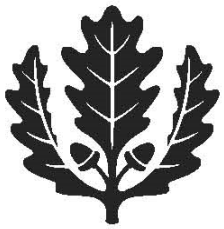

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The Impact of Frivolous Lawsuits on Deterrence: Do They Have some Redeeming Value?

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THE IMPACT OF FRIVOLOUS LAWSUITS ON DETERRENCE: DO THEY HAVE SOME REDEEMING VALUE?

by

Michael P. Stone[†] and Thomas J. Miceli[‡]

Abstract: The literature on frivolous lawsuits has focused on litigation costs and the optimal settlement-trial decision of defendants, but has not examined how they affect the decisions of potential injurers. This paper asks whether there are circumstances under which frivolous suits might actually increase social welfare by inducing parties engaged in risky activities to limit the scale, and improve the safety, of those activities. The reason this is possible is that in a costly legal system, injurers will generally underinvest in safety and overengage in the activity. The fact that some uninjured plaintiffs succeed in obtaining settlements may therefore affect the care and activity choices of injurers in a socially valuable way. In light of these conclusions, the paper goes on to examine the desirability of various policies aimed at curbing frivolous litigation.

JEL codes: K13, K41
Key words: Frivolous lawsuits, care, activity level, deterrence

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INTRODUCTION

In the economics literature, it is well settled that there is a divergence between the private and social incentives for persons to file suit. Beginning roughly thirty years ago, Steven Shavell described in a series of articles how plaintiffs do not fully internalize the social consequences of engaging in civil litigation.[1] In particular, Shavell identified two externalities—one negative and one positive[2]—from the use of the civil justice system. On one hand, when initiating suit, plaintiffs do not fully internalize the social costs of using the courts.[3] Rather, plaintiffs only internalize their own litigation costs and neglect the costs' of opposing parties and those of the public system generally.[4] This negative externality suggests that there is an excessive level of

[*] We wish to thank the participants at the 23rd Annual Meeting of the American Law and Economics Association, May 2013, for their insightful comments.

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[1] *See* Steven Shavell, *The Social versus the Private Incentive to Bring Suit in a Costly Legal System*, 11 J. LEGAL STUD. 333 (1982) (hereinafter Shavell, *Social versus Private Incentive*); Steven Shavell, *The Fundamental Divergence between the Private and the Social Motive to Use the Legal System*, 26 J. LEGAL STUD. 575 (1997) (hereinafter Shavell, *Fundamental Divergence*); Steven Shavell, *The Level of Litigation: Private Versus Social Optimality of Suit and of Settlement*, 19 INT'L REV. L. & ECON. 99 (1999). For a discussion on the topic by different authors, *see, e.g.*, Peter S. Menell, *A Note on Private versus Social Incentives to Sue in a Costly Legal System*, 12 J. LEGAL STUD. 41 (1983); Louis Kaplow, *Private versus Social Costs in Bringing Suit*, 15 J. LEGAL STUD. 371 (1986); Susan Rose-Ackerman & Mark Geistfeld, *The Divergence between Social and Private Incentives to Sue: A Comment on Shavell, Menell, and Kaplow*, 16 J. LEGAL STUD. 483 (1987).

[2] A positive externality is one that imposes a benefit upon a third party. For instance, when one properly maintains one's home, it is likely that this behavior will increase (or at a bare minimum, not strictly decrease) the property values of neighboring homes. A negative externality imposes a cost upon a third party. A common example is pollution. By "internalizing an externality," we mean that a party's private losses (or gains) are identical to the social losses (or gains) associated with a particular externality.

[3] Shavell, *Social versus Private Incentive*, *supra* note 1, at 333.

[4] Shavell, *Fundamental Divergence*, *supra* note 1, at 577-78.

litigation.[5] But on the other hand, plaintiffs do not consider a positive externality that may arise from litigation—namely, its deterrent effect upon potential injurers.[6]

Plaintiffs are driven by their own self-interest to seek compensation.[7] Thus, when plaintiffs do not have the correct incentives to pursue a legal remedy, they may not file suit when it is otherwise socially beneficial for them to do so.[8] In other words, plaintiffs do not take into account the possibility that litigation may induce future potential injurers to exercise greater care or precaution—a hallmark of the legal concept of deterrence.[9] The failure to fully internalize this positive externality may possibly result in an insufficient level of litigation.[10] Due to these competing externalities, there is a divergence between the private and social incentives for plaintiffs to file suit.

Despite this observation, few would advocate for an increase in the number of lawsuits. Indeed, there appears to be a widespread belief that there is excessive litigation generally, and that the civil justice system is plagued by frivolous lawsuits. Putting the normative questions pertaining to frivolous litigation aside, an unresolved descriptive issue is whether frivolous lawsuits are capable of exerting a positive externality upon persons or businesses engaged in risky activities. A proper positive evaluation of frivolous lawsuits therefore requires an examination of their impact on deterrence.

Economists have previously examined the deterrence externality under different liability rules—in particular, negligence and strict liability. Ordover found that negligence would result

[5] Shavell, *Social versus Private Incentive*, *supra* note 1, at 333. In other words, there are too many lawsuits from a social perspective.
[6] *Id*. at 333-34.
[7] Shavell, *Fundamental Divergence*, *supra* note 1, at 578.
[8] Shavell, *Social versus Private Incentive*, *supra* note 1, at 334.
[9] It is not necessarily true that the social deterrence benefit of suit *always* exceeds the private benefit. It possibly may be the case that the private benefit exceeds the social benefit. *See id*.
[10] *Id*. This competing force has the potential to suggest that that there are too few lawsuits from a social perspective.

in some potential injurers exercising an insufficient, or suboptimal, level of care.[11] Indeed, if all potential injurers complied with the negligence standard of reasonable care under similar circumstances, then no plaintiffs would ever file a costly lawsuit.[12] But without the threat of suit, some potential injurers would not have the correct incentives to comply with the standard of care.[13] The result is that some potential injurers must exercise suboptimal levels of care under negligence.[14] Hylton affirmed Ordover's original negligence findings, and extended the analysis of the deterrence externality to strict liability.[15] He argued that potential injurers also exercise insufficient levels of care under strict liability since they do not fully internalize two social costs—the litigation costs of the plaintiffs they harm, and the magnitude of the harm suffered by those victims who did not have the correct incentives to file suit.[16] Therefore, under strict liability with pure compensatory damages, potential injurers do not exercise the optimal level of care because they do not fully internalize all of the costs borne by accident victims.[17] These two papers illustrate that there is generally a problem of underdeterrence in tort law.

The underdeterrence problem begets an analysis of appropriate corrective policies, but we ask a different question—namely, is it possible, despite the "bad press" they ordinarily receive, that frivolous lawsuits may sometimes serve to actually enhance deterrence? Put another way, as

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[11] Janusz A. Ordover, *Costly Litigation in the Model of Single Activity Accidents*, 7 J. LEGAL STUD. 243 (1978).
[12] *Id*. at 244.
[13] *Id*. at 244-45.
[14] *Id*. at 245.
[15] Keith N. Hylton, *The Influence of Litigation Costs on Deterrence under Strict Liability and under Negligence*, 10 INT'L REV. L. & ECON. 161 (1990).
[16] *Id*. at 161. Note that victims will not file suit if expected court-ordered compensation is outweighed by the victim's cost of litigation.
[17] On the topic of optimal deterrence, *see* Shavell, *Fundamental Divergence*, *supra* note 1, at 588 (arguing that optimal deterrence requires injurers to compensate victims for both their harm and litigation costs). Polinsky and Rubinfeld argue for an adjustment to the level of compensatory damages to ameliorate the problem of underdeterrence, though they allow for the possibility that injurers may exercise too much care from a social perspective. Their adjustment in the level of compensatory damages depends not only on the injurer's level of care relative to the social optimum, but also on the impact of litigation costs on a victim's incentives to file suit. A. Mitchell Polinsky & Daniel L. Rubinfeld, *The Welfare Implications of Costly Litigation for the Level of Liability*, 17 J. LEGAL STUD. 151 (1988).

a positive (or descriptive) matter, can frivolous lawsuits potentially, though perhaps imperfectly, correct for the problem of underdeterrence? If so, they may therefore have some redeeming social value. Having raised these questions, it is important to note at this juncture that we will not advocate for an increase in the frequency of frivolous litigation. Nor will we attempt to justify plaintiffs who file frivolous lawsuits. Our theoretical model, when properly interpreted, does not provide an adequate normative foundation to suggest that policymakers should enact rules to encourage (or at least not discourage) frivolous litigation. This is true because, practically speaking, it may be difficult to determine exactly when frivolous lawsuits induce beneficial deterrence.[18] And in addition, we recognize that the existence of frivolous lawsuits may cause some to call into question the integrity of the civil justice system. As a result, our model only describes how, as a descriptive matter, frivolous lawsuits affect deterrence. Our conclusions therefore should not necessarily be interpreted as advocating for looser restrictions on the filing and litigating of frivolous claims.

With these considerations in mind, the remainder of the paper is organized as follows. In section I, we describe how a certain subset of frivolous lawsuits can be characterized as "piggyback" lawsuits. Despite ambiguity regarding what constitutes a frivolous lawsuit, we observe that some frivolous claims piggyback on claims brought by legitimate accident victims. In section II, we describe our theoretical model and provide numerical examples. There we show that under certain circumstances, frivolous lawsuits are capable of generating beneficial deterrence. In section III, we focus on how deterrence is impacted by the many legal regimes governing frivolous lawsuits. In particular, we discuss how these legal regimes may or may not increase social welfare in the presence of frivolous suits.

[18] *But see* section II.F, *infra*, for a numerical example demonstrating how frivolous lawsuits enhance deterrence in a socially valuable manner.

I. FRIVOLOUS LAWSUITS AS PIGGYBACK LAWSUITS

Different groups perceive frivolous lawsuits in different ways, and hence, there is some ambiguity with respect to defining, and correspondingly evaluating, frivolous suits. For instance, some personal injury lawyers may argue that frivolous lawsuits are infrequently initiated under contingency fee agreements because lawyers cannot expect to realize profits by representing clients with low-expected-value claims.[19] Indeed, if a contingency fee arrangement exists between a lawyer and a particular client, then the lawyer's willingness to represent the client may signal the case's inherent level of merit.[20] Taking a different stance, some politicians have maintained that frivolous lawsuits pose a serious threat to the efficiency of the civil justice system. With the asserted goals of remedying judicial delay, mitigating a perceived litigation explosion, reducing excessive jury awards, and decreasing insurance premiums, some political platforms have focused on reducing the frequency of frivolous lawsuits (for example, by advocating various federal and state tort reform measures). In addition, the general public sometimes criticizes the assertion of fanciful or bizarre legal claims, including not only those that are adjudicated in favor of the defendant,[21] but also those that result in plaintiffs' verdicts.[22]

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[19] *See*, *e.g.*, James D. Dana, Jr. & Kathryn E. Spier, *Expertise and Contingent Fees: The Role of Asymmetric Information in Attorney Compensation*, 9 J. LAW, ECON., & ORG. 349, 350 (1993) (arguing that rational lawyers will focus their efforts on meritorious claims as opposed to those cases with low expected returns). *But see* Thomas J. Miceli, *Do Contingent Fees Promote Excessive Litigation?*, 23 J. LEGAL STUD. 211 (1994) (recognizing that frivolous lawsuits can be profitable under contingency fee agreements if defendants prefer settlement to trial).

[20] Katz, *infra* note 42, at 26 (stating "[t]he fact that an attorney is willing to take a percentage of a case as his compensation may be a good signal that the case has merit; accordingly, contingent fees may help to channel meritorious cases toward settlement, while screening out some frivolous claims."). Put another way, personal injury lawyers may serve as a screening mechanism.

[21] *See*, *e.g.*, Pearson v. Soo Chung, 961 A.2d 1067 (D.C. App. 2008). In this case, the plaintiff Pearson, an administrative law judge, sued the defendant owners of a dry cleaning business for allegedly losing a pair of the plaintiff's pants, which were left for alterations. Requesting punitive and injunctive relief, the plaintiff sought damages for as much as $67 million (though later reduced) under theories of statutory unfair trade practices, common law fraud, conversion, and negligence. *Id*. at 1070; *Id*. at 1070 n.1. The trial court awarded judgment in favor of the defendants and the ruling was later affirmed on appeal. Unfortunately, to cover their defense costs, the defendants were forced to close two of their three dry cleaning shops, *Lost Pants Case Exposes Scary Side of Legal System*, WASH. POST, Dec. 23, 2008, at B03; *$54 Million 'Pant Suit' Runs Cleaners out of Business*, VIRGINIAN-PILOT, Sept. 20 2007, at A2, notwithstanding a fundraiser aimed at defraying more than $100,000 in litigation costs incurred by the defendants. *He's No Santa Claus*, BISMARCK TRIBUNE, Sept. 21, 2007, at 7C.

Successful yet perhaps novel cases, including the infamous matter of *Liebeck v. McDonald's Restaurants*,[23] are occasionally considered by the public to be frivolous in nature.

These conjectured group-level views, however, differ from the manner in which frivolous lawsuits are treated under American jurisprudence. According to the United States Supreme Court, "a complaint, containing as it does both factual allegations and legal conclusions, is frivolous where it lacks an arguable basis either in law or in fact."[24] Similarly, Black's Law Dictionary defines the term "frivolous" as "lacking a legal basis or legal merit."[25] The Restatement (Third) of Law Governing Lawyers states that "[a] frivolous position is one that a lawyer of ordinary competence would recognize as so lacking in merit that there is no substantial possibility that the tribunal would accept it."[26] Based on these perspectives, we can conclude that certain extreme causes of action are clearly frivolous in nature. For instance, we would all agree that filing suit against Satan for deprivation of one's constitutional rights is a fanciful allegation, unfit to be heard by the courts.[27]

However, a determination of frivolity may not always be this easy to establish. For some cases, the dividing line between a frivolous and potentially unsuccessful lawsuit, *ex ante*, may be difficult to identify. It should therefore not be surprising that at least one court has recognized

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[22] Rhode provides a brief overview of a number of novel, real-world cases—some frivolous, some not—to illustrate the inherent difficultly in distinguishing legitimate cases from frivolous ones. Deborah L. Rhode, *Frivolous Litigation and Civil Justice Reform: Miscasting the Problem, Recasting the Solution*, 54 DUKE L.J. 447, 447-449 (2004).

[23] Liebeck v. McDonald's Restaurants, Docket No. D-202 CV-93-02419 (Bernalillo County, N.M. Dist. Ct. Aug. 18, 1994).

