables of interest and the tort law variables such as quality of states' court systems, population, and urbanization. The available data is for one year (2008), so a standard OLS cross-sectional regression method is used in the study. The regression takes the form:

$$Y = B + B_i I + B_n N + u$$

Where Y is the dependent variable of interest, B is the constant, I is the measure of tort law (Chamber or PRI), N represents all the additional control variables used in the equation, and u is a random disturbance term.

1. Tort Variables

The Chamber of Commerce's overall measure and the PRI input measure are designed to capture the full scope of a state's tort law and the degree to which it may be pro-plaintiff. They are obvious independent variables for use in this research. However, as discussed above, both scales are imperfect for this test. The Chamber measure is a test only of perceptions and has been questioned for its reliability.¹⁸³ The PRI measure is of the actual legal rules of the state but it cannot address *all* the tort rules of the state. Some of the rules comprising the measure may not be the important ones, while other important rules may have been omitted. PRI did not select the measured rules randomly, though, and the chosen rules were those considered to be salient by "legal experts, university professors, and lawyers."¹⁸⁴

While neither the Chamber nor the PRI measures are perfect scales for the effects of tort law, they are the best available and provide reasonable measures. The Chamber's measure of business perceptions should reflect how business assesses tort law, which influences business decision making. The PRI's measure of actual tort doctrines is an even more direct measure of the composition of a state's tort regime.

183. See Eisenberg, *supra* note 148, at 1001–02.

184. MCQUILLAN & ABRAMYAN, *supra* note 31, at 2. Accompanied by an "exhaustive search of the academic-journal literature," as well as state tort-reform actions, PRI recognized that the variables were not exhaustive and suggested variables for some where it could not obtain data. *Id.* at 11.

2. Control Variables

There are also separate factors, other than tort liability, that must be considered as control variables. Many factors influence state economic welfare and it is a daunting task to isolate those. If these additional variables tend to correlate with the tort variables of interest in this study, they may create a spurious association. In this Section I identify several general control variables that might plausibly skew associations between tort liability and general economic measures.

One variable is the quality of the court system itself. Berkowitz and Clay have found that the states settled by civil law nations had lower quality courts and less independent judiciaries.¹⁸⁵ To control for this possible effect, I create a binary variable for whether the state was civil law or common law in origin.

Another relevant external control variable is *urbanization*, the percent of a state's population that lives in cities. Such proximate living is likely to produce more torts and more tort litigation.¹⁸⁶ The greater litigation may have an effect on the content of tort law. One study found that urbanization was strongly correlated with "earlier adoptions of the tort innovations" studied, due to more opportunities to shape the law.¹⁸⁷ Those in urban areas may be "particularly affected by the high costs of the tort system."¹⁸⁸ In addition, one would expect urbanization to be associated with our economic dependent variables, so it is used as a control variable.

185. Daniel Berkowitz & Karen Clay, *American Civil Law Origins: Implications for State Constitutions*, 7 AM. L. & ECON. REV. 62, 65, 68 tbl.1 (2005); Berkowitz & Clay, *supra* note 161, 416–31 (2006).

186. See, e.g., Richard A. Posner, *Explaining the Variance in the Number of Tort Suits Across U.S. States and Between the United States and England*, 26 J. LEGAL STUD. 477, 480 (1997) (noting that suits are "more likely in an urban setting" because the "parties to accidents are more likely to be strangers" and because "lawyers are disproportionately concentrated in urban areas"); Hand-Duck Lee et al., *How Does Joint and Several Tort Reform Affect the Rate of Tort Filings? Evidence from the State Courts*, 61 J. RISK & INS. 295, 303 (1994) (providing additional reasons why urbanization would be "positively correlated with the rate of tort filings"). There is a clear positive association of urbanization and the frequency of medical malpractice claims. Patricia Danzon, *The Frequency and Severity of Medical Malpractice Claims*, 27 J.L. & ECON. 115, 143 (1984).

187. James M. Lutz, *Regional Leaders in the Diffusion of Tort Innovations Among the American States*, 27 PUBLIUS 39, 42 (1997).

188. STAFF OF JOINT ECON. COMM., 104TH CONG., IMPROVING THE AMERICAN LEGAL SYSTEM: THE ECONOMIC BENEFITS OF TORT REFORM 1 (Comm. Print 1996), *reprinted at* <http://www.house.gov/jec/tort/tort/tort.htm>.

Another control variable to consider is the role of other branches of state government. As noted above, tort law may have a smaller role in Europe simply because its function is assumed by legislative or executive branches. Consequently, what appears to be a more pro-defendant approach to tort law may be the result of a larger legislative or executive role in protecting accident victims. In the United States, however, pro-defendant tort law appears to correlate with other governmental economic freedom protections.¹⁸⁹ If so, this association could distort analysis—the apparent economic effects of tort law might truly be those of other economic freedoms. To test this effect, I use a measure of *government size* for each state.¹⁹⁰

The state's *ideology* may also be relevant to the results. One might expect that more liberal ideological states would have a more pro-plaintiff set of tort law rules and they may well have juries who are more sympathetic to plaintiffs. Yet such states would also be expected to have more anti-business regulatory policies as well. Suppose the research found that more pro-plaintiff tort law was associated with less economic growth. If pro-plaintiff states also had more business regulation, that effect might actually be due to the greater regulation, not the tort laws. Hence, a control for ideology is necessary. I use the percent of popular vote in each state won by President Obama in the most recent presidential election.¹⁹¹

Yet another important variable is the state's level of *human capital*. More educated populations are conducive to economic growth. This measure has been widely used in international research, where educational investments have been a major determinant of future economic growth.¹⁹² One study found that the growth in years of schooling in the United States explained about 25% of the nation's growth of per capita income for much of the twentieth century.¹⁹³ The "evidence is 'now quite strong of a close link between investments in human capi-

189. MCQUILLAN & ABRAMYAN, *supra* note 135, at 56.

190. The data for this measure comes from AMELA KARABEGOVIĆ & FRED MCMAHON, THE FRASER INSTITUTE, ECONOMIC FREEDOM OF NORTH AMERICA: 2008 ANNUAL REPORT (US EDITION) 64 tbl.3.5, 66 tbl.3.6 (2008).

191. *Election Results 2008*, N.Y. TIMES, Oct. 9, 2008, <http://elections.nytimes.com/2008/results/president/votes.html>.