[24] Neitzke v. Williams, 490 U.S. 319, 325 (1989). Fantastic or delusional factual allegations or indisputably meritless legal theories give rise to a complaint lacking an arguable basis. *Id*. at 327-28.

[25] BLACK'S LAW DICTIONARY (9th ed. 2009) (cited in U.S. v. Monson, 636 F.3d 435, 440 (8th Cir. 2011)).

[26] RESTATEMENT (THIRD) OF LAW GOVERNING LAWYERS § 110 cmt. d (2000); de Vaux v. Westwood Baptist Church, 953 So. 2d 677, 683 (Fla. Dist. Ct. App. 1st Dist. 2007).

[27] *See* U.S. ex rel. Mayo v. Satan and His Staff, 54 F.R.D. 282 (West. D. Penn. 1971) (where the district court dismissed the plaintiff's claims against Satan for failing to state a claim upon which relief could be granted, in addition to questioning whether personal jurisdiction and service of process were proper).

that the term "frivolous" is "incapable of precise determination,"[28] and accordingly, it may be the case that the lack of preciseness in defining the term "frivolous" has hampered scholarly analyses on the topic.[29] In an effort to shed light on exactly what constitutes a frivolous lawsuit, we consider the reasonable possibility that frivolous lawsuits often "piggyback" on genuine claims (hence we label them as piggyback lawsuits), though we concede that there are other motivations for initiating lawsuits without merit.[30]

Prior to justifying our treatment of frivolous lawsuits as piggyback lawsuits, we must first establish the incentives for plaintiffs to file frivolous lawsuits and for defendants to pay them off. A rational plaintiff will file a frivolous suit if and only he or she expects to obtain a sufficiently large settlement offer prior to trial. Absent this expected settlement offer, a plaintiff will not have the proper incentives to file a frivolous lawsuit in the first place because it will inevitably lose (or be very likely to lose) at trial. As a result, the plaintiff's (or plaintiff's lawyer's) motivation for filing a frivolous lawsuit must be to extract a positive settlement offer. But why do defendants pay off frivolous claims? At first blush, it appears that defendants ought to simply litigate all matters in an attempt to distinguish frivolous from genuine cases. However, as the model to be described below will illustrate, a policy of litigating all matters may not always be desirable from the defendant's perspective.

[28] *de Vaux*, 953 So. 2d at 683. It should be noted that there is some state court disagreement with respect to evaluating whether a lawsuit is frivolous. Keeling recognizes that the term "frivolous" is defined differently in different jurisdictions. Some define it to imply subjective bad faith, while it is evaluated according to an objective standard in other states. Byron C. Keeling, *Toward a Balanced Approach to "Frivolous" Litigation: A Critical Review of Federal Rule 11 and State Sanctions Provisions*, 21 PEPP. L. REV. 1067, 1070-71 (1994).

[29] Bone acknowledges in the legal literature that "[o]ne obstacle [to developing a model of frivolous lawsuits] is the lack of a clear and generally accepted definition of a 'frivolous suit,'" and uses a game theoretic approach to address this problem. Robert G. Bone, *Modeling Frivolous Suits*, 145 U. PA. L. REV. 519, 528 (1997).

[30] In particular, our model does not consider the possibility that a frivolous lawsuit may be initiated simply to harass another person or entity, or that a frivolous lawsuit may be filed to further an ulterior motive in the context of antitrust law, *i.e.*, sham litigation.

Early attempts to explain the success of frivolous lawsuits in a rational agent model suggested that defendants offered positive settlement amounts to frivolous plaintiffs in an effort to avoid costly litigation. For instance, Rosenberg and Shavell argue that nuisance suits arise out of a divergence between plaintiffs' filing costs and defendants' litigation costs.[31] By incurring small filing costs in conjunction with the option to withdraw at a later time, frivolous plaintiffs are able to obtain positive settlement offers since defendants recognize they will have to incur litigation costs in an effort to avoid default judgments.[32] Similarly, Cooter and Rubinfeld discuss nuisance suits in the context of an optimism model, where such suits arise out of asymmetric litigation costs borne by parties at trial.[33] In particular, defendants will pay positive settlements if they have higher trial costs than plaintiffs. Both of these early attempts treated a suit as frivolous when the defendant knew that the plaintiff would be unwilling to pursue (or unable to succeed at) trial.[34] The defendant's incentive to settle was related to its inclination to steer clear of costly litigation.

Recent attempts to explain the behavior of parties to frivolous litigation assume a more realistic scenario of asymmetric information. P'ng finds that frivolous plaintiffs sometimes succeed in obtaining settlement offers when the *defendant* has private information regarding its own liability but is fully informed about the plaintiff.[35] However, subsequent authors have pointed out that a frivolous plaintiff does not have a credible threat to reject a settlement offer

[31] David Rosenberg & Steven Shavell, *A Model in Which Suits Are Brought for Their Nuisance Value*, 5 INT'L REV. L. & ECON. 3 (1985).
[32] *Id*.
[33] Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LIT. 1067 (1989).
[34] Rosenberg and Shavell define a frivolous lawsuit as one in which "the plaintiff is able to obtain a positive settlement from the defendant even though the defendant knows the plaintiff's case is sufficiently weak that he would be unwilling or unlikely actually to pursue his case to trial." Rosenberg & Shavell, *supra* note 31, at 3. Cooter and Rubinfeld state that "a nuisance suit can be defined as a suit that both sides recognize as having no merit, in which case the expected damage award is nil." Cooter & Rubinfeld, *supra* note 33, at 1083.
[35] Ivan P. L. P'ng, *Strategic Behavior in Suit, Settlement, and Trial*, 14 BELL J. ECON. 539 (1983). P'ng's analysis supposed that the plaintiff did not know whether it put forth a genuine or frivolous claim. Only the defendant knew whether it was liable to the plaintiff.

and proceed to trial under P'ng's analysis because the defendant knows when a suit is frivolous.[36] In an effort to address the problem of threat credibility, Bebchuk assumes instead that it is the *plaintiff* who holds private information about the quality of a suit.[37] Treating frivolous lawsuits as negative expected value (NEV) suits,[38] Bebchuk's game theoretic model demonstrates that a frivolous plaintiff may succeed in obtaining a positive settlement offer due to uncertainty on the part of the defendant about whether a lawsuit is a NEV or a PEV (a positive expected value lawsuit).[39] In a follow-up article, Bebchuk widened the scope of his original model to consider the case where a defendant is reasonably certain that the plaintiff's suit is actually a NEV.[40] When this is the case, he argues that the divisibility of costs within the litigation process may still afford a plaintiff holding a NEV with the opportunity to extract a positive settlement offer.[41] Katz extended Bebchuk's original model by focusing on the plaintiff's incentive to file suit, in addition to the defendant's optimal settlement strategy.[42] In Katz's model, which is also based on asymmetric information on the part of plaintiffs, some frivolous lawsuits succeed in extracting a positive settlement in equilibrium.[43]

Subsequent models have extended the previous insights and proposed remedies for the problem of frivolous suits. For example, Miceli identifies the conditions under which repeat

[36] Bebchuk, *infra* note 37, at 438 (stating "given P'ng's assumptions, the defendant knows that it would not be in the plaintiff's interest to go to trial in the absence of a settlement; there is thus no reason for the defendant to believe that this would happen; and the defendant's best strategy is, therefore, to sit tight.").
[37] Lucian A. Bebchuk, *Suing Solely to Extract a Settlement Offer*, 17 J. LEGAL STUD. 437 (1988).
[38] A NEV suit exists when the plaintiff's expected judgment at trial is less than its expected litigation costs. In other words, the plaintiff expects a negative net return by proceeding to trial. Bebchuk, *infra* note 40, at 1.
[39] Bebchuk, *supra* note 37, at 440-41.
[40] Lucian A. Bebchuk, *A New Theory Concerning the Credibility and Success of Threats to Sue*, 25 J. LEGAL STUD. 1 (1996).
[41] *Id*. at 4.
[42] Avery Katz, *The Effect of Frivolous Lawsuits on the Settlement of Litigation*, 10 INT'L REV. L. & ECON. 3, at 26 (1990).
[43] *Id*. at 25.

defendants are able to establish credible threats to deter the initiation of frivolous lawsuits.[44] Farmer and Pecorino also utilize a reputation model in their analysis of frivolous lawsuits,[45] but they assume a plaintiff is able to obtain a positive settlement offer by establishing a reputation (*i.e.*, a credible threat) to proceed to trial when a settlement offer is rejected.[46] Rosenberg and Shavell offer a different solution to frivolous lawsuits—permitting courts to prevent pretrial settlement.[47] Finally, Schwartz and Wickelgren find that the discovery process is capable of inducing frivolous plaintiffs to reduce their settlement offers or withdraw their cases.[48]

In sum, most of the recent literature on the topic of frivolous, or nuisance,[49] suits has focused on the defendant's optimal policy in choosing whether to settle or litigate particular claims. These models typically assume that there is some exogenous, or given, probability that a plaintiff is uninjured or barely injured. Without a trial, the defendant would be unable to discern genuinely injured from uninjured plaintiffs, but utilizing trial as a separating mechanism requires the defendant to incur litigation costs. While at first blush it appears that the defendant simply ought to litigate all matters, it can be shown that under certain conditions a defendant's optimal strategy is actually to settle with all plaintiffs—both legitimate *and* frivolous ones. As a result, previous literature on the topic of frivolous lawsuits suggests that in some cases defendants are

[44] Thomas J. Miceli. *Optimal Deterrence of Nuisance Suits by Repeat Defendants*, 13 INT'L REV. L. & ECON. 135 (1993).
[45] Amy Farmer & Paul Pecorino, *A Reputation for Being a Nuisance: Frivolous Lawsuits and Fee Shifting in a Repeated Play Game*, 18 INT'L REV. L. & ECON. 147 (1998).
[46] *Id*. at 148-49.
[47] David Rosenberg & Steven Shavell. *A Solution to the Problem of Nuisance Suits: The Option to have the Court Bar Settlement*, 26 INT'L REV. L. & ECON. 42 (2006).
[48] Warren F. Schwartz & Abraham L. Wickelgren, *Credible Discovery, Settlement, and Negative Expected Value Suits*, 40 RAND J. ECON. 636 (2009).
[49] For the purposes of our theoretical model, we view the terms "frivolous" and "nuisance" in the context of lawsuits as synonymous. However, at least one commentator has discussed a technical distinction between these two terms. *See* Lance P.McMillian, *The Nuisance Settlement "Problem": The Elusive Truth and a Clarifying Proposal*, 31 AM. J. TRIAL ADVOC. 221, 222-23 (2007) (arguing that the two terms are not interchangeable, since a nuisance lawsuit implies a filing is made in bad faith, while a frivolous lawsuit does not.) This dissimilarity is immaterial to our analysis.

unable to avoid paying off frivolous lawsuits. Settlement payoffs to frivolous plaintiffs are simply a fixed cost of engaging in a risky activity.

Contrary to the assertion that defendants are "defenseless" to frivolous lawsuits, it is apparent that potential injurers often *can* affect their incidence. Under standard economic models of torts, for instance, potential injurers cause accidents not only as a consequence of their choice of care, but also as a direct result of their activity level—how frequently they engage in the risky activity in question. Thus, in the extreme case, a particular (defendant) business could avoid frivolous lawsuits altogether by simply choosing not to engage in any activity at all, *i.e.*, by shutting down. More generally, it presumably can reduce the threat of frivolous claims by reducing its activity level. For example, consider the hypothetical case of a supermarket owner who causes harm to a subset of customers who slip and fall on his premises.[50] The owner will face legal claims from customers who are genuinely injured as well as those customers who are either uninjured or suffered injuries caused by a different source. In this case, the success of frivolous claims in securing a pre-trial settlement depends on the existence of genuinely injured customers. Absent genuinely injured customers, frivolous plaintiffs would not likely succeed in obtaining settlement, and hence, they would rarely (if ever) initiate a lawsuit. This scenario reflects the idea that frivolous lawsuits piggyback on legitimate lawsuits filed against individuals or businesses whose ordinary activity results in some accidents.[51]

Consistent with this logic, we formally define piggyback lawsuits to be those brought by:

1. actual accident victims whose injuries were caused by someone other than the defendant (for example, negligence by another customer of the supermarket);
2. actual accident victims whose injuries were caused by "nature" (for example, a fall caused by a sudden dizzy spell suffered by the victim);

[50] Katz also considers slip-and-fall accidents in his discussion of frivolous lawsuits. Katz, *supra* note 42, at 6.
[51] Our treatment of frivolous lawsuits as piggyback lawsuits should not be confused with lawsuits that piggyback on governmental or regulatory investigations.

3. uninjured plaintiffs (those feigning a fall).[52]

This taxonomy of frivolous-as-piggyback lawsuits provides a straightforward definition upon which we can evaluate the impact of frivolous lawsuits on deterrence. In addition, it is consistent with the current jurisprudence governing frivolous lawsuits. Under our taxonomy, a defendant injurer is never liable at trial to a piggyback victim,[53] either because the defendant injurer did not factually cause the victim's injuries or because the victim is truly uninjured. In other words, although the above categories consist of a mixture of genuinely injured and uninjured plaintiffs, as a matter of law they are all frivolous in the sense that, even under a rule of strict liability, the injurer would not be held liable for their damages in court.

This view is harmonious with how courts routinely interpret the many policies and procedures providing a remedy to defendants when fending off frivolous litigation.[54] Under American jurisprudence, for a case to be frivolous it must be meritless—meaning, according to the United States Supreme Court, "groundless or without foundation, rather than simply that the plaintiff has ultimately lost his case."[55] Accordingly, courts are hesitant to provide a remedy for the filing of a frivolous lawsuit in cases that exhibit even an iota of merit. For instance, in *Tancredi v. Metropolitan Life Insurance Co.*, 378 F.3d 220, 230 (2nd Cir. 2004), the Second Circuit held that a finding of frivolity, which would trigger an award for attorney's fees under the Civil Rights Attorney's Fees Awards Act,[56] was improper when the original complaint was "very weak, but it was not completely without foundation." Similarly, in *Hughes v. Rowe*, 449 U.S. 5, 15-16 (1980), the United States Supreme Court held, again in the context of the Civil Rights

[52] Miceli & Stone, *infra* note 59, at 3.
[53] That is, the probability of victory at trial for a piggyback victim is zero.
[54] *See* section III, *infra*, for a discussion of the legal regimes that potentially affect the frequency of frivolous lawsuits.
[55] Christiansburg Garment Co. v. EEOC, 434 U.S. 412, 421 (1978) (in the context of interpreting Title VII of the Civil Rights Act of 1964).
[56] 42 U.S.C. § 1988 (1976).

Attorney's Fees Awards Act, that attorney's fees should not be awarded to the prevailing party when "[a]llegations that, upon careful examination, prove legally insufficient to require a trial are not, for that reason alone, 'groundless' or 'without foundation'….The fact that a plaintiff may ultimately lose his case is not in itself a sufficient justification for the assessment of fees." Because courts are hesitant to treat cases with *some* merit as frivolous in nature, there is symmetry between our taxonomy and current jurisprudence. Under our taxonomy, all piggyback cases are wholly without merit in the sense that the defendant is never liable to the piggyback plaintiff under a rule of strict liability.

In the next section, we provide an overview of our theoretical model, which partially follows the model originally set forth by Katz.[57] However, our model extends Katz's original analysis by grafting it onto a standard economic model of torts[58] to determine how a defendant's optimal strategy for dealing with piggyback lawsuits affects his or her prior choices of care and activity. In this way, we focus on how frivolous (piggyback) suits affect deterrence. We illustrate that, under certain conditions, these suits create incentives for potential injurers to engage in more efficient accident avoidance. That is, under a particular set of assumptions, piggyback lawsuits may actually enhance deterrence in a socially valuable way.

II. THEORETICAL FRAMEWORK FOR EVALUATING THE EFFECT OF PIGGYBACK LAWSUITS ON DETERRENCE

In this section, we set forth a theoretical model to illustrate how piggyback lawsuits affect accident avoidance. First, we provide a broad overview of the structure of the game, including its underlying assumptions. Next, we analyze the resulting settlement-trial equilibria. It is shown that due to the existence of information asymmetry, defendants face a dilemma when

[57] Katz, *supra* note 42, at 3.
[58] *See*, *e.g.*, STEVEN SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW (1987).

attempting to formulate a pre-trial settlement policy. In particular, when defendants try to settle all cases, they permit piggyback plaintiffs to extract positive settlements, which result in increased settlement costs. However, when defendants litigate all cases, they avoid settling with piggyback plaintiffs, but they incur litigation costs which otherwise could have been avoided by settlement. This dilemma leads to the emergence of two distinct equilibria in the settlement-trial subgame. From these two equilibria, we then derive the prior care and activity choices of the defendant-injurer. We first show that piggyback lawsuits serve to enhance deterrence compared to a world without frivolous suits, and then go on to show that under certain conditions, this enhanced deterrence is socially desirable. Finally, we provide a numerical example to illustrate the key conclusions of the analysis. Interested readers can find the formal details of the model in the Appendix.[59]

A. Structure of the Game and its Underlying Assumptions

Our model is a sequential move game[60] consisting of two players: (i) an injurer who engages in a risky activity, and (ii) a victim who is either legitimately injured (hereinafter a "genuine victim"), or is of the piggyback variety (hereinafter a "piggyback victim"). There are four total periods. In the first period, the injurer chooses its activity level. In the context of our example, the injurer's activity level reflects the number of individual stores the supermarket owner wishes to operate. If the injurer's activity level is positive (that is, if the owner operates at least one store), then the injurer also chooses its monetary expenditure in care per unit of activity. For instance, the supermarket owner takes steps to ensure that the aisles are clear of hazards and the floor is not slippery.

[59] The appendix is based on the analysis in Thomas J. Miceli & Michael P. Stone, *"Piggyback" Lawsuits and Deterrence: Can Frivolous Litigation Improve Welfare?* (University of Connecticut Department of Economics Working Paper Series No. 2013-16, July 2013), *available at* http://www.econ.uconn.edu/working/2013-16.pdf (last visited Aug. 1, 2013).

[60] Such a game permits sequential movement by players, *e.g.*, one player moves first, then another chooses an action based on the first player's observed action.

The injurer's monetary expenditure on care directly influences its expected tort liability per unit of activity. Specifically, the probability of an accident is decreasing in care, meaning that as the injurer's expenditure on care increases, the probability of an accident decreases. However, this does not imply that the injurer will necessarily find it desirable to invest in care to the point where the probability of an accident is zero. Care is costly and the rate by which it reduces the probability of an accident decreases as care increases.[61] Thus, an injurer will only increase its expenditure on care as long as the marginal benefit of care exceeds the marginal cost. Under strict liability, the injurer's marginal benefit of care is the marginal reduction in expected tort liability per unit of activity. Thus, the injurer will continue to invest in care until the marginal reduction in liability equals the cost of the last unit of care (the marginal cost of care). In a simple model without litigation costs, this level of care coincides with the socially optimal level of care. Under a more realistic scenario incorporating costly litigation, however, injurers will generally underinvest in care for the reasons noted above. It is this underdeterrence that potentially makes piggyback suits socially desirable from an accident cost perspective.

In addition to the number of genuine victims, which depends on the injurer's care level, we assume that there is an exogenous "supply" of piggyback victims per unit of the injurer's activity. The total number of potential plaintiffs facing the defendant, per unit of activity, is the sum of these two quantities.

Would-be victims—be they genuine or piggyback—move in the second period. Victims choose whether or not to file suit, which is costly. If a victim files suit, he or she becomes the plaintiff in a cause of action against the injurer, which is now the defendant. We will assume that it is always in the interest of genuine plaintiffs to file suit, whether or not they expect

[61] This is a standard assumption under economic tort models. We particularly assume that the probability of an accident decreases as care increases, but at a decreasing rate.

subsequent bargaining with the defendant to result in a pre-trial settlement. The decision of piggyback plaintiffs, however, will depend on whether or not they expect the defendant to offer a positive settlement amount.

Once a victim (now a plaintiff) files suit, the defendant and plaintiff engage in a subgame involving the decision of whether to settle the dispute or proceed to trial. Thus, in the third period, the defendant makes a take-it-or-leave-it settlement offer (which could be zero) to the plaintiff, and then in the fourth period, the plaintiff either accepts or rejects this offer. If the plaintiff accepts, the parties settle and the game ends. However, if the plaintiff rejects the settlement offer, then the outcome of the game depends on whether the plaintiff is a genuine or a piggyback plaintiff. For simplicity, we assume that the prevailing legal rule is strict liability with pure compensatory damages, meaning the injurer will always be liable for a genuine victim's harm, since by assumption a genuine victim can prove causation in court. Thus, if the plaintiff is genuine, it will win at trial with certainty.[62] In contrast, a piggyback plaintiff cannot prove causation and will therefore lose at trial with certainty. Accordingly, only genuine plaintiffs ever proceed to trial, while piggyback plaintiffs who reject the defendant's offer (which only happens when the offer is zero) withdraw their claims.

The equilibrium of the preceding game is derived by backward induction,[63] which is the proper solution procedure for games in which players move sequentially. A schematic depiction of the various stages and the sequence of moves by the players is shown in Figure 1, which is contained in the Appendix, along with a formal analysis of the model.

[62] This assumes that judges and juries do not commit errors.

[63] Backward induction requires us to first determine the optimal strategy for the last-moving players in time, *i.e.*, the genuine and piggyback plaintiffs' decisions of whether to accept or reject the defendant's take-it-or-leave-it settlement offer in period 4. Once we have ascertained both plaintiffs' optimal strategies in period 4, we work backwards in time to period 3 to identify the defendant's optimal take-it-or-leave-it settlement offer. With this information, we continue working backwards in time, first deriving whether plaintiffs will file suit in period 2, and finally concluding with the injurer's optimal care and activity choices in period 1. The presumption here is that players have strategic foresight.

B. Settlement-Trial Subgame

We begin by describing the outcome of the settlement-trial subgame, which begins at the point where a plaintiff files a lawsuit. Consider first the plaintiffs' decisions regarding whether to accept or reject the defendant's take-it-or-leave-it settlement offer in the final period. If the plaintiff is genuine, it will only accept the defendant's offer if it is at least as large as the expected value of trial. The expected value of trial is equal to the magnitude of the plaintiff's damages less the plaintiff's cost of trial.[64] We assume that this is a positive amount, meaning that the plaintiff's losses exceed the cost of trial. (Note that the plaintiff's filing costs do not matter for the settlement decision because once the case has been filed, filing costs are a sunk expenditure.) Any offer smaller than the plaintiff's expected value of trial will cause a genuine plaintiff to reject the offer and proceed to trial. In contrast, piggyback plaintiffs, because they will lose at trial with certainty, will accept any positive settlement offer, and will drop the suit if offered zero.

We now move backwards in time to the point where the defendant makes its settlement offer. Since backward induction implies that the defendant has strategic foresight, it knows how the two types of plaintiffs will behave when faced with a given offer. Thus, if the defendant had perfect information and could distinguish genuine from piggyback plaintiffs, it would rationally offer genuine plaintiffs a settlement amount equal to their expected value of trial (as defined above), and zero to piggyback plaintiffs. When faced with these offers, genuine plaintiffs will accept the offer and settle, while piggyback plaintiffs will drop their suits (which is to say, they will accept the offer of zero). Thus, with perfect information, the defendant is able to avoid a costly trial with genuine plaintiffs via settlement, and to pay nothing to piggyback plaintiffs.

[64] For example, suppose the plaintiff's damages are $100,000, and the cost of trial is $15,000. Then, if the plaintiff goes to trial and wins, it will receive compensation of $100,000, but will have to pay trial costs of $15,000. Thus, the plaintiff will not settle for any amount less than $85,000.

And because rational plaintiffs will anticipate this outcome, only genuine plaintiffs will ever file suit.

The outcome will be quite different in the uncertainty case, however, because the defendant will not be able to distinguish between the two types of plaintiffs at the settlement stage and therefore must make a single offer. One possible strategy for the defendant is to offer the minimum amount that a genuine plaintiff will accept, in which case both types of plaintiffs will accept the offer, and no cases will ever go to trial. While this strategy saves on trial costs, it has the downside of paying off all piggyback suits as if they were genuine. And anticipating this, all potential piggyback plaintiffs will file suit. Alternatively, the defendant could offer zero to all plaintiffs—that is, refuse to settle any suits. While this strategy ensures that no piggyback plaintiffs would be able to extract a positive settlement amount (and hence would be deterred from filing suit), it would cause all genuine plaintiffs to opt for trial, thus requiring the defendant to incur litigation costs in addition to paying damages.

It is important to note that it will always be optimal for the defendant to make one of these two offers—either the minimum amount a genuine plaintiff will accept (equal to the genuine plaintiff's expected value of trial), or zero. It would obviously never pay for the defendant to offer more than a genuine plaintiff would accept (for both types would accept the lower amount), nor would it pay to offer an amount between zero and the minimum acceptable offer (for that offer would be rejected by genuine plaintiffs and would overcompensate piggyback plaintiffs).

The defendant's optimal choice between the two offers will depend on its beliefs about the likelihood that a given plaintiff is genuine or piggyback. Those beliefs will depend on three factors: (1) the level of care the defendant exercised (which determines the likelihood that a

genuine accident will occur); (2) the total number of potential piggyback plaintiffs who might file suit (which we treat as exogenous);[65] and (3) the decision of piggyback plaintiffs about whether or not to file suit. If, taking all of these factors into account, the defendant perceives that the probability a plaintiff is genuine exceeds a certain threshold, then its optimal strategy will be to settle the claim; that is, to offer the minimum amount that a genuine plaintiff will accept. Although the defendant knows that by adopting this strategy there is a chance it will be paying off a piggyback plaintiff, the strategy is a worthwhile venture given the relatively high probability that the plaintiff is genuine and therefore would be willing to go to trial if offered nothing. Of course, potential piggyback plaintiffs will anticipate this behavior and will therefore file suit. Thus, in equilibrium, it must be the case that the total number of such plaintiffs is small relative to the number of genuine plaintiffs in order to fulfill the defendant's expectations. We will refer to this "pure strategy" equilibrium,[66] in which all potential piggyback plaintiffs file suit and the defendant settles all cases, as a Type 1 equilibrium.

Suppose alternatively that when all piggyback plaintiffs file suit, the defendant perceives a relatively low probability that a given plaintiff is genuine. In this case, one might suppose that the optimal strategy would be for the defendant to refuse to settle any cases (*i.e.*, to offer a zero settlement amount) as a way of inducing all piggyback plaintiffs to drop their cases. Of course, this would entail going to trial with genuine plaintiffs, but given the defendant's initial beliefs, he calculates that this strategy is cheaper than paying off all of the piggyback plaintiffs. Piggyback

[65] This number will depend on various factors, including the total number of persons with whom the defendant interacts when engaged in its activity, the ease with which they feign injury, and their inherent propensity to falsely file a lawsuit.

[66] A player adopts a pure strategy when it chooses a particular action with a probability of 1. In other words, a player chooses a single action with certainty. The intersection of players' pure strategies is a pure strategy equilibrium. For readers without a background in economics, *see* MARTIN J. OSBORNE, AN INTRODUCTION TO GAME THEORY 107-08 (Oxford University Press 2004) for a brief discussion of the concept of a pure strategy and the resulting equilibrium. In the context of our theoretical model, a Type 1 equilibrium is a pure strategy equilibrium because piggyback victims file suit with a probability of 1 and the defendant chooses to settle with a probability of 1.

plaintiffs will correctly anticipate this outcome and therefore will not file suit. But notice that this contradicts the defendant's initial beliefs that piggyback plaintiffs constituted a relatively large fraction of all plaintiffs who actually file suit. If, in consequence, the defendant revises his beliefs to suppose that all plaintiffs are genuine, its optimal strategy would then be to settle all cases. But then all potential piggyback plaintiffs would be induced to file suit, and again the defendant's beliefs would be contradicted.

This circular reasoning reveals that a pure strategy equilibrium in which the defendant offers a zero settlement amount to all plaintiffs cannot exist in this case. There does, however, exist a second type of equilibrium that involves "mixed strategies" by the defendant and piggyback plaintiffs. Generally speaking, a mixed strategy exists when a player randomly chooses between two (or more) pure strategy options.[67] In the current context, the defendant randomizes between offering a positive settlement amount and zero, while piggyback victims randomize between filing suit and not filing. (All genuine victims will file suit with certainty no matter what strategy they expect the defendant to play.) For these mixed strategies to constitute an equilibrium, it must be the case that defendants are indifferent between their two options, and piggyback victims are indifferent between their two options. Thus, the probabilities attached to each option for the two players must adjust to ensure that this is true.