192. Robert J. Barro, *Economic Growth in a Cross Section of Countries*, 106 Q.J. ECON. 407, 412 (1991).

193. EDWARD F. DENISON, TRENDS IN AMERICAN ECONOMIC GROWTH, 1929–1982, at 15–16 (1985).

tal and growth.”¹⁹⁴ Research has confirmed this effect on a state-by-state basis.¹⁹⁵ There are various ways to assess relative human capital, but for this study, I use a measure of the percentage of a state’s population that has attained a Bachelor’s or more advanced degree.¹⁹⁶

Another control variable involves a state’s relative economic reliance on *manufacturing*. Industrial composition may influence growth rates, and different states are more or less dependent on manufacturing, as opposed to services.¹⁹⁷ Similarly, undue reliance on any sector may affect growth rates as economies change.¹⁹⁸

A final variable of concern is the state’s *social capital*, a sociological concept that involves the interconnectedness of individual’s in a society.¹⁹⁹ The concept obtained some notoriety with the publication of Richard Putnam’s *Bowling Alone*, which stressed the significance of social capital for a successful society and lamented its decline in this nation.²⁰⁰ There is also a “widespread consensus” that social capital can “promote economic progress.”²⁰¹ The consensus is backed by international

194. Gary S. Becker et al., *Human Capital, Fertility, and Economic Growth*, 98 J. POL. ECON. S12, S13 (1990).

195. See Gerald A. Carlino & Richard Voith, *Accounting for Differences in Aggregate State Productivity*, 22 REGIONAL. SCI. & URB. ECON. 597, 616 (1992) (finding a significant role for human capital on state productivity differentials); Gasper A. Garofalo & Steven Yamarik, *Regional Convergence: Evidence from a New State-by-State Capital Stock Series*, 84 REV. ECON. & STAT. 316, 316 (2002) (finding a significant role for human capital on state growth).

196. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2011, at 151 tbl.229 (2011), available at <http://www.census.gov/compendia/statab/2011/tables/11s0229.pdf>.

197. For an example of the significance of this variable, see W. Robert Reed, *The Determinants of U.S. State Economic Growth: A Less Extreme Bounds Analysis*, 47 ECON. INQUIRY 685 (2009).

198. Edward L. Glaeser et al., *Growth in Cities*, 100 J. POL. ECON. 1126, 1150 (1992) (reporting value of diversification).

199. For a summary of the concept, see Alejandro Portes, *Social Capital: Its Origins and Applications in Modern Sociology*, 24 ANN. REV. SOC. 1, 3–6 (1998). The concept is somewhat vague, but has been called “the social glue that produces cohesion” and “also a set of cognitive aptitudes and predispositions.” Joseph E. Stiglitz, *Formal and Informal Institutions*, in SOCIAL CAPITAL: A MULTIFACETED PERSPECTIVE 59, 60 (Partha Dasgupta & Ismail Serageldin eds., 2000).

200. ROBERT D. PUTNAM, *BOWLING ALONE* *passim* (2000).

201. Kenneth J. Arrow, *Observations on Social Capital*, in SOCIAL CAPITAL: A MULTIFACETED PERSPECTIVE, *supra* note 199, at 3; see also PUTNAM, *supra* note 200, at 319–20 (providing evidence of the relationship).

empirical research.²⁰² Each of the following regressions will employ these control variables. While many other variables could affect state economic growth, the number of cases to be studied is necessarily limited to fifty, so parsimony in independent variables is required.

B. DEPENDENT VARIABLES

The next question involves the economic measures that should be used to test the effects of tort law. While the ultimate concern is overall economic welfare, such a broad measure is more subject to confounding outside variables, so I also analyze other categories. Ideally, the overall economic results should be bolstered by more specific economic measures, which would suggest the pathway through which the overall results occur.

I begin by examining the costs of several types of insurance against tort liability, which should identify the true costs of a tort system. I then consider the associations of tort law on overall economic success of the states and on particular economic variables (such as productivity and foreign direct investment). Finally, I evaluate effects on measures of entrepreneurship, where interstate tort differences should reveal their most profound effects.

1. Insurance Costs

Tort liability supposedly hurts the economy through unwarranted liability awards, forcing people and companies to bear undue costs, which cannot be put to more efficient ends, and perhaps to forego introducing valuable new products. Hence, if the expected harm is occurring, this should appear in the form of higher liability costs. There is no comprehensive measure of cumulative liability awards in a state and, even if there were, much of the cost would be found in private settlements.²⁰³ While there is no good measure for actual liability, a good proxy could be found in insurance costs. Studies have

202. See, e.g., Stephen Knack & Philip Keefer, *Does Social Capital Have an Economic Payoff? A Cross-Country Investigation*, 112 Q.J. ECON. 1251, 1251 (1997); Stephen Knack, *Social Capital, Growth, and Poverty: A Survey of Cross-Country Evidence*, in *THE ROLE OF SOCIAL CAPITAL IN DEVELOPMENT: AN EMPIRICAL ASSESSMENT* 42, 44–45 (Christiaan Grootaert & Thierry van Bastelaer eds., 2002); Paul F. Whitley, *Economic Growth and Social Capital*, 48 POL. STUD. 443, 460 (2000).

203. See Huber & Litan, *supra* note 3, at 1 (observing that “most cases are settled, and the settlements, which are much more difficult to monitor and aggregate than verdicts, are far more numerous and consequential overall”).

found that certain tort reform measures decrease insurers' liability losses.²⁰⁴

The PRI report assessing the state of tort law also contains ecological data on insurance rates. The data comes from A.M. Best Company and purports to be "the gold standard because they are subject to audit and are reviewed by state insurance regulatory agencies."²⁰⁵ Data is available on nine lines of insurance, plus categories of self-insurance. Losses were divided by gross state product to permit comparisons per capita. Because the measure is insurance losses, it includes payments in settlements as well as court awards.

Comparing insurance costs is not a perfect test for liability effects. In addition to the control variables discussed above, many other variables influence insurance costs. Each state has its own system of insurance regulation (and its own set of judicial decisions, typically contract law based) on the obligations of insurers. As a result, policy language may differ by state and this could have an effect on losses, separate from the tort liability system. There are also other measures for the insurance costs in states, including premium rates. These other measures, however, are more likely to be distorted by different state regulatory systems (which in some cases set premiums). Moreover, they may be affected by unrelated factors that influence insurance company profits.²⁰⁶

Liability losses, though imperfect, may be the best available measure for tort costs. To the extent that the loss data is skewed, this fact is likely to obscure a statistically significant relationship and produce a false negative.²⁰⁷ Consequently, a statistically significant finding would be strong evidence. However, as with any statistical study, failing to reject a null hypothesis of no effect is not actually strong evidence of no causal effect.

204. *E.g.*, Patricia Born & W. Kip Viscusi, *Insurance Market Responses to the 1980s Liability Reforms: An Analysis of Firm-Level Data*, 61 J. RISK & INS. 192, 193 (1994); Robert E. Hoyt et al., *The Relation Between Tort Law Environment and Automobile Insurance Costs*, 2007 AMERICAN RISK AND INSURANCE ASSOCIATION ANNUAL MEETING (July 31, 2007), <http://www.aria.org/meetings/2007%20presentations/HOYT%20POWELL%20STITH%208-03-2007.pdf>.

205. MCQUILLAN & ABRAMYAN, *supra* note 31, at 13.

206. *See, e.g.*, Chimerine & Eisenbrey, *supra* note 71, at 2 (contending that insurance premiums are affected by other variables such as investment success in the market, interest rates, and rising costs, such as for medical care).

207. *See* Frank B. Cross, *Perhaps We Should Pay Federal Circuit Judges More*, 88 B.U. L. REV. 815, 821–22 (2008) (discussing this effect).

PRI categorizes data on insurance costs by different segments, including automobile, farm owners, commercial general liability (CGL), other, homeowners, medical malpractice, product liability, personal and commercial self-insurance, as well as an overall insurance cost score. For this research, I will use as dependent variables the overall measure, the CGL insurance measure (a form of coverage that broadly includes torts of many types), and the product liability insurance costs. The effect of tort law on business should be especially apparent in the latter two categories.

I use a two-tailed test that accounts for the possibility that stricter tort law rules would be economically beneficial. Remember that a lower score is better on the PRI scale but worse on the Chamber's scale. This means that, if tort law produces higher insurance costs, one would expect a negative sign for the Chamber measure but a positive sign for the PRI measure. The following three tables set out the results for my three dependent variable measures of insurance costs, beginning with the overall measure.

The above models are based on a linear relationship between the independent and the dependent variables. This is a plausible assumption for this model, more liability associated with more pro-plaintiff legal doctrine should produce higher insurance costs, even if those costs are economically efficient ones, which produce societal gain by deterring greater harm.

Table 1 displays the results for both the overall scale of the Chamber and the cumulative input measure of the PRI scale. The n for all the tables is 50, the number of states. The Chamber measure is higher for more pro-plaintiff law; the PRI number is lower for more pro-plaintiff law. If results are as hypothesized, the Chamber measure should have a negative sign, and the PRI's a positive sign. Theory would also suggest that greater urbanization, government size, and liberal ideology should be associated with higher insurance costs.²⁰⁸ The table displays coefficients, with t-terms in parentheses and statistically significant associations in bold.

208. I expect urbanization to produce more torts, causing more insurance liability. Greater government size also would be expected to increase insurance liability (though this might be counteracted by reduced tort liability). I presume that more liberal states are more likely to impose costs on business and thus show higher insurance costs.

Table 1
Effect of Tort Law on Overall Insurance Costs

	Chamber	PRI
Chamber of Commerce	-9.107053	
PRI		-0.2972
Civil Law	-1.04996	-1.5971
Human Capital	0.04239	-0.2949
Social Capital	1.7056	0.6354
Urbanization	0.1633	0.1852
Government Size	0.2914	-2.1926
Ideology	0.0424	0.1049
Manufacturing	-0.3041	-0.3287
Constant	44.0811	36.7595
R-Squared	0.3887	0.0656

The results suggest that the Chamber of Commerce measure may correctly capture the state of tort law as it has a highly statistically significant association with overall insurance costs. The PRI results do not approach statistical significance, which is somewhat surprising because the insurance cost measure was PRI's own. The control variables are insignificant in all tests. Only the Chamber of Commerce measure appeared to be driving overall insurance costs. This finding must be viewed with some caution, though, because the Chamber provides a perceptual measure. Rather than the state of tort law driving insurance costs, it may be that the relative state insurance costs drove the perceptions of those the Chamber surveyed.

The overall insurance costs are a broad measure, and a test of the effect on CGL insurance costs, which are more closely tied to tort law, may be a better test. The following table reports the same regressions for this dependent variable.

Table 2
Effect of Tort Law on CGL Insurance Costs

	Chamber	PRI
Chamber of Commerce	-17.5343	
PRI		-0.0108
Civil Law	-10.0102	-10.1679
Social Capital	8.3836	5.2987
Human Capital	-0.8847	-1.1171
Urbanization	0.3778	0.3952
Government Size	-3.1814	-5.7948
Ideology	-0.0348	0.0279
Manufacturing	-0.4007	-0.4675
Constant	105.4663	66.8828
R-Squared	0.2257	0.1424

None of our measures were statistically significant, though the Chamber of Commerce measure neared significance in its expected association with higher insurance costs ($p = 0.088$). The results provide only mild confirmation of the Chamber's measure of tort liability law for this insurance cost. I conclude this Section with the same analysis, but for product liability insurance costs, which also might be associated with state liability standards.

Table 3
Effect of Tort Law on Product Liability Insurance Costs

	Chamber	PRI
Chamber of Commerce	6.3961	
PRI		0.5417
Civil Law	4.8687	5.7629
Social Capital	5.6963	6.2336
Human Capital	-0.7771	-0.6242
Urbanization	0.3729	0.3702
Government Size	-0.3114	1.6391
Ideology	-0.1121	-0.2541
Manufacturing	-0.9136	-0.8619
Constant	15.3693	8.8852
R-Squared	0.2292	0.2311

There is no association with either of our tort law variables (or any other variable) and the direction of the correlation with the Chamber score is the opposite of that theorized. The only variable that approximates statistical significance is reliance on manufacturing, and it is negative (perhaps reflecting state protection of local industries). The lack of associations for product liability insurance may seem surprising, given the prominence with which product liability claims are commonly associated with criticisms of tort law. Product liability cases, though, are but a tiny fraction of overall tort litigation. A measure of overall tort law may not be a sound proxy for product liability law.

In general, it appears that more pro-defendant tort law as measured by the Chamber metric may be associated with lower costs for at least some forms of insurance, but this is not true for the PRI measure. Even the Chamber measure is not significantly associated with the types of insurance costs typically associated with tort litigation.

While these insurance costs are not our true dependent variable of concern, they are an important intervening variable. The alleged economic harm due to tort law is typically an assessment of its costs to business, which would show up in the insurance payment variable. If a measure of tort law is not associated with higher insurance costs, one would be skeptical that it is the true cause of any negative economic effects that might be identified. This is not necessarily the case, though. Suppose fear of liability suppresses business innovation and creation, which hurts the economy. The absence of innovation, in this hypothesis, could reduce the insurance costs associated with pro-plaintiff tort law but would still harm the economy.