As noted, this mixed strategy equilibrium in the settlement-trial game, which we will refer to as a Type 2 equilibrium, arises when the fraction of genuine plaintiffs in the population of all potential plaintiffs is below a threshold. In the resulting equilibrium, the defendant randomly settles with some plaintiffs and refuses to settle with the remaining ones (though remember, it cannot tell which plaintiffs are genuine), and piggyback victims randomly choose between filing and not filing suit. Among the piggyback plaintiffs who file, the ones who

[67] *See id*. at 107-108 for a discussion on this topic.

receive a positive settlement offer accept and settle, while the ones who receive an offer of zero are forced to withdraw their cases. At the same time, the defendant necessarily incurs some litigation costs when those genuine plaintiffs to whom he offers zero opt for trial.

In summary, the outcome of the settlement-trial subgame involves two equilibria. The first is a pure strategy equilibrium in which all piggyback victims file suit and the defendant settles with all plaintiffs—both genuine and piggyback. This Type 1 equilibrium emerges when the fraction of genuine plaintiffs in the population of all plaintiffs is "sufficiently large." The second is a mixed strategy equilibrium in which only some piggyback victims file suit, and the defendant settles a fraction of these cases. Among the cases that the defendant chooses not to settle (that is, to whom he makes a zero settlement offer), genuine plaintiffs go to trial while piggyback plaintiffs drop their suits. This Type 2 equilibrium emerges when the fraction of genuine plaintiffs in the population of all plaintiffs is "sufficiently small." Notice, however, that at least some piggyback plaintiffs succeed in obtaining settlements no matter which equilibrium emerges.

C. Injurer's Care and Activity Choices

Now that we have identified the two equilibria that can arise from the settlement-trial subgame, we shift our attention to the injurer's care and activity choices in the initial period. The injurer's problem at this point is to maximize the net return from the activity in question. In terms of our example, the owner of a supermarket will choose the number of stores to operate, or equivalently, the number of hours to be open (its activity), and the amount of time and effort devoted to maintaining a safe environment (its care), to maximize profit. In making these choices, the injurer rationally anticipates the liability risk that it faces, which is reflected in the

outcome of the settlement-trial subgame as just described. The injurer's expected return will therefore incorporate the expected liability and litigation costs that emerge from that subgame.

We will examine the impact of the threat of piggyback suits on the injurer's choice of activity and care in two ways. First, we will compare the injurer's optimal choices in the model with piggyback suits (the imperfect information model) to its choices in a model of perfect information—that is, where the injurer can perfectly distinguish between genuine and piggyback plaintiffs. After that, we will compare the outcome in the imperfect information model to the socially optimal choices of activity and care—that is, the choices that a social planner would make.

D. Comparison to the Perfect Information Model

Recall that when the injurer has perfect information regarding the plaintiff's type, it will rationally settle with all genuine plaintiffs and offer zero to any piggyback plaintiffs, who would then drop their cases. Thus, at the point where the injurer makes its care choice, the injurer expects to face only genuine plaintiffs, with whom it will settle for their expected value of trial. The injurer's optimal care choice therefore minimizes the sum of the costs of care plus expected liability, which equals the plaintiff's expected value of trial multiplied by the probability of an accident.

In the model with imperfect information, the injurer's expected liability differs from that in the perfect information model because at least some piggyback plaintiffs succeed in obtaining settlements under either of the two equilibria of the settlement-trial game. Under the Type 1 (pure strategy) equilibrium, the defendant settles with all plaintiffs, and accordingly, the amount the defendant pays per suit is the same as in the perfect information model. However, because all piggyback plaintiffs file suit, the defendant faces more suits (or, what amounts to the same

thing, a higher probability of a suit). It turns out, though, that the injurer's optimal care choice in this case is the same as in the perfect information model. The reason is that the injurer perceives the number of piggyback lawsuits to be fixed relative to its level of care, and so increasing that level would not reduce the number of such suits. In other words, the injurer only chooses care up to the point where the marginal reduction in liability costs from *genuine suits* equals the marginal cost of care. And since this is the same in the perfect and imperfect information models, the injurer chooses the same care level in the two cases.

The situation is different under the Type 2 equilibrium of the settlement-trial game. In this case, the injurer will choose a higher level of care as compared to the perfect information model. This is true because the injurer's expected liability now includes the possibility of trial costs when it defends claims brought by genuine plaintiffs. Thus, in an effort to avoid some costly trials, the injurer will exercise more care than it would under perfect information. Specifically, by exercising additional care, the injurer reduces the frequency of cases that end up at trial with genuine plaintiffs. Accordingly, the existence of piggyback lawsuits has the following impact on the care choice of injurers when compared to a world characterized by perfect information—injurers exercise the same amount of care under a Type 1 equilibrium, but they exercise *more* care under a Type 2 equilibrium. This demonstrates that the existence of piggyback lawsuits is capable of enhancing the care component of deterrence.

Let us now consider the impact of piggyback suits on the injurer's activity level. Under both type of equilibria, the number of piggyback plaintiffs is positively correlated with the injurer's activity. This is true, recall, because under both equilibria, at least some piggyback suits succeed in receiving settlements. Thus, as an injurer's activity level increases, the number of piggyback plaintiffs also increases. Furthermore, in the Type 2 equilibrium, the average

liability per suit is higher because, as noted, some cases go to trial. For both of these reasons, the cost per unit of activity is higher in the imperfect information model. As a result, the injurer chooses a lower activity level compared to the perfect information model. This illustrates that piggyback lawsuits are *always* capable of enhancing the activity-level component of deterrence.

In conclusion, when compared to the equilibrium under perfect information, an injurer sometimes exercises more care and always decreases its activity level given the threat of piggyback lawsuits under imperfect information. It remains to be seen, however, whether this enhanced deterrence is socially desirable. We address this question in the next section.

E. Welfare Analysis

To evaluate the social desirability of piggyback lawsuits, we first need to determine the care and activity levels that a perfectly informed benevolent social planner would choose. A benevolent planner's objective is to maximize the net value of the injurer's activity, taking into account all liability-related costs, including the filing costs of victims. We therefore take as given the need for accident victims to file suit in order to receive compensation for their losses under tort liability. Given the need for suits, however, it is socially desirable for all of them to settle in order to avoid trial costs.

Based on this objective, we first note that injurers under-invest in care and over-engage in the risky activity in the perfect information case compared to the social optimum; that is, even when injurers can distinguish between genuine and piggyback plaintiffs, there is underdeterrence. This occurs through two channels. First, the injurer does not internalize a genuine victim's filing costs, and second, the injurer is able to settle for less than the amount of the victim's damages. (Recall that genuine plaintiffs will settle for an amount equal to their

damages less their costs of trial.) Consistent with past literature on the topic, we see that when litigation is costly, strict liability results in underdeterrence, even when information is perfect.[68]

The injurer's optimal care and activity choices will also generally diverge from the social optimum in the imperfect information case, but the direction of the divergence in this case is ambiguous. Under a Type 1 equilibrium, the injurer will under-invest in care relative to the social optimum because, as in the perfect information case, it does not fully internalize the filing cost and damages suffered by a genuine victim. The filing cost is paid solely by the genuine victim, and as noted above, the injurer is able to exploit the plaintiff's litigation costs in making its settlement offer. With respect to its activity level, however, the injurer may over- or under-engage in the activity from a social perspective under a Type 1 equilibrium. The injurer may over-engage in the activity because it does not internalize a genuine victim's filing cost, but it may under-engage due to the costs of paying off piggyback plaintiffs. Given these two competing forces, the direction of the deviation from the social optimum with respect to the injurer's activity level in a Type 1 equilibrium is ambiguous.

With respect to a Type 2 equilibrium, the injurer may over-invest or under-invest in care, and over-engage or under-engage in activity, for roughly the same reasons. The injurer does not internalize a genuine victim's filing costs, nor does the injurer fully internalize a genuine victim's damages when settling a fraction of cases. This factor alone suggests that the injurer under-invests in care and over-engages in the activity. Working in the opposite direction, however, is the fact that the injurer incurs litigation costs for those cases filed by genuine plaintiffs that end up going to trial. Taken together, these factors show that, from a social perspective, it is unclear whether piggyback lawsuits induce, or fail to induce, beneficial deterrence under a Type 2 equilibrium.

[68] *See, e.g.*, Shavell, *Social versus Private Incentive*, *supra* note 1; Hylton, *supra* note 15.

In sum, the foregoing results suggest that piggyback lawsuits are *not* always undesirable from a social perspective. While the direction of the deviation relative to the social optimum is ambiguous in most cases, the existence of piggyback lawsuits generally results in more care and less activity relative to a world characterized by perfect information. Moreover, under certain conditions, they may actually serve to enhance deterrence in a socially valuable way. Now that we have described the theoretical model,[69] we present a numerical example to illustrate the preceding conclusions.

F. Numerical Example

For the purposes of this numerical example, we continue with our hypothetical situation of a supermarket owner who causes injuries to a subset of customers who slip and fall on the owner's premises. Suppose the supermarket owner is faced with the decision of whether to operate one, two, or three identical stores in a narrow geographic area. The owner's choice of how many stores to operate reflects a decision concerning his activity level. For the sake of argument, let the gross value per year of operating one, two, or three stores be $150,000, $200,000, and $225,000, respectively. Notice that the supermarket owner's gross value is increasing in the number of stores, but at a decreasing rate, reflecting a diminishing marginal value. This might reflect the idea that the supermarket owner is attracting fewer new shoppers per store as he operates more stores in the same geographic area.

The supermarket owner knows that he will be held strictly liable to a subset of customers who suffer injuries from slip-and-fall accidents on his premises.[70] Recognizing this, suppose that

[69] Under a well-functioning negligence rule, as opposed to strict liability, the presence of piggyback lawsuits will have no effect on deterrence. Changing the liability rule to one of negligence results in neither genuine nor piggyback plaintiffs filing suit. All injurers will comply with the negligence standard of due care under the circumstances. Miceli & Stone, *supra* note 59, at 18-20.

[70] For cases imposing strict liability for slip-and-fall accidents, *see* Steven D. Winegar, Comment, *Reapportioning the Burden of Uncertainty: Storekeeper Liability in the Self-Service Slip-and-Fall Case*, 41 UCLA L. Rev. 861, 888-91 (1994).

the supermarket owner can choose one of three monetary expenditures on care per year to reduce the probability of an accident. If he spends $50,000 (*i.e.*, a high level of care) per store, he can hire a full-time employee to monitor the condition of the floors and to subsequently cure any defects. With a full-time employee, the probability that a customer will suffer injuries arising from a slip-and-fall accident at a particular store is 5% per year. Or, the supermarket owner can spend $25,000 (*i.e.*, a medium level of care) per store to hire a part-time employee devoted to monitoring safety. In this case, the probability that someone will slip and fall at a particular store is 15% per year. Finally, the owner can spend $10,000 (*i.e.*, a low level of care) per store to finance overtime pay for his current employees. In this case, the owner's employees work extra hours to share the burden of monitoring the floors, but because they are working longer hours, they are somewhat ineffective and the probability of an accident per year is 30%.[71] The supermarket owner's choice of his monetary expenditure on care will govern his decisions in each store which he operates, meaning, for instance, if he chooses a high level of care and operates three stores, then his total expenditures on care per year will be $150,000 (three full-time employees at $50,000 each).

Finally, assume that when a customer suffers a slip-and-fall injury on the supermarket owner's premises, the victim's damages always amount to $100,000. To file suit, the victim incurs a reasonable filing fee of $500. And, when cases are brought to trial, both the plaintiff and the defendant incur identical litigation costs of $15,000 each. The following tables summarize the relationship between the theoretical model's variables and the numerical values adopted for this example.

[71] These conjectured values reflect the reasonable assumption that as care expenditures increase, they decrease the probability of an accident at a decreasing rate. *See supra*, note 61.

Table 1

Activity Level		**Monetary Expenditure on Care**		
	Value per year		*Cost*	*Probability of an accident*
1 store	$150,000	*High level*	$50,000	0.05
2 stores	$200,000	*Middle level*	$25,000	0.15
3 stores	$225,000	*Low level*	$10,000	0.3

Table 2

Plaintiff's damages	$100,000
Plaintiff's trial cost	$15,000
Defendant's trial cost	$15,000
Defendant's filing cost	$500

Consistent with the theory provided above, a benevolent social planner would induce the supermarket owner to choose a monetary expenditure on care and an activity level consistent with no piggyback victims filing suit, and all genuine victims filing suit but settling for their entire level of damages and filing costs prior to trial. A three-by-three matrix can be constructed to represent the net social value of operating the supermarket for each activity level-care combination. The combination that a social planner would choose corresponds to the highest net value resulting from these nine combinations. Table 3 presents various combinations.

Table 3

Social Planner [a]			
	Care Expenditure		
	High level	*Middle level*	*Low level*
1 store	$94,975	$109,925	$109,850
2 stores	$89,950	$119,850	$119,700
3 stores	$59,925	$104,775	$104,550

[a] Values correspond to: $V(z) - z[x + p(x)(L + k)]$ (*see* Appendix).

In the table, the activity level-care combination that maximizes the net value of activity for the supermarket is highlighted. It is evident that the supermarket owner's net value of activity is maximized from a social perspective when he chooses to operate two stores and exercises a

middle level of care. All other combinations result in lower net values of operating the supermarket (that is, all other combinations exhibit a net value of less than $119,850).[72] Put another way, the supermarket owner should hire two part-time employees at a cost of $25,000 each, and he should place one part-time employee in each of his two stores. However, he should not operate a third store. This is the benchmark against which we will judge the social desirability of frivolous lawsuits.

We next ask, what are the supermarket owner's equilibrium choices of care and activity when he has perfect information regarding the plaintiff's type? Recall that when there is perfect information, the supermarket owner can distinguish piggyback plaintiffs from genuine plaintiffs and can settle with the latter but offer nothing to the former. Our theory above predicted that injurers over-engage in activity and under-invest in care in this case relative to the social optimum. To verify this result for our numerical example, Table 4 depicts the net value of activity to the supermarket owner for each activity-care combination when there is perfect information.

Table 4

Supermarket Owner Perfect Information [b]			
	Care Expenditure		
	High level	*Middle level*	*Low level*
1 store	$95,750	$122,825	$135,500
2 stores	$91,500	$145,650	$171,000
3 stores	$62,250	$143,475	$181,500

[b] Values correspond to: $V(z) - z[x + p(x)(L - C_4)]$

Notice in particular that the supermarket owner's net value of activity is maximized when he operates three stores and exercises a low level of care. (The maximized net value is again

[72] Notice, for example, that a social planner would *not* require the supermarket owner to exercise a high level of care. This reflects the idea that the social planner's objective is not to minimize the probability of an accident. Its objective is to minimize the total costs associated with taking care.

highlighted.) The supermarket owner is therefore underdeterred in this example because, as we saw above, it is socially optimal for him to operate only two stores and invest in two part-time employees, *i.e.*, a middle level of care. But with perfect information, he chooses instead to operate three stores and to choose a low level of care in each store.