However, higher insurance costs are not necessarily an economic negative. As discussed above, holding responsible parties liable can be an economically efficient policy, by compelling them to internalize the external costs they impose on others. While higher insurance expenditures would raise the cost of business, they would encourage better business practices, which cause less harm to others. It is conceivable that the greater deterrence could have the effect of reducing insurance costs, but this presumably would be more than offset by the lesser liability imposed in a more pro-defendant regime.²⁰⁹

209. Thus, if one imagines a very pro-defendant regime there could be an enormity of externalized harms, but very little in insurance-liability costs, because defendants would rarely be called upon to assume those costs.

A final caveat to the insurance cost measure involves the different composition of business among the states, which may have some randomness in its operation. Manufacturing is a control for this, but an imperfect one. Suppose that mining for coal is inherently risky and accompanied by higher insurance costs. Some states have coal deposits, while others do not. Of those states with coal deposits, such mining will surely be a greater or lesser proportion of their economies. This could skew the association.²¹⁰

Perhaps the greatest relevance of these findings goes to the validity of the Chamber and PRI measures. The PRI measure does not have the expected correlation. The Chamber measure does especially well, with very strong associations with overall and CGL liability costs, although not necessarily to the economy as a whole. The remainder of the Section evaluates the effect of the different systems on economic variables of concern.

2. Overall Economy

Although our central concern is the state of tort law on the overall economy, broad economic measures may provide the weakest test of the hypothesis of the effects of tort law. Countless factors affect the quality of a state's economy, and they cannot all be controlled. Even if tort law were having an effect on the magnitude of a state's economy, it may be impossible to isolate this effect in an empirical study, given all the external confounding factors. The failure to find a tort law effect would only mean that torts are not the predominant factor in affecting state economies, not that tort law has no effect.

This difficulty in finding a true association may be evidenced by international research on economies. A great deal of economic research has been devoted to identifying the factors associated with growth among nations, such as free trade, sound government institutions, and many other factors. While studies have found associations between such independent variables and economic growth, the results are not consistently statistically significant across studies using different methodologies or different sets of data.²¹¹ The difficulty in finding robust

210. Ideally, one would control for this effect, but given the limited n of the study (fifty states), it is impossible to introduce all the independent variables necessary to address the industry composition effect.

211. See Antonio Ciccone & Marek Jarocinski, *Determinants of Economic Growth: Will Data Tell?* 1 (European Cent. Bank, ECB Working Paper No. 852, 2009), available at <http://www.econ.upf.edu/docs/papers/downloads/1052.pdf>

associations does not mean that factors such as government institutions or free trade do not influence economic growth (the null hypothesis), but simply means that various other random factors obscure the association. This problem should be smaller for studies of American states, which have many fewer differences than found among different countries, but the difficulty remains.²¹² The easy and common migration among states also means that historic differences should not seriously bias the research. However, the many factors that may influence economic conditions among the states may make it difficult to find an effect from tort law. To combat this, I employ numerous economic measures in my search for such an effect.

One would not necessarily expect the relationship of tort law and the economy to follow a linear relationship. Assume that there is some optimal tort regime, for economic efficiency purposes. If the optimal tort regime were more extreme than that of any state regime (whether pro-plaintiff or pro-defendant), the relationship between tort reform and economic performance should be linear. However, if the optimal state of the law fell somewhere within the varying state laws, one would expect the relationship to be quadratic; states with laws more pro-defendant than the optimal law would suffer economically, as would states with more pro-plaintiff laws. This prospect will be addressed below.

The first variable of interest is per capita state GDP. This measures the association between state tort liability and state economic wellbeing. Use of this test contains one major flaw. The tort variables are available only for 2008, while the state's economy is the result of years of history. One might expect that the current court liability regimes may resemble the state's his-

(concluding that results are “very sensitive to minor errors in measurement and turn out to differ substantially depending on the income estimates being used”). An earlier published study found isolated robust effects on economic growth for the share of investment in GDP and international trade, though not for other variables. Ross Levine & David Renelt, *A Sensitivity Analysis of Cross-Country Growth Regressions*, 82 AM. ECON. REV. 942, 959 (1992). Researchers have “found it easy enough to arrive at significant results” simply because there are so many variables that can be manipulated in this research. Jessica Cohen & William Easterly, *Introduction: Thinking Big Versus Thinking Small*, in WHAT WORKS IN DEVELOPMENT? THINKING BIG AND THINKING SMALL 1, 3 (Jessica Cohen & William Easterly eds., 2009).

212. See W. Mark Crain & Katherine J. Lee, *Economic Growth Regressions for the American States: A Sensitivity Analysis*, 37 ECON. INQUIRY 242, 242 (1999) (observing that “while states differ in relevant dimensions, they are not so different as to make omitted variables an overwhelming source of error”).

toric practice, but this need not be the case. The results should therefore be interpreted with this caveat in mind.

Table 4 presents the results of our model for per capita state GDP, using the same regression equation as in the earlier analyses. If pro-plaintiff tort law were harming per capita GDP, we would see a negative association with the PRI score and a positive association with the Chamber score.

Table 4
Effect of Tort Law on Per Capita GDP

	Chamber	PRI
Chamber of Commerce	1020.034	
PRI		230.1302
Civil Law	-19.0764	347.2162
Social Capital	-2720.231	-0.2792
Human Capital	309.4836	352.2161
Urbanization	-105.7771	-105.2556
Government Size	4520.696	5099.3110
Ideology	252.7209	198.200
Manufacturing	-46.2566	-30.7728
Constant	-16.405.62	-22,937.87
R-Squared	0.8218	0.8333

Both measures of tort liability showed no statistical significance, and the PRI measure indicated that more pro-plaintiff law is associated with *higher* state per capita GDP. Not much can be concluded from this, though, because of the prospect of reverse causality. The strongest associations were with larger government and more Obama support with higher state GDP. Yet it seems more likely that richer states were more likely to vote for President Obama than that voting for President Obama in 2008 caused the state to be richer in 2008.²¹³ The same is true for government size. The government size correlation may be that larger government is a superior good; one that makes up a larger portion of consumption as income rises. As people grow richer, they may be willing to pay more in taxes for more government. This also might be true for the PRI measure.

213. In fact, there was a positive correlation among whites between household income and the share of Obama votes. See Razib, *The White Vote for Obama, by County & Correlates*, GENE EXPRESSION (Nov. 28, 2009, 3:01 PM), <http://www.gnpx.com/blog/2009/11/white-vote-for-obama-by-county.php>.

As states grow richer, they may accept more pro-plaintiff tort law. Yet the direction of the measure for the Chamber score was opposite (richer states had relatively more pro-defendant tort law). The social capital estimates are surprising but may simply suggest that poorer states are more likely to have this measure, rather than that social capital hurts the economy.

The effect of tort law might be more likely to appear in per capita GDP growth rates. The test of tort law on state per capita growth rates requires an additional independent control variable of the pre-existing state per capita GDP. Economists have demonstrated a process called convergence, under which poorer jurisdictions will grow faster than richer ones, as they can take advantage of technological advances developed by richer states and will often have lower costs for items such as labor. This is often called the Solow growth model and has been subjected to extensive review.²¹⁴ The model has been applied to individual states in the United States and is applicable.²¹⁵ Indeed, because of the high level of free trade among American states, convergence should be stronger domestically than internationally. Hence, prior state GDP is an essential control variable.

The next analysis considers the rate of per capita state GDP growth for the prior ten years (1998–2008). Ideally, one would test state tort law systems against future economic growth, but the data is not available for this; the tort system measures are only very recent. Considering the prior ten years should be valid if the tort law system did not change substantially during this time. While states are constantly adjusting their law, dramatic changes are probably not common. For the study, I employ the same model as above, with an added variable for per capita state GDP at the beginning of the period.

214. For one example, see Walter Nonneman & Patrick Vanhoudt, *A Further Augmentation of the Solow Model and the Empirics of Economic Growth for OECD Countries*, 111 Q.J. ECON. 943 (1996).

215. See Robert J. Barro & Xavier Sala-I-Martin, *Convergence Across States and Regions*, 1991 BROOKINGS PAPERS ON ECON. ACTIVITY, no. 1, 107, 107–08 (1991); Paul Evans & Georgios Karras, *Do Economies Converge? Evidence from a Panel of U.S. States*, 78 REV. ECON. & STAT. 384, 387 (1996).

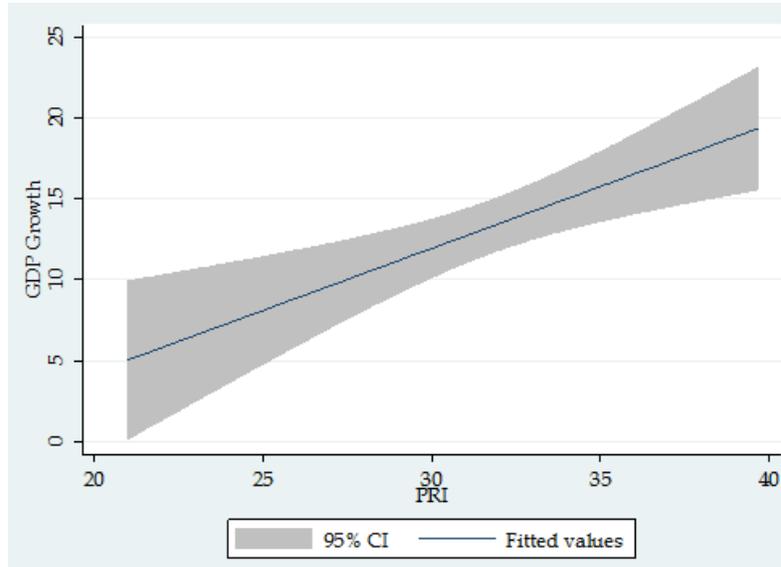
Table 5
Effect of Tort Law on Per Capita Income Growth

	Chamber	PRI
Chamber of Commerce	-0.0001	
PRI		0.72860
Civil Law	0.5680	1.6769
Social Capital	0.4307	1.4964
Human Capital	0.3206	0.4416
State GDP	-0.0001	-0.0039
Urbanization	-0.0112	-0.0309
Government Size	-0.2956	1.8426
Ideology	0.0042	-0.0838
Manufacturing	-0.4018	-0.3864
Constant	26.0584	-11.5629
R-Squared	0.4444	0.5519

There is a very strong association between more pro-defendant law on the PRI scale and *lower* per capita growth (higher PRI scores are pro-plaintiff). The PRI results provide evidence that tort law regimes influence the economy, but in the opposite direction suggested by tort reformers. This might suggest that more plaintiff-friendly tort law helps the economy. While counterintuitive, it is somewhat plausible, given the economic benefits associated with tort law, as discussed above.

The following figure illustrates the association of the two variables, with confidence intervals on a linear fitted model.

Figure 3
Relationship Between Tort Law and Economic Growth



The effect of tort law, as measured by PRI, is quite dramatic. The expected growth rate for the decade for a state with the most pro-defendant law was only 5%, while the most pro-plaintiff regime was associated with an expected growth rate of nearly 20%.

This strong and sizable association appears to be powerful evidence for the positive effect of tort law, but it must be viewed with caution. Such associations may be epiphenomenal and due to some third factor not considered in the regression analysis. Although I employed the most prominent control variables, some other factor may have driven the results for this particular time period. The remainder of the analyses will search for the pathways of the effect of tort law, such as productivity, investment, and entrepreneurship.

V. PATHWAYS FOR TORT LAW TO AFFECT THE GENERAL ECONOMY

A. PRODUCTIVITY

One possible measure that could identify a tort liability regime effect is productivity. Productivity is essentially a test of

the efficiency of business operations.²¹⁶ Thus, a Federal Reserve Bank analysis noted that when “gauging the health of the regional economy, arguably the two most important series to track are employment and output,” and “combined they form a measure of productivity that in the long run ultimately drives living standards.”²¹⁷ Productivity is a commonly used proxy for measuring the effects of government regulations on the economy.²¹⁸ Lower productivity means an inability to compete in the market.²¹⁹ Thus, this represents a good measure of a state’s economic health.

Tort liability could hamper productivity in various ways. The payouts required in such cases could reduce investment that would benefit productivity. Liability might reduce “the rate of both new innovations and the implementation of existing innovations,” which could hamper productivity growth.²²⁰ Some research has shown that tort reform improved state productivity.²²¹ In asbestos litigation, for example, statutorily avoiding the “vagaries of the tort system would enable capital markets to accurately assess the costs to individual businesses and insurers, which could reduce the cost of capital for these business and insurers, leading to increased productivity and investment.”²²² It thus seems unlikely that stricter tort liability would increase productivity. There is some evidence, however, that tort law may increase innovation.²²³ Businesses are also plaintiffs, as well as defendants, so pro-plaintiff tort law might benefit them.