Finally, let us turn to the case of imperfect information by the supermarket owner regarding the plaintiff's type. Recall that two equilibria potentially arise given asymmetric information. Suppose the probability that a piggyback victim arises per unit of activity is .01. This conjectured value for the potential number of such plaintiffs is so small that the supermarket owner will perceive a "sufficiently large" probability that a plaintiff's claim is genuine.[73] Table 5 identifies the net value to the supermarket owner under both possible equilibria when the probability a victim is a piggyback victim is .01 per unit of activity.

Table 5

Supermarket Owner							
Type 1 Equilibrium [c]				**Type 2 Equilibrium** [d]			
	Care Expenditure				*Care Expenditure*		
	High level	*Middle level*	*Low level*		*High level*	*Middle level*	*Low level*
1 store	$94,900	$111,400	$113,650	*1 store*	$94,250	$107,750	$105,500
2 stores	$89,800	$122,800	$127,300	*2 stores*	$88,500	$115,500	$111,000
3 stores	$59,700	$109,200	$115,950	*3 stores*	$57,750	$98,250	$91,500

[c] Values correspond to: $V(z) - z\{x + [p(x) + q](L - C_\pi)\}$ [d] Values correspond to: $V(z) - z[x + p(x)(L + C_\Delta)]$

Since the threat of piggyback victims is low relative to the probability of an accident for every care level, it should not be surprising that a Type 1 equilibrium emerges as optimal. Indeed, every activity level-care combination under a Type 1 equilibrium yields a higher net value than the corresponding activity level-care combination under a Type 2 equilibrium. Note that in this equilibrium, the supermarket owner chooses to operate two stores and to exercise a low level of care. (This maximized net value is highlighted in the left-hand panel of the above

[73] See the Appendix for details.

table.) When compared to the equilibrium under perfect information, the existence of piggyback plaintiffs results in beneficial deterrence with respect to the supermarket owner's activity level in the sense that the owner now operates two stores rather than three, which is the efficient level of activity. Notice, however, that the supermarket owner's level of care is unaffected by the presence of piggyback victims. This reflects the conclusion reached above that under a Type 1 equilibrium, the injurer exercises the same level of care as in the perfect information model, and too little care from a social perspective. This example illustrates the conclusion that piggyback victims may imperfectly correct for the problem of underdeterrence.

Suppose instead that the probability a piggyback victim arises per unit of activity is much higher than in the previous example; specifically, suppose it is now .20. The following table depicts the net value of activity to the supermarket owner in this case.

Table 6

Supermarket Owner							
Type 1 Equilibrium				**Type 2 Equilibrium**			
	Care Expenditure				*Care Expenditure*		
	High level	*Middle level*	*Low level*		*High level*	*Middle level*	*Low level*
1 store	$78,750	$95,250	$97,500	*1 store*	$94,250	$107,750	$105,500
2 stores	$57,500	$90,500	$95,000	*2 stores*	$88,500	$115,500	$111,000
3 stores	$11,250	$60,750	$67,500	*3 stores*	$57,750	$98,250	$91,500

In this case, given that the potential number of piggyback plaintiffs is relatively large, the supermarket owner will perceive a "sufficiently small" probability that the plaintiff's claim is genuine. Therefore, it should not be surprising that a Type 2 equilibrium will emerge. As shown in the table, the net values of activity for each activity level-care combination under a Type 2 equilibrium are higher than their Type 1 equilibrium counterparts. As the highlighted entry in the right-hand panel shows, the supermarket owner chooses to operate two stores and to exercise a middle level of care. Note that these choices correspond to the social optimum in this example,

illustrating again how piggyback lawsuits are capable of enhancing deterrence in a socially valuable way.

Finally, consider a value that lies between the conjectures values we have utilized above. Suppose, in particular, that the probability a piggyback victim arises per unit of activity is 0.05. Table 7 depicts the net value of activity for each activity level-care combination under this scenario.

Table 7

Supermarket Owner							
Type 1 Equilibrium				**Type 2 Equilibrium**			
	Care Expenditure				*Care Expenditure*		
	High level	*Middle level*	*Low level*		*High level*	*Middle level*	*Low level*
1 store	$91,500	$108,000	$110,250	*1 store*	$94,250	$107,750	$105,500
2 stores	$83,000	$116,000	$120,500	*2 stores*	$88,500	$115,500	$111,000
3 stores	$49,500	$99,000	$105,750	*3 stores*	$57,750	$98,250	$91,500

From the table it is evident that the supermarket owner must compare the net values of activity under both equilibria. (That is, some activity level-care combinations yield higher returns under a Type 1 equilibrium, while some combinations yield a higher return under a Type 2 equilibrium.) In this example, a Type 1 equilibrium in which the injurer operates two stores and exercises a low level of care turns out to be optimal. The outcome is therefore the same as in the example where the probability a piggyback victim arose per unit of activity was .01 (*see* Table 5).

The foregoing numerical examples illustrate the positive claim that piggyback lawsuits are sometimes capable of inducing beneficial deterrence. Although perhaps imperfect, piggyback lawsuits in these examples provide an incentive for the injurer to exercise levels of care and activity that in some cases are closer to the social optimum than those that would arise in a world characterized by perfect information (*i.e.*, where piggyback suits are not a threat). We

hasten to add, however, that these examples are only meant to be illustrative. We could just as easily have chosen values of the parameters to show that the threat of piggyback lawsuits can result in too much care and too little activity compared to the social optimum—that is, they could have resulted in overdeterrence. This, of course, obviates the usefulness of piggyback suits from a policy perspective. Still, an understanding of their impact on deterrence is important for properly evaluating the impact of policies that have been proposed for reducing frivolous litigation. That task is the purpose of the next section.

III. POLICY IMPLICATIONS

While the theoretical model and numerical examples suggest that piggyback lawsuits—or more broadly, frivolous lawsuits—are not always detrimental to social welfare, we have been unable to uncover any source of law that recognizes the potentially beneficial deterrence externality resulting from such suits. Rather, courts and policymakers alike share an interest in deterring plaintiffs from filing frivolous lawsuits. In particular, procedural rules, statutory law, and the common law of torts serve to protect parties—including private persons and even governments—from frivolous litigation. When these legal regimes are evaluated together, it is evident that they utilize two mechanisms (perhaps simultaneously) in an effort to reduce the frequency of frivolous litigation: i) shifting the burden of the defendant's reasonable litigation costs and attorney's fees to the frivolous plaintiff, and ii) claim-quality identification.[74] This

[74] We do not discuss the impact of rules that do not provide a potential deterrent to the initiation of frivolous lawsuits. In his majority opinion in the infamous case of *Clinton v. Jones*, Justice Stevens noted that "[m]ost frivolous and vexatious litigation is terminated at the pleading stage or on summary judgment, with little if any personal involvement by the defendant." Clinton v. Jones, 520 U.S. 681, 708 (1997). Indeed, prior to the onset of discovery, FED. R. CIV. P. 12(b)(6), which permits dismissal of a complaint at the pleadings stage for failure to state a claim upon which relief can be granted, is capable of eliminating frivolous claims. And, for those suits that survive the pleadings stage of litigation, summary judgment via FED. R. CIV. P. 56 permits parties to eliminate frivolous lawsuits without the necessity of trial. *See* Beverly Dyer, *A Genuine Ground in Summary Judgment for Rule 11*, 99 YALE L.J. 411, 411 (1989) (recognizing that the well-established standards for summary judgment are

section therefore examines the positive implications of cost-and-fee shifting rules and claim-quality identification on accident avoidance in the presence of frivolous suits.

A. Litigation Cost and Attorney Fee Shifting

It is frequently argued that a switch from the American rule to the so-called English rule governing the allocation of attorney's fees will discourage the filing of frivolous lawsuits.[75] The common law rule in the United States is that each party bears its own attorney's fees at trial.[76] However, a number of legal regimes aimed at reducing the frequency of frivolous lawsuits abrogate this common law rule by authorizing the use of the English rule, which permits the victorious party to recover its attorney's fees from the losing party at trial. In addition, some legal regimes permit parties to recover reasonable litigation expenses, beyond those that would ordinarily be recoverable as taxable costs from frivolous plaintiffs.

For instance, Rule 11 of the Federal Rules of Civil Procedure deters the initiation of frivolous lawsuits by providing mandatory sanctions, including the imposition of attorney's fees and reasonable expenses to compensate the aggrieved party for the costs of defending a frivolous matter.[77] Under Rule 11, a party is prohibited from filing a pleading, written motion, or other

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aimed at reducing frivolous lawsuits). However, neither Rule 12(b)(6) nor Rule 56 dismissal implies a finding of frivolity, and thus, these two procedural safeguards do not directly sanction the initiation of frivolous lawsuits. *See, e.g.*, *Neitzke*, 490 U.S. at 349 (stating "a failure to state a claim under Rule 12(b)(6) does not invariably mean that the claim is without arguable merit."). Nevertheless, these two rules of civil procedure have received some attention in the economics literature. Hylton provides an economic framework which considers dismissal at the pleadings stage, consistent with Rule 12(b)(6). Keith N. Hylton, *When Should a Case Be Dismissed? The Economics of Pleading and Summary Judgment*, 16 SUP. CT. ECON. REV. 39 (2008). He argues that the standard for dismissal on the pleadings ought to fluctuate with evidentiary standards and litigation costs. Kozel and Rosenberg argue for *mandatory* summary judgment prior to court enforcement of any settlement agreement as a solution to the nuisance-value settlement problem. Randy J. Kozel & David Rosenberg, *Solving the Nuisance-Value Settlement Problem: Mandatory Summary Judgment*. 90 VA. L. REV. 1849 (2004).

[75] Douglas C. Rennie, *Rule 82 and Tort Reform: An Empirical Study of the Impact of Alaska's English Rule on Federal Civil Case Filings*, 29 ALASKA L. REV. 1, 2 (2012).

[76] For a historical discussion of the emergence of the American rule in the United States, *see* John Leubsdorf, *Toward a History of the American Rule on Attorney Fee Recovery*, 47 LAW & CONTEMP. PROBS. 9 (1984).

[77] FED. R. CIV. P.11(c)(2). In addition to deterrence, Rule 11 ensures that defendants to frivolous lawsuits are adequately compensated, though their compensation is limited to reasonable, not actual, fees. Victims have a duty to mitigate damages. For a discussion on this topic, *see* Melissa L. Nelken, *Sanctions Under Amended Federal Rule 11—Some "Chilling" Problems in the Struggle Between Compensation and Punishment*, 74 GEO. L.J. 1313, 1334-35

paper with the court that is "presented for any improper purpose, such as to harass, cause unnecessary delay, or needlessly increase the cost of litigation."[78] And, the legal arguments contained therein must be "warranted by existing law or by a nonfrivolous argument for extending, modifying, or reversing existing law or for establishing new law."[79] As the Court aptly stated in *Lewis v. Casey*, 518 U.S. 343, 353 n.3 (1996), since persons do not have a Constitutional right to file frivolous lawsuits,[80] "[d]epriving someone of a frivolous claim…deprives him of nothing at all, except perhaps the punishment of Federal Rule of Civil Procedure 11 sanctions."

Given the ability of Rule 11 to deter the initiation of frivolous lawsuits, it has received some attention in the literature. Kobayashi and Parker use a game theoretic model to criticize the "safe harbor" provision of Rule 11 by finding that it might increase the frequency of frivolous filings and the rate by which Rule 11 motions challenge such filings.[81] Under a certain set of assumptions, the "safe harbor" provision "renders Rule 11 useless as a deterrent, consigning it either to fall into total disuse or to generate completely pointless satellite litigation."[82] Polinsky and Rubinfeld provide a normative basis for utilizing Rule 11 sanctions as a deterrence

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(1986). Courts are also authorized to issue nonmonetary directives and penalties paid to the court. However, these devices must be limited to "what suffices to deter repetition of the conduct or comparable conduct by others similarly situated." FED. R. CIV. P. 11(c)(4). For an overview of Rule 11 through its controversial amendments in 1983, *see, e.g.*, Edward D. Cavanagh, *Frivolous Litigation: Developing Standards under Amended Rule 11 of the Federal Rules of Civil Procedure*, 14 HOFSTRA L. REV. 499 (1986); Robin J. Collins, Note, *Applying Rule 11 to Rid Courts of Frivolous Litigation without Chilling the Bar's Creativity*, 76 KY. L.J. 891 (1988); Neal H. Klausner, Note, *The Dynamics of Rule 11: Preventing Frivolous Litigation by Demanding Professional Responsibility*, 61 N.Y.U. L. REV. 300 (1986); Nelken, 74 GEO. L.J. at 1313; William W. Schwarzer, *Rule 11 Revisited*, 101 HARV. L. REV. 1013 (1988); *see also* Keeling, *supra* note 28, at 1067 (discussing, in addition, the 1993 amendments to Rule 11).

[78] FED. R. CIV. P. 11(b)(1).

[79] FED. R. CIV. P. 11(b)(2).

[80] Bill Johnson's Rests. v. N.L.R.B., 461 U.S. 731, 743 (1983).

[81] Bruce H. Kobayashi & Jeffrey S. Parker, *No Armistice at 11: A Commentary on the Supreme Court's 1993 Amendment to Rule 11 of the Federal Rules of Civil Procedure*, 3 SUP. CT. ECON. REV. 93 (1993). The "safe harbor" provision permits a party to escape liability if it withdraws or corrects a frivolous paper within 21 days of service of a motion for Rule 11 sanctions. FED. R. CIV. P. 11(c)(2).

[82] *Id*. at 144.

mechanism.[83] Cooter and Rubinfeld develop a theoretical model where Rule 11 sanctions may be imposed for discovery abuse.[84] Bebchuk and Chang provide guidance on how courts ought to interpret the scope of Rule 11 in order to ensure that the "correct" plaintiffs bring suit.[85] They develop a formal model to show that Rule 11, as a two-sided fee-shifting statute, should be interpreted favorably to plaintiffs when litigation costs are high and the stakes of trial are low. On the other hand, when litigation costs are low and the stakes of trial are high, courts should interpret Rule 11 favorably to defendants. And, although tangential to their core topics, Cooper briefly notes that Rule 11 sanctions further a purpose of discovery—to determine whether there is a legitimate reason to sue[86]—and Kaplow recognizes that sanctions, like Rule 11, affect a party's incentive to litigate.[87]

In addition to Rule 11, courts have an inherent equitable power to impose sanctions—such as the imposition of attorney's fees—upon parties to litigation. Indeed, the preceding Rules of Civil Procedure do not preclude a court from exercising its inherent power to punish when an attorney or a party has "acted in bad faith, vexatiously, wantonly, or for oppressive reasons,"[88] insofar as such sanctions are not forbidden by Congress.[89] As the United States Supreme Court noted in *Chambers v. NASCO*, 501 U.S. 32, 50 (1991),

> …when there is bad-faith conduct in the course of litigation that could be adequately sanctioned under the Rules, the court ordinarily should rely on the Rules rather than the inherent power. But if in the informed discretion of the

[83] A. Mitchell Polinsky & Daniel L. Rubinfeld, *Sanctioning Frivolous Suits: An Economic Analysis*, 82 GEO. L.J. 397 (1993).
[84] Robert D. Cooter & Daniel L. Rubinfeld, *Economic Model of Legal Discovery*, 23 J. LEGAL STUD. 435 (1994).
[85] Lucian A. Bebchuk & Howard F. Chang, *An Analysis of Fee Shifting Based on the Margin of Victory: On Frivolous Suits, Meritorious Suits, and the Role of Rule 11*, 25 J. LEGAL STUD. 371 (1996).
[86] Edward H. Cooper, *Discovery Cost Allocation: Comment on Cooter and Rubinfeld*, 23 J. LEGAL STUD. 465, 475 (1994).
[87] Louis Kaplow, *The Value of Accuracy in Adjudication: An Economic Analysis*, 23 J. LEGAL STUD. 307, 363 (1994).
[88] As Klausner recognizes, the inherent power of the courts extends to lawyers and/or their clients. Klausner, *supra* note 77, at 312.
[89] Alyeska Pipeline Service Co. v. Wilderness Society, 421 U.S. 240, 259 (1975).

> court, neither the statute nor the Rules are up to the task, the court may safely rely on its inherent power.

Thus, despite the common law American rule, the imposition of attorney's fees is a permissible sanction under the inherent equitable power of the courts.[90]

At the federal level, a common statutory remedy for the filing of a frivolous lawsuit is attorney's fees. For instance, attorney's fees are recoverable for frivolous, unreasonable, or meritless equal employment opportunity[91] and civil rights claims.[92] Indeed, under Title VII of the Civil Rights Act, attorney's fees may be awarded for the filing of a frivolous lawsuit, even if the lawsuit was not initiated in bad faith.[93] The Civil Rights Attorney's Fees Awards Act, codified at 42 U.S.C. § 1988, also provides for a remedy of attorney's fees. This statute was enacted to "relieve defendants of the burdens associated with fending off frivolous litigation."[94] In addition, frivolous patent actions permit the recovery of attorney's fees.[95] In the context of criminal law, the Hyde Amendment,[96] which punishes for vexatious, frivolous, or bad-faith forms of prosecutorial misconduct in criminal proceedings, permits a party to recover attorney's fees and court costs.[97] These examples are not meant to be exhaustive, and fee shifting is not the

[90] Roadway Express v. Piper, 447 U.S. 752, 765 (1980) (stating "[t]here are ample grounds for recognizing…that in narrowly defined circumstances federal courts have inherent power to assess attorney's fees against counsel.")
[91] Title VII of the Civil Rights Act, 42 U.S.C. §§ 2000e et seq. (1964).
[92] Civil Rights Attorney's Fees Awards Act, 42 U.S.C. § 1988 (1976).
[93] Christiansburg Garment Co. v. EEOC, 434 U.S. 412, 421 (1978).
[94] Fox v. Vice, 131 S. Ct. 2205, 2215 (2011). Under this statute, a defendant may only recover the additional expenses, at the margin, from defending a frivolous claim. The United States Supreme Court has articulated a "but-for" test for the magnitude of recovery—a defendant may "receive only the portion of his fees that he would not have paid but for the frivolous claim." *Id*. at 2215.
[95] Meritless patent actions are deemed "exceptional" under 35 U.S.C. § 285 (2013). This statute reads, in pertinent part, that "[t]he court in exceptional cases may award reasonable attorney fees to the prevailing party." Courts may award reasonable attorney's fees to the prevailing party in exceptional cases. Beckman Instruments, Inc. v. LKB Produkter AB, 892 F.2d 1547 (Fed. Cir. 1989).
[96] 18 U.S.C. § 3006A (1997).
[97] In this context, a frivolous prosecution is one that is groundless, such that the government's claims were foreclosed by binding precedent or obviously wrong. United States v. Capener, 608 F.3d 392 (9th Cir. 2010).

only means by which the federal government may seek to reduce the frequency of frivolous litigation.[98]

In addition to the foregoing, the common law of torts has evolved to sanction the initiation of frivolous lawsuits. The common law doctrines of champerty and maintenance have been enveloped by the current torts of abuse of process[99] and malicious prosecution.[100] However, the tort of abuse of process only applies after the wheels of litigation have been set in motion.[101] Specifically, a cause of action must have already been initiated for an aggrieved party to obtain a remedy for abuse of process, and accordingly, the initiation of a known, meritless lawsuit will not necessarily afford the aggrieved party a remedy. In contrast, depending on the jurisdiction, the intentional tort of malicious prosecution may be employed to, in essence, abrogate the common law American rule when a party litigates a frivolous lawsuit. According to

[98] For instance, the federal government has imposed substantial pleadings barriers to frivolous litigation in the context of class action securities fraud. The Private Securities Litigation Reform Act (1995) was enacted, in part, "to curb frivolous, lawyer-driven litigation," Tellabs v. Makor Issues & Rights, 551 U.S. 308, 322 (2007), particularly through the abuse of securities fraud class action lawsuits. Merrill Lynch v. Dabit, 547 U.S. 71, 81 (2006). As the United States Supreme Court noted in *Tellabs*, "[p]rivate securities fraud actions...if not adequately contained, [could] be employed abusively to impose substantial costs on companies and individuals whose conduct conforms to the law." *Tellabs*, 551 U.S. at 313. As a result, the Private Securities Litigation Reform Act imposed barriers to litigating these suits, including heightened pleadings requirements, a limit on recoverable damages and attorney's fees, and sanctions for frivolous suits. *Merrill Lynch*, 547 U.S. at 81. Incidentally, this statute led to a widespread forum shift—plaintiffs began bringing class actions for securities fraud in state courts as opposed to federal court. *Id*. at 82. Hence, Congress enacted the Securities Litigation Uniform Standards Act in 1998 to preempt state law and ensure compliance with the objectives of the Private Securities Litigation Reform Act.

[99] Abuse of process involves, according to the United States Supreme Court, "misusing, or misapplying process justified in itself for an end other than that which it was designed to accomplish." Heck v. Humphrey, 512 U.S. 477, 495 n.2 (1994) (internal citations omitted). This tort imposes liability upon a party for improperly utilizing the judicial system for a purpose for which it is not designed, *see, e.g.*, 1 Am.Jur. 2d *Abuse of Process* § 1; RESTATEMENT (SECOND) TORTS § 682 (1977); Batten v. Abrams, 626 P.2d 984, 988 (Wash. App. 1981), and accordingly, its objective is to deter parties from using the litigation process to achieve an undesired end. All states recognize the tort of abuse of process or some variant thereof. Jeffrey J. Utermohle, *Look What They've Done to my Tort, Ma: The Unfortunate Demise of "Abuse of Process" in Maryland*, 32 U. BALT. L. REV. 1, 7-8 (2002). Since the tort is a state-level construct, states tend to differ with respect to the essential elements of a successful abuse of process claim. States use either a two-prong or three-prong test, with disagreement over the necessity of a showing of damages. For a comprehensive state-by-state summary of the essential elements of a claim for abuse of process, *see id*. at 36-49.

[100] *Allied Med. Assocs. v. State Farm Mut. Auto. Ins. Co.*, 2008 U.S. Dist. LEXIS 101659, *28 n.6 (E.D. Pa., Oct. 30, 2008).

[101] *See* Batten, 626 P.2d at 991 (stating "[t]he initiation of vexatious civil proceedings known to be groundless is not abuse of process…There is no liability if nothing is done with the lawsuit other than carrying it to its regular conclusion.") (citation omitted). Therefore, the tort of abuse of process does not necessarily safeguard against the filing of a frivolous lawsuit. However, malicious prosecution remedies this defect.

the United States Supreme Court "the gist of the tort of malicious prosecution is commencing an action or causing process to issue without justification"[102] It exists when one maliciously and without probable cause[103] initiates a civil or criminal legal proceeding which is later terminated against the plaintiff (or, in the context of a criminal proceeding, the government).[104] The tort goes by different names in different jurisdictions,[105] and sometimes the distinction between the original cause of action (be it civil or criminal) is integral in identifying the appropriate cause of action for maliciously prosecuting an individual.[106] Despite the lack of a concrete designation across jurisdictions, its purpose is clear—to provide a tort remedy that deters the initiation of unwarranted, baseless causes of action. The remedy for the tort of malicious prosecution also differs across jurisdictions, though a majority of states permit the recovery of reasonable attorney's fees and even litigation expenses for aggrieved parties.[107]

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[102] *Heck*, 512 U.S. at 495 n.2 (1994) (internal quotation marks omitted).

[103] Notice that this requirement is not an element of an abuse of process claim. Another substantial distinction between malicious prosecution and abuse of process is that in some states, attorneys are immune from liability for malicious prosecution when they act in good faith or perform a reasonable investigation of their clients' claims. However, there is no blanket immunity for attorneys for abuse of process. David W. Pollak, Comment, *Sanctions Imposed by Courts on Attorneys Who Abuse the Judicial Process*, 44 U. CHI. L. REV. 619, 639 (1977).

[104] 52 Am.Jur. 2d *Malicious Prosecution* § 1.

[105] Wade recognizes that the tort of malicious prosecution has a muddled history, and today, identifying the proper name is jurisdiction-specific. John W. Wade, *On Frivolous Litigation: A Study of Tort Liability and Procedural Sanctions*, 14 HOFSTRA L. REV. 433 (1986). Despite its inherent differences across states, he synthesizes the following five elements of a valid claim for malicious civil prosecution as:

> (1) the present defendant must have taken an active part in the initiation, continuation, or procurement of the original civil proceeding; (2) the original proceeding must have terminated in favor of the present plaintiff; (3) there must be damage of the type that the court regards as appropriate for an action of this nature; (4) there must be a lack of probable cause for the original action; and (5) there must have been 'malice' in the bringing of the original action. *Id*. at 438.

Due to the requirement that the original cause of action was terminated in favor of the present plaintiff, a separate cause of action is required to maintain a claim under this tort.

[106] For instance, the Restatement (Second) of Torts uses "wrongful use of civil proceedings" or "wrongful institution of civil proceedings" to identify a claim originating under tort law, while the term "malicious prosecution" is reserved solely for criminal prosecutions. Some states use the term "malicious use of process" when the original cause of action sounded in tort law. 52 Am.Jur. 2d *Malicious Prosecution* § 2.

[107] *Id*. at 442. It should be noted that a minority of states, particularly those following the English rule, require a showing of special damages. In these states, special damages include those incurred as a result of an arrest, interference with property, or those damages occurring in similar actions. Michael J. Philippi, *Malicious Prosecution and Medical Malpractice Legislation in Indiana: A Quest for Balance*, 17 VAL. U. L. REV. 877, 893 (1983). This requirement may render a remedy under malicious prosecution unavailable for certain causes of action. Wade, *supra* note 105, at 442.

The existence of these legal regimes permitting cost and fee shifting raises the question of how they influence deterrence. Economic models tend to assume that a switch from the American rule to the English rule would permit a victorious party at trial to recover all of its litigation costs, including its expenses.[108] Consistent with this pattern, and as an extension to our original theoretical model, we assume that a switch to the English rule implies that a genuine plaintiff will be able to recover her trial and filing costs from the defendant if the case goes to trial, given that the plaintiff will win at trial with certainty under strict liability. As a result, a genuine plaintiff will only be willing to accept a settlement if the defendant offers an amount at least equal to the plaintiff's damages plus her filing costs.[109] Under perfect information, where the defendant can distinguish piggyback from genuine plaintiffs, the defendant will offer the minimum acceptable settlement to all genuine plaintiffs and zero to all piggyback plaintiffs. Given the presence of the English rule, the defendant therefore fully internalizes all of the harm it causes in addition to the plaintiff's filing cost. No piggyback plaintiffs are induced to file suit, and accordingly, the injurer's objectives are identical to the social planner's objectives. As a result, the English rule induces the injurer to exercise the socially optimal levels of care and activity when there is perfect information.

Under imperfect information, the defendant's total costs under a Type 1 equilibrium will again be the same as in the perfect information case; that is, the costs will consist of the plaintiff's damages plus filing costs. In contrast, under a Type 2 equilibrium, the defendant will be required to compensate a genuine plaintiff for its litigation and filing costs. Thus, a trial now costs the defendant the amount of the plaintiff's damages, plus the trial costs of *both* parties and

[108] We recognize the divergence between the jurisprudential view of the English rule and its application to the theoretical model. In particular, a narrow interpretation of the English rule would only permit the victorious party at trial to recover its attorney's fees, and not necessarily its litigation expenses.

[109] Return to the example in *supra*, note 64, where the plaintiff's damages are $100,000, its trial costs are $15,000, and filing costs are $500. If the plaintiff goes to trial and wins, she will receive compensation of $100,000, and in addition, her trial and filing costs will be reimbursed. Thus, she will not settle for an amount less than $100,500.

the plaintiff's filing costs (given that the plaintiff wins with certainty under strict liability). Therefore, the defendant's total costs under a Type 2 equilibrium are correspondingly adjusted upward compared to the perfect information model and the imperfect information model under the American rule. As a result, the injurer will exercise more care and less activity in both equilibria under the English rule as compared to the American rule.

Comparison with the social optimum further shows that under a Type 1 equilibrium, the injurer will exercise the socially optimal level of care but will under-engage in activity. It under-engages in activity (for instance, the supermarket owner will operate fewer stores) because it recognizes that it will settle with some piggyback plaintiffs, which raises its expected liability costs per unit of the activity (per store). Under a Type 2 equilibrium, the injurer will over-invest in care and under-engage in activity. The injurer over-invests in care because it recognizes that trial is very costly under the English rule—not only will the injurer be liable for the plaintiff's damages, but it will also be liable for the plaintiff's litigation costs and filing cost (in addition to its own litigation costs). In comparison, a social planner would compel the injurer to fully internalize the plaintiff's damages and filing cost without the necessity of trial. The same intuition applies to the injurer's activity level in a Type 2 equilibrium, which is why the injurer will under-engage in activity from a social perspective. These results suggest that a switch from the American rule to the English rule in the presence of frivolous suits will not necessarily enhance deterrence in a socially valuable way.