216. See PAUL W. BAUER & YOONSOO LEE, ESTIMATING GSP AND LABOR PRODUCTIVITY BY STATE 3 (Fed. Res. Bank of Cleveland, Policy Discussion Paper No. 16, 2006), available at <http://www.clevelandfed.org/research/policydis/pdpno16.pdf>.

217. *Id.*; see also Andrew B. Bernard & Charles I. Jones, *Comparing Apples to Oranges: Productivity Convergence and Measurement Across Industries and Countries*, 86 AM. ECON. REV. 1216, 1216 (1996) (suggesting that “[c]omparisons of productivity performance across countries are central to many of the questions concerning long-run economic growth”).

218. See, e.g., Adam B. Jaffe et al., *Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us?*, 33 J. ECON. LITERATURE 132, 150–53 (1995).

219. See *id.* at 133.

220. Campbell et al., *supra* note 119.

221. See *id.* at 109.

222. Lester Brickman, *An Analysis of the Financial Impact of S. 852: The Fairness in Asbestos Injury Resolution Act of 2005*, 27 CARDOZO L. REV. 991, 996 (2005).

223. See Barton, *supra* note 93, at 301.

The EPI study found no effect over time in the United States between tort costs and productivity growth, but it included no control variables, and many other factors could affect productivity.²²⁴ In addition, the productivity growth in this country could have been a result of companies shifting operations to more pro-defendant jurisdictions.

My next analysis compares relative state manufacturing productivity with their tort liability regimes, as measured by the Chamber and PRI. Productivity is measured as manufacturing value added per production hour worked, adjusted by industrial sector.²²⁵

Table 6
Effect of Tort Law on Manufacturing Productivity

	Chamber	PRI
Chamber of Commerce	8.5669	
PRI		0.7418
Civil Law	0.4547	1.677
Social Capital	-1.5379	00.8363
Human Capital	-0.5651	-0.35822
Urbanization	0.3470	0.3412
Government Size	-0.8076	1.8349
Ideology	0.4753	0.2815
Manufacturing	0.3831	0.4531
Constant	33.5530	24.2429
R-Squared	0.5977	0.6051

Urbanization is apparently the primary determinant of manufacturing productivity, though higher Chamber scores were associated with higher productivity.

While the PRI score was not statistically significant, it neared this level (p, 0.10). This provided evidence that plaintiff tort law was associated with higher manufacturing productivity with a significant coefficient, given the scale of this measure. Although not statistically significant, the effect of the Chamber measure was material (one unit higher Chamber

224. Ross Eisenbrey, *Tort Costs and the Economy: Myths, Exaggerations, and Propaganda*, ECON. POLY INST. (Nov. 20, 2006), <http://www.epi.org/publication/bp174>.

225. Data for this variable are taken from ROBERT D. ATKINSON & SCOTT ANDES, *THE 2008 STATE NEW ECONOMY INDEX (2008)*, available at http://www.itif.org/files/2008_State_New_Economy_Index.pdf.

score represented about a five percent increase in manufacturing productivity).

B. FOREIGN DIRECT INVESTMENT

The next analysis involves foreign direct investment in the states. Various studies have suggested the value of foreign direct investment to international economic growth.²²⁶ More investment is economically valuable, and foreign investment is an outside inflow of money that does not require additional domestic savings (and hence reduced consumption). Economic evidence testifies to the importance of foreign investment for the growth of American states as well.²²⁷ One study found that foreign capital accounted for 3.7% of state output growth between 1995 and 1999 and over 16.7% of state manufacturing output growth.²²⁸

A greater risk of tort liability could deter foreign investment. The United States Department of Commerce has suggested that international investors are concerned with the “comparatively high legal cost of doing business in the U.S. market” and the “unpredictable and unfamiliar nature of liability in the United States.”²²⁹ Surveys similarly suggest that investors heavily weigh the litigation environment in deciding where to locate.²³⁰ However, it is not necessarily the case that more pro-defendant tort law is more predictable or desirable. Perhaps foreign investors find pro-plaintiff law more predictable, and it may have attendant economic benefits.

The next regression focuses on the relative amount of foreign direct investment in the states.²³¹ The theory is that foreign investors are more likely to do business in a state with a more favorable tort climate. Indeed, even if tort law were eco-

226. See, e.g., Laura Alfaro et al., *FDI and Economic Growth: The Role of Local Financial Markets*, 64 J. INT'L ECON. 89, 108 (2004); E. Borensztein et al., *How Does Foreign Direct Investment Affect Economic Growth?*, 45 J. INT'L ECON. 115, 134 (1998). The effect appears to be most pronounced in countries that already had higher GDP. See Wu Jyun-Yi & Hsu Chih-Chiang, *Does Foreign Direct Investment Promote Economic Growth? Evidence from a Threshold Regression Analysis*, 15 ECON. BULL. 1, 2 (2008).

227. Megan A. Torau & Ernest Goss, *The Effects of Foreign Capital on State Economic Growth*, 18 ECON. DEV. Q. 255, 266 (2004).

228. *Id.* at 263–65.

229. U.S. DEPT OF COMMERCE, *supra* note 100, at 5.

230. *Id.* at 7.

231. The measure for this variable is the percentage of each state's workforce employed by foreign companies. For the source of data for this variable, see ATKINSON & ANDES, *supra* note 225.

nomically efficient in a given state, a foreign company might prefer to operate in a state with a less restrictive, inefficient tort law (so long as it was more likely to be a defendant than a plaintiff). This test may therefore not be a reliable guide to the most efficient tort law, but it is a reasonable place to search for evidence of some economic effect from the state of such law.

I adopt the same method as for the preceding studies, and the results are displayed in the following table.

Table 7
Effect of Tort Law on Foreign Direct Investment

	Chamber	PRI
Chamber of Commerce	0.7374	
PRI		-0.0095
Civil Law	-0.4651	-0.4741
Social Capital	-0.9740	-0.8331
Human Capital	0.1043	0.1128
Urbanization	-0.0143	-0.0149
Government Size	0.1705	0.2613
Ideology	0.0325	0.0321
Manufacturing	0.0759	0.0782
Constant	-5.1449	-3.1387
R-Squared	0.6162	0.5889

There is no evidence for an effect of state tort law on foreign direct investments. The Chamber and PRI scores are in the direction of foreign investors preferring pro-defendant state law but are not statistically significant, nor are they substantively material.