B. Claim-Quality Identification

We now shift our attention to the positive implications of bodies of law that further the objective of identifying claim quality prior to trial. The legal regimes governing frivolous lawsuits are capable of providing defendants with some relevant information about the merit of a

case. Indeed, at least two general types of law serve to aid the defendant in his determination of whether a lawsuit is genuine or frivolous prior to trial. The first punishes attorneys for handling a frivolous matter, while the second makes information regarding filers of frivolous lawsuits publicly available.

As an extension of the literature regarding legal representation as a signal of merit, attorneys are deterred—either via personal liability or state-bar-level discipline—from litigating a frivolous matter. (Some of the previously discussed legal regimes governing cost and fee shifting—for example, Rule 11—may also further this end.) Additionally, at the federal level, attorneys are *personally* liable for costs, expenses, and attorney's fees arising from unreasonable or vexatious conduct under 28 U.S.C. § 1927.[110] Under this statute, sanctions may be imposed *only* against attorneys and not parties to a lawsuit.[111] The United States Supreme Court has held that liability under this statute will not be imposed for mere discourtesy to the court. Rather, the attorney must have acted intentionally or with reckless disregard to be liable under 28 U.S.C. § 1927.[112] Since a "multiplication of proceedings" must have occurred, initial pleadings are beyond the scope of 28 U.S.C. § 1927,[113] which suggests the penal nature of this statute has a similar effect to that of the tort of abuse of process.[114]

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[110] 28 U.S.C. § 1927 (2013) reads,

> [a]ny attorney or other person admitted to conduct cases in any court of the United States or any Territory thereof who so multiplies the proceedings in any case unreasonably and vexatiously may be required by the court to satisfy personally the excess costs, expenses, and attorneys' fees reasonably incurred because of such conduct.

For an in-depth examination of the elements required to satisfy this statute, *see* Pollak, *supra* note 103, at 623-29. *See also* Janet E. Josselyn, *The Song of the Sirens -- Sanctioning Lawyers Under 28 U.S.C. 1927*, 31 B.C. L. REV. 477 (1990) (discussing the standards utilized by the circuit courts when evaluating whether an attorney has "unreasonably and vexatiously" multiplied proceedings).

[111] Zaldivar v. City of Los Angeles, 780 F.2d 823, 831 (9th Cir. 1986).

[112] United States v. Ross, 535 F.2d 346, 349 (6th Cir. 1976).

[113] *Zaldivar*, 780 F.2d at 831. *See also* Wade, *supra* note 105, at 472 (stating the statute's "prime target is not the filing of a meritless action but multiplying "proceedings . . . unreasonably and vexatiously…").

[114] *See supra*, note 99, for a discussion of the tort of abuse of process. Notice again that abuse of process generally does not apply to the initiation of a frivolous lawsuit.

Furthermore, attorneys have an ethical obligation to refrain from filing frivolous lawsuits.[115] Under the Model Rules of Professional Conduct, "[a] lawyer shall not bring or defend a proceeding, or assert or controvert an issue therein, unless there is a basis in law and fact for doing so that is not frivolous, which includes a good faith argument for an extension, modification or reversal of existing law."[116] Failure to comply with this ethical rule may lead to attorney discipline, including the possibility of disbarment.[117] While an attorney will ordinarily not be personally liable in negligence for breaching this ethical rule,[118] this state-level sanction ought to have the effect of deterring the initiation of frivolous lawsuits by attorneys.

Given the presence of 28 U.S.C. § 1927 at the federal level and the state-level ethical rules punishing attorneys for vexatious conduct, we expect that, all else equal, attorneys will exercise greater discretion in choosing whether to handle a frivolous claim. If anything, an attorney's willingness to represent a particular client will be biased against claims asserted by frivolous plaintiffs. In terms of our theoretical model, these rules are aimed at reducing the probability that a potential piggyback victim arises per unit of activity. This suggests that conditioned on legal representation, the *ex ante* probability that a case is of the piggyback variety ought to be smaller given the existence of these rules. Put another way, the probability that a claim is piggybacking upon a genuine claim should be smaller when an attorney represents the matter. This line of thinking is consistent with the perception that legal representation is a signal of a case's inherent merit (though note that this perception is not due to the presumption, asserted

[115] *See generally* 7 Am.Jur. 2d *Attorneys at Law* § 46 (providing an overview of an attorney's ethical obligation to refrain from filing frivolous lawsuits).
[116] MODEL RULES OF PROF'L CONDUCT R. 3.1 (2012).
[117] 7 Am.Jur. 2d *Attorneys at Law* § 46 (citing Parler & Wobber v. Miles & Stockbridge, 756 A.2d 526 (DC MD, 2000), a case holding that violating Maryland's Rules of Professional Conduct, "which prohibits the filing of frivolous suits, is grounds for attorney discipline and can lead to disbarment.").
[118] The common law of torts does not extend liability to an attorney for filing a frivolous lawsuit under a theory of negligence. As Wade describes, negligence actions are routinely unsuccessful when aimed at recovering damages for the filing of a frivolous lawsuit. Wade, *supra* note 105, at 452. This is even true when a negligence action relies on an attorney's violation of a state-level ethical rule as evidence of negligence *per se*. *Id*. at 453.

by economists, that attorneys will only accept cases that promise a positive return, but rather on the presumption that attorneys practice ethical discretion in their decisions regarding which cases to accept).

In addition to the legal regimes punishing attorneys for representing clients with frivolous claims, a few states have enacted statutes to "name and shame" filers of frivolous lawsuits. These states make the names of filers of frivolous lawsuits publicly available. If a person appears on one of these lists, extra burdens are imposed to file a lawsuit. Since 1991, the state of California has maintained a Vexatious Litigant List.[119] To appear on this list, a litigant must satisfy at least one of many statutorily identified criteria, for example, by repeatedly filing frivolous motions or pleadings.[120] Under California law, any named vexatious litigant, when not represented by an attorney, must obtain court approval prior to filing a lawsuit. A trial court will only allow a vexatious litigant to proceed with a civil action if its purpose is not to harass or delay, and even then, the vexatious litigant may be required to post security.[121] Texas has adopted similar legislation under Chapter 11 of its Civil Practice and Remedies Code.[122] Vexatious litigants in Texas are required to obtain permission to file suit[123] and are required to post security.[124] A number of other states have imposed rules restricting vexatious litigants from bringing suit, including at least Florida,[125] Hawaii,[126] Nevada,[127] Ohio,[128] and Utah.[129]

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[119] *See* California's Vexatious Litigant List, *available at* http://www.courts.ca.gov/documents/vexlit.pdf (last visited Aug. 1, 2013).
[120] CAL. CIV. PROC. CODE § 391(b) (2013).
[121] CAL. CIV. PROC. CODE § 391.7(b) (2013).
[122] *See* Texas' Vexatious Litigant List, *available at* http://www.txcourts.gov/oca/Vexatious_Litigants.pdf (last visited Aug. 1, 2013).
[123] TEX. CIV. PRAC. & REM. CODE ANN. §§ 11.101-11.102 (2013).
[124] TEX. CIV. PRAC. & REM. CODE ANN. § 11.055
[125] FLA. STAT. § 68.093 (2013).
[126] HAW. REV. STAT. § 634J (2013).
[127] NEV. SUP. CT. R. 9.5. *See* Nevada's Vexatious Litigant List, *available at* http://www.nevadajudiciary.us/images/vexatious%20litigant%20list.pdf (last visited, Aug. 1, 2013).
[128] OHIO REV. CODE ANN. § 2323.52. *See* Ohio's Vexatious List, *available at* http://www.supremecourt.ohio.gov/Clerk/vexatious/ (last visited Aug. 1, 2013).

These statutes provide some information regarding claim quality to defendants, particularly when a plaintiff is named on one of these lists and is required to obtain court approval and/or post security. The overall impact of these vexatious litigant lists is that they ought to reduce the probability that a piggyback victim will arise per unit of activity, much like the legal regimes punishing attorneys for handling frivolous claims. In the context of the theoretical model, their presence also ought to decrease the potential number of piggyback suits.

Given the prediction that legal regimes aimed at claim-quality identification ought to decrease the probability a piggyback victim will arise, what can be said about their impact on deterrence? The decrease in potential piggyback suits that arguably results from these bodies of law should shift the state of the world towards that of perfect information. This implies that defendants will be less willing to go to trial, and as was demonstrated previously, injurers will tend to under-invest in care and over-engage in activity. Even if these legal regimes result in *some* frivolous lawsuits being filed, it is more likely that a Type 1 equilibrium will emerge with all cases settling. As was demonstrated previously, the effect of a Type 1 equilibrium is that defendants under-invest in care and may under- or over-engage in activity. The net effect on deterrence is therefore ambiguous. As a result, as a descriptive matter, it is unclear whether these legal regimes enhance social welfare, given the possibility that the success of some frivolous lawsuits in obtaining settlement may enhance deterrence in a socially desirable direction.

CONCLUSION

In this paper, we have examined the impact of frivolous lawsuits on the care and activity choices of injurers. Specifically treating frivolous lawsuits as piggyback lawsuits, we showed

[129] UTAH R. CIV. P. 83.

that despite conventional wisdom on the topic, frivolous lawsuits are not necessarily detrimental to social welfare. Rather, under certain conditions, the existence of frivolous lawsuits may provide incentives for injurers to engage in more efficient accident avoidance. Despite this theoretical conclusion, we were unable to uncover any case or statutory law that seems to recognize the possible social value of frivolous lawsuits. This is understandable, given that most observers of the legal process would find the concept of an "optimal level of frivolous litigation" to be oxymoronic. And beyond that, even if one accepted the analysis in this paper, it would be impossible as a practical matter to identify the precise level of frivolous litigation that is socially desirable. The conclusions of the analysis contained herein nevertheless have relevance for evaluating policies aimed at reducing the level of frivolous litigation. To the extent that these policies succeed, they may have the unintended consequence of mitigating the deterrence benefits of the litigation process.

Appendix

This appendix lays out the details of the theoretical model described in the text. The following notation will be used:

z = level of the risky activity in which the injurer (defendant) engages;
$V(z)$ = gross value of the activity, where $V(0)=0$, $V'>0$, and $V''<0$;
x = dollar spending on care by the injurer per unit of the activity;
$p(x)$ = probability of an accident per unit of the activity, where $p'<0$ and $p''>0$;
q = probability of a "piggyback suit" being filed per unit of the activity;
L = harm suffered by a genuine victim in the event of an accident;
k = victim's cost of filing suit;
C_π = cost of a trial for victims (plaintiffs);
C_Δ = cost of a trial for the defendant;
S = settlement amount.

We first examine the outcome of the model when the defendant can perfectly distinguish genuine and piggyback plaintiffs (the perfect information model). We then turn to the model where the defendant cannot distinguish between the two types of plaintiffs (the imperfect information model).

The Perfect Information Model

Figure 1 schematically portrays the game played by the defendant, genuine plaintiffs, and piggyback plaintiffs. We examine the players' decisions in reverse sequence of time. Thus, consider first the settlement-trial decision, assuming that both types of plaintiffs have filed suit. Under a rule of strict liability, genuine plaintiffs will win with certainty and be awarded compensation of L, but since they have to pay their own trial costs, the minimum amount they will accept to settle is $L–C_\pi>0$. We therefore assume that the defendant will make a take-it-or-leave-it settlement offer of $S=L–C_\pi$ to all genuine plaintiffs, and they will accept the offer. As for piggyback plaintiffs, they will lose at trial, and so the defendant, who by assumption can perfectly distinguish them from genuine plaintiffs, will offer $S=0$ and they will drop their suits rather than go to trial.

Now move back to filing stage. Since all genuine plaintiffs expect to settle for $L–C_\pi$, they will only file suit if

$$L - C_\pi > k, \tag{A1}$$

which we assume is true. Thus, all genuine plaintiffs will file. In contrast, no piggyback plaintiffs will file suit since they do not expect to receive a positive settlement offer.

Finally, consider the optimal care and activity choices of the injurer/defendant. Since the injurer anticipates that only genuinely injured plaintiffs will file suit and all will settle for $S=L–C_\pi$, the expected value of activity is given by

$$V(z) – z[x + p(x)(L–C_\pi)], \tag{A2}$$

where the expression in square brackets is the total expected accident costs (care plus liability) per unit of risky activity. The injurer chooses care (x) and activity (z) to maximize this expression.

Consider first his choice of care. The first-order condition defining his optimal care level, denoted x_c*, is

$$1 + p'(x)(L–C_\pi) = 0. \quad \text{(A3)}$$

Note that x_c* is independent of his level of activity because accident costs are assumed to be proportional to z. Given x, the injurer's optimal activity level, denoted z_c*(x), solves

$$V'(z) – [x + p(x)(L–C_\pi)] = 0, \quad \text{(A4)}$$

where z_c*≡z_c*(x_c*).

The Imperfect Information Model

We now turn to the outcome of the model when the defendant cannot distinguish between genuine and piggyback plaintiffs. As above, we begin at the settlement-trial stage, where the defendant again chooses between two offers: S=L–C_π and S=0. Note that the first is a "pooling" offer because it will induce both types of defendants to behave the same way (namely, to accept and settle). In contrast, the second is a "separating" offer because it will induce genuine plaintiffs to opt for trial while piggyback plaintiffs will drop their suits.[130] In choosing between these two offers, the defendant faces the following trade-off. On one hand, if he offers the higher amount, both genuine and piggyback plaintiffs will accept, so he avoids trial costs, but he ends up paying a positive amount to piggyback plaintiffs. On the other hand, if he offers zero, any piggyback plaintiffs who filed will drop their suits, but genuine plaintiffs will go to trial, costing the defendant $L+C_\Delta>L–C_\pi$.

In order to derive the equilibrium in this case,[131] we need to define two additional variables. Let

θ = probability that the defendant offers a settlement of S=L–C_π rather than zero,
φ = the probability that a piggyback plaintiff files suit.

(The probability that a genuine plaintiff files suit is one, given (A1).) Note that in the perfect information model, θ=1 and φ=0, but that outcome is not possible under imperfect information.

Consider first the defendant's settlement strategy after a suit is filed by a plaintiff of unknown type. Using Bayes' rule, he first calculates the conditional probability that the plaintiff is genuine to be

$$\hat{p}(x) = \frac{p(x)}{p(x)+\varphi q}, \quad \text{(A5)}$$

[130] Note that it would never make sense for the defendant to offer more than $L–C_\pi$ (since both types would settle for the lesser amount), nor would it make sense to offer an amount between 0 and $L–C_\pi$ (since genuine plaintiffs would reject it and go to trial, while piggyback plaintiffs would "accept" an offer of 0).
[131] The derivation of the equilibrium follows Katz, *supra* note 42.

which depends on his prior choice of care. Note that this expression ranges from $p(x)/(p(x)+q)<1$ when $\varphi=1$ (*i.e.*, all piggyback plaintiffs file with certainty) to 1 when $\varphi=0$ (*i.e.*, no piggyback plaintiffs file). Given (A5), if the defendant offers $S=0$, his expected cost per suit will be $\hat{p}(x)(L+C_\Delta)$ (because piggyback plaintiffs will drop), whereas if he offers $S=L-C_\pi$ his expected cost per suit will be $L-C_\pi$ (because all plaintiffs will settle). The defendant's optimal decision rule is therefore

$$\begin{aligned} &\text{if } \hat{p}(x) < \tfrac{L-C_\pi}{L+C_\Delta},\ \theta = 0 \\ &\text{if } \hat{p}(x) > \tfrac{L-C_\pi}{L+C_\Delta},\ \theta = 1 \\ &\text{if } \hat{p}(x) = \tfrac{L-C_\pi}{L+C_\Delta},\ 0 \le \theta \le 1. \end{aligned} \tag{A6}$$

Note that the first two lines represent pure strategies, while the third line constitutes a mixed strategy under which the defendant offers $L-C_\pi$ with probability θ and zero with probability $1-\theta$.

Now consider piggyback plaintiffs, who must decide between filing and not filing. Prior to filing, their expected return is $\theta(L-C_\pi)-k$, which is strictly positive if $\theta=1$ (by (A1)), and negative if $\theta=0$. Their decision rule is therefore

$$\begin{aligned} &\text{if } \theta < \tfrac{k}{L-C_\pi},\ \varphi = 0 \\ &\text{if } \theta > \tfrac{k}{L-C_\pi},\ \varphi = 1 \\ &\text{if } \theta = \tfrac{k}{L-C_\pi},\ 0 \le \varphi \le 1, \end{aligned} \tag{A7}$$

where the first two lines are pure strategies and the third is a mixed strategy.

It turns out that there are two types of equilibria of the settlement game. The first (Type 1), occurs when

$$\frac{p(x)}{p(x)+q} > \frac{L-C_\pi}{L+C_\Delta}. \tag{A8}$$

In this case, $\varphi=\theta=1$ is an equilibrium; that is, all piggyback plaintiffs file suit and the defendant settles all cases for $S=L-C_\pi$. This pure strategy equilibrium occurs when q, the probability of a piggyback suit, is small.

Alternatively, suppose that

$$\frac{p(x)}{p(x)+q} < \frac{L-C_\pi}{L+C_\Delta}. \tag{A8}$$

In this case, if $\varphi=1$, the defendant's optimal strategy would be to set $\theta=0$ by the first line of (A6); that is, offer $S=0$. But then the optimal strategy of piggyback plaintiffs would be to set $\varphi=0$ (*i.e.*, not file), in which case $\theta=1$ would be optimal for the defendant. Clearly, no pure strategy equilibrium exists in this case. There is, however, a mixed strategy equilibrium in which

piggyback plaintiffs are indifferent between filing and not filing, and defendants are indifferent between offering $S=0$ and $S=L-C_\pi$. From the third lines of (A7) and (A6), this implies that

$$\theta^* = \frac{k}{L-C_\pi} \tag{A9}$$

and

$$\varphi^* = \frac{p(x)(C_\pi+C_\Delta)}{q(L-C_\pi)} \tag{A10}$$

where the latter condition also makes use of (A5). This mixed strategy (Type 2) equilibrium occurs when q is relatively large.

Care and Activity Choices

The injurer's choice of care (x) and activity (z) will depend on which type of equilibrium he expects to arise in the settlement game. If it is a Type 1 equilibrium in which all piggyback plaintiffs file suit and all cases settle, the injurer's problem is to choose x and z to maximize the following expected value of engaging in the activity:

$$V(z) - z[x+(p(x)+q)(L-C_\pi)] \tag{A11}$$

The first-order conditions for x_1^* and $z_1^*(x)$, respectively, are

$$1 + p'(x)(L-C_\pi) = 0 \tag{A12}$$

$$V'(z) - [x+(p(x)+q)(L-C_\pi)] = 0. \tag{A13}$$

In contrast, if the expected equilibrium is of Type 2, all genuine plaintiffs and a fraction φ^* of piggyback plaintiffs will file. Of these suits, the defendant offers $S=L-C_\pi$ to a fraction θ^*, all of which settle, and $S=0$ to remainder, of which only the genuine plaintiffs opt for trial. After making the appropriate calculations, it turns out that the defendant's expected costs in this case are equivalent to the cost he would incur if only genuine plaintiffs filed suit and all went to trial. Thus, his problem under a Type 2 equilibrium is to choose x and z to maximize the following expected value

$$V(z) - z[x+p(x)(L+C_\Delta)]. \tag{A14}$$

The resulting first-order conditions for x_2^* and $z_2^*(x)$ are

$$1 + p'(x)(L+C_\Delta) = 0 \tag{A15}$$

$$V'(z) - [x+p(x)(L+C_\Delta)] = 0. \tag{A16}$$

Comparison of (A12) and (A15) shows that $x_1^*<x_2^*$, while comparison of (A13) and (A16) shows that $z_1^*(x)\gtreqless z_2^*(x)$ for any x.

Given these results, we first ask how the defendant's equilibrium care and activity choices compare to those in the certainty model above. For care, comparison of (A3), (A12), and (A15) shows that $x_c^*=x_1^*<x_2^*$. Thus, the possibility of piggyback suits induces the defendant to take either the same or more care as compared to a world without such suits. For the activity level, comparison of (A4), (A13), and (A16) shows that for any x, $z_c^*(x)$ is larger than either $z_1^*(x)$ or $z_2^*(x)$. Thus, for any level of care, the possibility of piggyback suits reduces the defendant's activity level compared to a world without such suits.

Welfare Analysis

This section compares the defendant's equilibrium care and activity choices to the socially optimal choices—that is, the choices that a social planner would choose, assuming it can perfectly distinguish between genuine and piggyback suits. Since the planner would settle with all genuine plaintiffs, and no piggyback plaintiffs would file suit, the planner's objective function is

$$V(z) - z[x + p(x)(L+k)]. \tag{A17}$$

Note that the planner accounts for the plaintiff's filing cost, k. The first-order conditions for x_s^* and $z_s^*(x)$, respectively, are

$$1 + p'(x)(L+k) = 0 \tag{A18}$$

$$V'(z) - [x + p(x)(L+k)] = 0. \tag{A19}$$

Consider first the choice of care. Comparing (A18) to the conditions for equilibrium care under the perfect information and imperfect information models implies that $x_s^*>x_c=x_1^*$, but $x_s^* \gtrless x_2^*$. Thus, the defendant takes less than the socially optimal level of care under the perfect information and Type 1 imperfect information models, but he may take too much or too little care under the Type 2 imperfect information model. (The comparison depends on the relative magnitudes of k and C_Δ.) As for the defendant's activity level, comparison of (A19) to the conditions for equilibrium activity under both models implies that $z_s^*(x)<z_c^*(x)$, but $z_s^*(x)$ may be larger or smaller than $z_1^*(x)$ and $z_2^*(x)$. Thus, the defendant over-engages in the activity in the perfect information model compared to the social optimum, but he may over- or under-engage in the activity in the imperfect information model. These conclusions show that from a purely deterrence perspective, the existence of piggyback suits is not necessarily socially undesirable.

Fee-Shifting Rules

A switch to the English rule for allocating legal costs, or the imposition of sanctions on frivolous suits that shifts the defendant's legal fees to the plaintiff, are often proposed as responses to the problem of frivolous litigation. In the context of the current model, these two responses have identical effects and therefore can be examined together under the heading of fee-shifting rules.

The first effect of such a rule on the model is to change the minimum amount that a genuine plaintiff will accept to settle to $S=L+k$. This is true because if the plaintiff wins at trial (which we assume will happen with certainty for a genuine plaintiff), the defendant will be responsible for both the plaintiff's trial costs and her (sunk) filing costs. As for piggyback plaintiffs, they will lose at trial and will therefore be responsible for the defendant's trial costs, which only reinforces their decision to drop their cases if offered an offer of zero. Thus, in the imperfect information model, the defendant's choice in the settlement-trial game is between offering $S=L+k$ and $S=0$, and the same two types of equilibria (pure and mixed strategies) exist. After working through the details, we calculate that the pure strategy (Type 1) equilibrium arises if the following condition holds

$$\frac{p(x)}{p(x)+q} > \frac{L+k}{L+C_\pi+C_\Delta+k} \tag{A20}$$

and a mixed strategy (Type 2) equilibrium arises if

$$\frac{p(x)}{p(x)+q} < \frac{L+k}{L+C_\pi+C_\Delta+k}. \tag{A21}$$

In the latter equilibrium, we have

$$\theta^* = \frac{k}{L+k} \tag{A22}$$

and

$$\varphi^* = \frac{p(x)(C_\pi+C_\Delta)}{q(L+k)} \tag{A23}$$

as the equilibrium probabilities that the defendant offers a positive settlement amount, and that piggyback plaintiffs file suit, respectively. The resulting expected values of the activity to the defendant are

$$V(z) - z[x + (p(x)+q)(L+k)] \tag{A24}$$

under the pure strategy (Type 1) equilibrium, and

$$V(z) - z[x + p(x)(L+C_\pi+C_\Delta+k)] \tag{A25}$$

under the mixed strategy (Type 2) equilibrium. Comparing these expressions to those for the imperfect information model above (expressions (A11) and (A14)) shows that the injurer chooses more care and a lower activity level in both types of equilibria compared to the situation without fee shifting. Finally, comparing these expressions to the expression for social welfare in (A17), we further find that injurers invest in efficient care under the Type 1 equilibrium, and too much care under the Type 2 equilibrium, but they invest in too little activity under both equilibria. Generally, therefore, fee shifting results in overdeterrence compared to the social optimum.

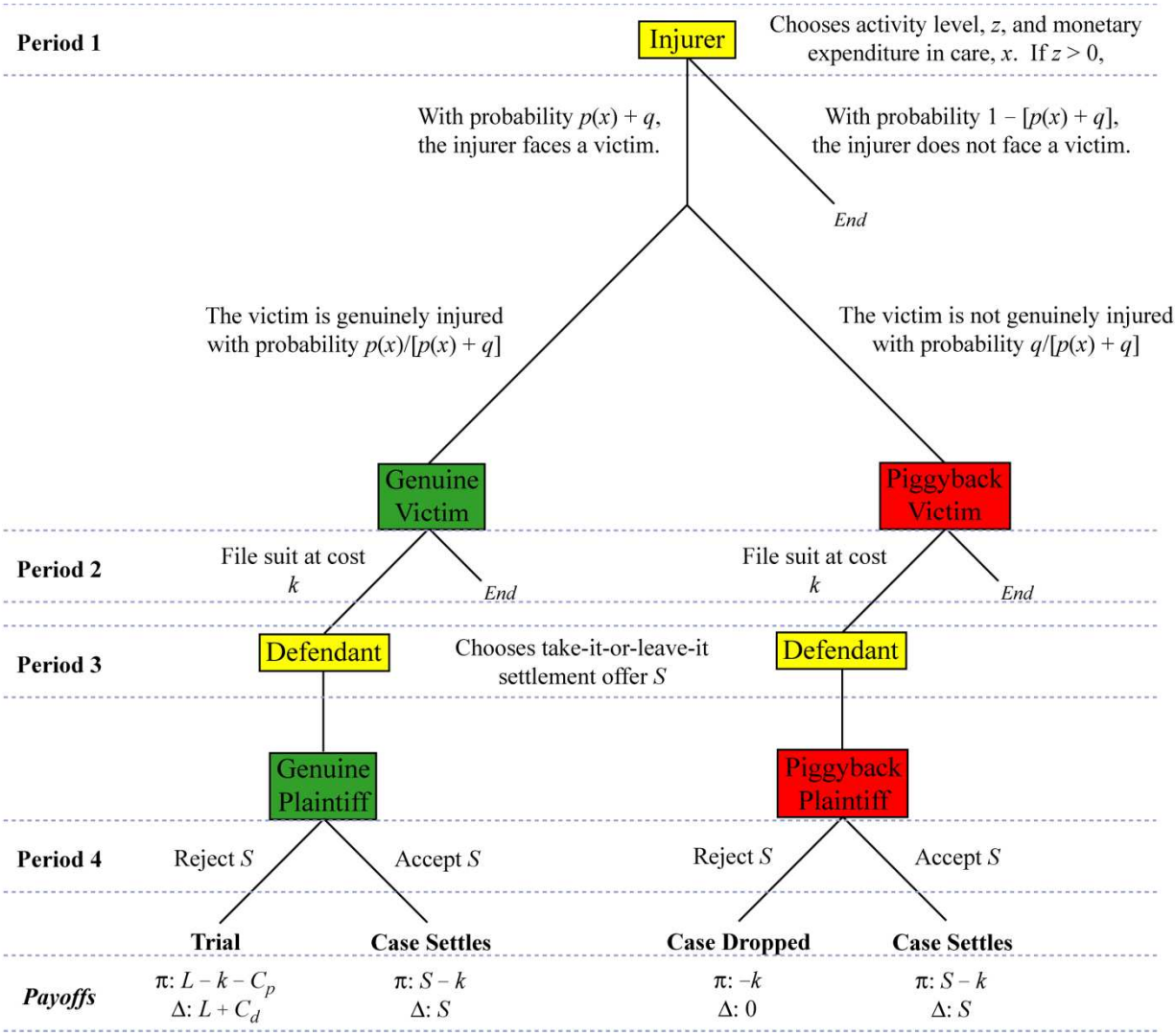

Figure 1. Period-by-Period Sequence of Play.[132]

[132] The plaintiff's payoffs represent its net benefit for each outcome, while the defendant's payoffs represent its costs. The reason the defendant's payoffs are represented as positive costs stems from its objective to minimize the total costs associated with care per unit of activity.