The measures of manufacturing productivity and foreign direct investment provide no clear evidence for the effect of tort law. There is some suggestion of a negative effect from the Chamber measure, though it is weak. The PRI measure actually suggests that pro-plaintiff state tort law could benefit its economy.

C. ENTREPRENEURSHIP

This Section considers the effect of state tort legal regimes on measures of state entrepreneurship. This may provide a more refined measure for the effect, as entrepreneurs may be especially susceptible to tort liability risk. Examination of small business may well be where the effects of state tort litiga-

tion are most likely to be found. A study conducted by National Economic Research Associates for the Chamber of Commerce has found that small businesses are especially vulnerable to litigation risk.²³² The small business share of commercial tort liability costs was substantially in excess of its share of business revenues.²³³ The liability cost per \$1000 revenues for businesses with revenue of less than \$5 million could be twenty times greater than that for businesses with over \$50 million in revenue.²³⁴

Focusing on entrepreneurship could also capture the claimed anti-innovative effect of tort law in America.²³⁵ Through classical Schumpeterian creative destruction, entrepreneurship is the source of much innovation.²³⁶ Greater entrepreneurship is also associated with more innovation, which in turn is associated with higher economic growth.²³⁷ Studying effects of tort law on entrepreneurship thus may capture the innovation effect as well as economic growth effects of the liability system in a state. If pro-plaintiff tort law stimulates innovation, this might appear in the entrepreneurial measures.

Entrepreneurship also provides a better metric for isolating the differential effects of state tort liability laws. Large companies operate throughout the entire nation, and their practices may well be driven, or at least influenced, by the nation's most restrictive tort regime. Certainly, large states with many more potential plaintiffs will have a disproportionate effect on interstate businesses' calculations of whether to produce

232. See JUDYTH W. PENDELL, U.S. CHAMBER INSTIT. FOR LEGAL REFORM, TORT LIABILITY COSTS FOR SMALL BUSINESS 7–8 (2007), available at http://www.nera.com/extImage/PUB_ILR_tort_May2007.pdf.

233. *Id.* at 6.

234. *Id.* at 10.

235. See Barton, *supra* note 93, at 301–02 (contending that entrepreneurial activity receives the innovation benefits of tort liability).

236. See, e.g., PETER F. DRUCKER, INNOVATION AND ENTREPRENEURSHIP viii (1985) (referring to entrepreneurship as “the carrier of innovation”).

237. See, e.g., Poh Kam Wong et al., *Entrepreneurship, Innovation and Economic Growth: Evidence from GEM Data*, 24 SMALL BUS. ECON. 335, 342–44 (2005) (reporting statistical correlation between certain types of entrepreneurship and economic growth). Turbulence (the entry and exit of firms from the market) is associated with economic growth in the United States. Paul D. Reynolds, *Creative Destruction: Source or Symptom of Economic Growth?*, in ENTREPRENEURSHIP, SMALL AND MEDIUM-SIZED ENTERPRISES AND THE MACROECONOMY 97, 97 (Zoltan J. Acs et al. eds., 1999). Just having a greater number of competitors in the market may be associated with higher growth. Stephen J. Nickell, *Competition and Corporate Performance*, 104 J. POL. ECON. 724, 741 (1996).

a product or how to manufacture it. Small entrepreneurs, by contrast, have less interstate exposure and should be more influenced by the tort law of the state in which they operate. Consequently, entrepreneurship may offer the best test of the economic effects of a state's tort liability system.²³⁸

Entrepreneurship theoretically could be measured in various ways. One could consider the simple number of new enterprises registered by a state, but this will be distorted by other state law variables. For example, many entities choose to incorporate in Delaware, but this is presumably based upon the state's substantive corporate law or its relative judicial quality. For my tests, I use data from the Kauffman Foundation,²³⁹ which has produced detailed state comparisons for several entrepreneurship measures.

From this source, I consider the variables for initial public offerings (IPOs) as a share of worker earnings, total entrepreneurial activity (adjusted number of new businesses), and venture capital invested as a share of worker earnings.²⁴⁰ The first is a measure of highly successful entrepreneurship, the second a measure of overall entrepreneurship, and the third is an intermediate market measure of outside investors' assessment of the climate for entrepreneurial success.

I first measure associations with intrastate IPOs. A very successful entrepreneurial business will wish to expand through the sale of shares to the public, which requires an IPO. To the degree that tort law influences a small business's prospects for growth, this measure might capture its effects.

238. This is not a perfect measure, as it is distorted by the interests of entrepreneurs, which may not align with those of society as a whole. If entrepreneurs are more likely to be defendants than plaintiffs, they may even prefer an inefficiently pro-defendant state of tort law. Entrepreneurship is very important to economic growth, though, so it provides a good proxy for this important concern.

239. ATKINSON & ANDES, *supra* note 225.

240. For a more detailed description of these measures, see *id.* at 32–33, 50.

Table 8
Effect of Tort Law on Initial Public Offerings

	Chamber	PRI
Chamber of Commerce	-0.6304	
PRI		-0.0428
Civil Law	-0.1635	-0.1777
Social Capital	0.1770	0.0719
Human Capital	0.0323	-0.0233
Urbanization	0.0229	0.0235
Government Size	0.1282	0.0245
Ideology	-0.0221	-0.0187
Manufacturing	-0.0418	-0.0445
Constant	5.0307	3.8517
R-Squared	0.3988	0.3709

From these results, there appears to be no association between state tort liability regimes and the frequency of initial public offerings. The PRI rating is in the expected direction but nowhere near statistical significance. The Chamber rating is in the opposite direction (pro-defendant law associated with fewer IPOs) but not statistically significant.

The next assessment involves the Kauffman Foundation's evaluation of the total entrepreneurial activity in a state. This uses the same model as above, with reports in the following table.

Table 9
Effect of Tort Law on Entrepreneurial Activity

	Chamber	PRI
Chamber of Commerce	-0.0319	
PRI		-0.0050
Civil Law	-0.0085	-0.1653
Social Capital	0.0095	0.0093
Human Capital	0.0044	0.0033
Urbanization	-0.0018	0.0012
Government Size	-0.0060	-0.0200
Ideology	-0.0010	0.0001
Manufacturing	0.0002	-0.0002
Constant	0.4706	0.5897
R-Squared	0.1499	0.1805

There is no identifiable association between entrepreneurial activity and either of our measures of tort law. The PRI test is closer to suggesting an adverse effect of tort law ($p = 0.23$), but still well away from statistical significance.

For yet another test of tort law's effect, I consider venture capital investing. Venture capitalists might well be more informed of and attuned to state tort law that affects the success of those starting up entrepreneurial ventures. The following table reports the results of this analysis.

Table 10
Effect of Tort Law on Venture Capital

	Chamber	PRI
Chamber of Commerce	-0.3277	
PRI		-0.0015
Civil Law	0.0280	0.0231
Social Capital	0.0671	0.0108
Human Capital	0.0318	0.0273
Urbanization	0.0055	0.0058
Government Size	0.0020	-0.0491
Ideology	-0.0001	0.0012
Manufacturing	0.0001	-0.0012
Constant	0.6208	-0.6098
R-Squared	0.4456	0.3892

The PRI estimate is not close to statistical significance. The Chamber measure is actually near statistical significance ($p = 0.09$), but in the direction of more pro-plaintiff law being associated with more venture capital investment. None of the other variables adds much to the assessment, though human capital is associated with more such investment in the model using the Chamber scores. Although there was reason to believe that entrepreneurs could be particularly sensitive to the state of local tort law, the analyses found little hint of such an effect.

IMPLICATIONS AND CONCLUSIONS

Contrary to conventional wisdom, the evidence shows no negative economic effects from more pro-plaintiff tort law. While the Chamber measure showed no material association with the economic variables (although it was somewhat correlated with higher insurance costs), there is a surprising associ-

ation with the PRI variable measuring actual tort doctrines. More pro-plaintiff law is associated with higher economic growth. I ran separate regressions with individual doctrinal components of the measure, and they showed no such association but the cumulative score is quite dramatic. Perhaps state law is too pro-defendant.

As discussed above, it is theoretically plausible that more pro-plaintiff tort law could be economically beneficial. If so, one would expect more profound effects to be found where the law was most pro-defendant. This can be detected through a technique known as quantile regression.²⁴¹ I tested this at three levels, the 25th percentile (more pro-defendant), the 50th percentile (median) and the 75th percentile (more pro-plaintiff), with the results reported in Table 11.

Table 11
Quantile Regression of PRI Scale and Economic Growth

	Coefficient	Probability
25th percentile	0.9128	0.0003
50th percentile	0.7263	0.0470
75th percentile	0.6778	0.1470

The results provide some support for the conclusion that pro-plaintiff law benefits the economy. At the level of states with more pro-defendant law, the results are highly significant, but for states with more pro-plaintiff law, statistical significance disappears. Moreover, the size of the coefficient steadily decreases as law becomes more pro-plaintiff. Even at the 75th percentile, though, there is still a positive association.

The analyses provide inconclusive findings on the effects of tort law on the economy. The findings on the association of PRI scores with state GDP growth are strong and significant, but there is reason to doubt them. The PRI scores did not associate with the output category of insurance costs, which would likely be the route through which tort law hampered economic growth.

However, it is possible that the positive economic effects of tort law might not appear as higher insurance costs if the anticipation of such higher insurance costs caused business to alter

241. For a discussion of quantile regression, see generally ROGER KOENKER, *QUANTILE REGRESSION* (2005).

their behavior to avoid such higher insurance costs. As with the international growth evidence, many significant associations will prove spurious and not robust to different time periods or control variables.²⁴² Moreover, given the nature of statistical significance, some associations will appear by random chance variation rather than a true association.

There are also other possible problems with the PRI association. The correlation was between the state of tort law and growth for the *prior* ten years, which relies on a premise that tort law was stable over this time, which is not established. As with any correlation, there is a possible directionality problem—it may be that economic growth produces more pro-plaintiff tort law regimes, rather than the hypothesized effect. Perhaps economic growth makes judges more complacent and causes them to create more pro-plaintiff tort law doctrines.

It may be meaningful that the Chamber of Commerce scores showed no significant association with the economic variables, except for manufacturing productivity, for which more pro-plaintiff law was economically better. As the Chamber notes, business decisions are presumably grounded in perceptions of businesspersons.²⁴³ The perceptions measured by the Chamber do not track either the actual law measured by PRI or the hypothesized economic effects. The lack of association between the Chamber's perception measure and the PRI's actual measure also raises questions about the findings on the effect of PRI's assessment of tort law on the economy. If businesspersons do not perceive the state of tort law accurately, it seems less likely that the true state of the law would have a substantial impact on business decisions.

The general insignificance of the control variables may also be reason to question the results. While I have employed the control variables most expected to be predictive of my dependent variables, some other unmeasured variable may be explaining the results. For this to be true, though, that unknown variable would have to be one that is very highly correlated with the PRI score.

Yet another possibility is that the economic costs of tort regimes may be largely exported to other states, which would obscure any association in a study of the states.²⁴⁴ Costs imposed

242. See *supra* Part V.B (discussing the effects of tort liability on foreign investment and international economic growth).

243. HARRIS INTERACTIVE, *supra* note 141, at 101.

244. I attempted to adjust for this with my measures for entrepreneurial

by the tort system of one state may be felt directly by businesses of another state, and lawyers may adapt to state law differences by forum shopping.²⁴⁵ If this were the case, the effects of state legal differences might not appear in state economies, even if the legal differences were having some economic effect. Such a result might counsel for national action, though this case also remains unproved.

Consequently, there are reasons to doubt the findings on the effect of the PRI measure and state economic growth. However, the association is an especially strong one, so it should not be cavalierly dismissed either. The quantile regression provides some additional support for the conclusion, suggesting that further investigation is warranted. Nor does this isolated association provide conclusive evidence that pro-plaintiff tort law benefits the economy, given the lack of significant results in other regressions. However, the finding is powerful evidence that tort law is at least not harming the states' economies.²⁴⁶ With such a strong relationship between pro-plaintiff tort law and economic growth, it is difficult to imagine some unmeasured factor that could reverse such a relationship.

activity, on the presumption that these effects would have a greater intrastate effect, but this presumption may be incorrect.

245. See, e.g., Stephen B. Burbank, *The Class Action Fairness Act of 2005 in Historical Context: A Preliminary View*, 156 U. PA. L. REV. 1439, 1442 (2008) (noting that "plaintiffs' lawyers react to changes that make litigation more difficult in one court system by moving their cases to other court systems, while defense counsel seek forum advantages for their clients by using the tools available to them to affect the site of litigation").

246. This contrary result is sometimes known as a "backfire" effect and provides the strongest evidence of no positive effect. See David Weisburd et al., *When Can We Conclude that Treatments or Programs "Don't Work"?*, 587 ANNALS AM. ACAD. POL. & SOC. SCI. 31, 42 (2003).