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The Inefficient Common Law

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# The Inefficient Common Law

Commentators on Anglo-American legal development have argued that the common law is composed of economically efficient rules.<sup>1</sup> Using formal economic models,<sup>2</sup> these commentators have shown that common law rules evolve toward efficiency.<sup>3</sup> This Note disputes that conclusion. It pro-

1. See R. POSNER, *ECONOMIC ANALYSIS OF LAW* 404 (2d ed. 1977) ("judge made rules tend to be efficiency promoting"). Considerable research supports this proposition. See Bishop, *Economic Loss in Tort*, 2 OXFORD J. LEGAL STUD. 1, 2-3 (1982) ("one important aim of such restrictions [on liability for economic loss in tort] is to achieve economic efficiency"); Jackson, "Anticipatory Repudiation" and the Temporal Element of Contract Law: An Economic Inquiry into Contract Damages in Cases of Prospective Nonperformance, 31 STAN. L. REV. 69, 69 (1978) (common law principle of "compensating the aggrieved party for its entire expectation loss, without overcompensating it, is an economically sound principle in that it facilitates the movement of goods and services to their highest value user"); Kronman, *Mistake, Disclosure, Information, and the Law of Contracts*, 7 J. LEGAL STUD. 1, 33 (1978) (privilege of nondisclosure in contract law "promotes efficiency by encouraging the deliberate search for socially useful information"); Landes, *An Economic Analysis of the Courts*, 14 J.L. & ECON. 61 (1971) (economic model of efficient behavior by prosecutors and defendants empirically valid); Landes & Posner, *The Positive Economic Theory of Tort Law*, 15 GA. L. REV. 851, 851 (1981) (most recent statement of "positive economic theory of tort law," that the common law of accidents "promote[s] efficient resource allocation"); Landes & Posner, *Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism*, 7 J. LEGAL STUD. 83, 128 (1977) ("the conditions under which law will intervene to encourage rescuers, and the method of the intervention that will be chosen . . . are best explained as efforts—however unwitting—to bring about efficient results"); Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399 (1973) (many aspects of legal procedure and judicial administration enhance efficiency); Posner, *Gratuitous Promises in Economics and Law*, 6 J. LEGAL STUD. 411, 416 (1977) ("courts in gratuitous-promise cases have reached results generally congruent with the prescriptions of economic analysis"); Posner & Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83 (1977) (doctrine of impossibility in contract law is generally consistent with economically efficient behavior); Priest, *Breach and Remedy for the Tender of Nonconforming Goods Under the Uniform Commercial Code: An Economic Approach*, 91 HARV. L. REV. 960, 1001 (1978) ("[c]ourts have extended Code principles beyond the letter of the Code in ways which minimize costs and [have] refused to adopt interpretations of the Code which increased the costs of sales transactions"); Priest, *A Theory of the Consumer Product Warranty*, 90 YALE L.J. 1297 (1981) (common law principle of allocating "responsibilities between manufacturers and different sets of consumers by standardized warranties is responsive to consumer preferences, and establishes coherent economic incentives for manufacturers and consumers to optimize productive services"). The evidence marshalled by these commentators supports the inference that portions of the common law have at times been efficient. This is not inconsistent with the result of this Note. See *infra* pp. 883-85.

2. In chronological order, the more significant papers are: Rubin, *Why Is the Common Law Efficient?*, 6 J. LEGAL STUD. 51 (1977); Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 J. LEGAL STUD. 65 (1977); Goodman, *An Economic Theory of the Evolution of the Common Law*, 7 J. LEGAL STUD. 393 (1978); Cooter, Kornhauser & Lane, *Liability Rules, Limited Information, and the Role of Precedent*, 10 BELL J. ECON. 366 (1979); Landes & Posner, *Adjudication as a Private Good*, 8 J. LEGAL STUD. 235 (1979); Cooter & Kornhauser, *Can Litigation Improve the Law Without the Help of Judges?*, 9 J. LEGAL STUD. 139 (1980); Terrebonne, *A Strictly Evolutionary Model of Common Law*, 10 J. LEGAL STUD. 397 (1981).

3. The use of formal economic models is often associated with the University of Chicago. This approach finds strongest expression in R. POSNER, *supra* note 1. See also Krier, Book Review, 122 U. PA. L. REV. 1664, 1693-97 (1974) (review of economic efficiency aspect of Posner's book).

Several analysts have used models to explain the evolution of the common law in terms of efficiency. See Rubin, *supra* note 2, at 61 ("[t]he efficiency of the common law, to the extent that it exists, can be explained by an evolutionary model"); Priest, *supra* note 2, at 66 ("My analysis provides a foundation

poses a new economic model of the development of common law rules, one that casts doubt on the ability of common law processes to achieve efficiency, and hence it disputes the view that the common law is a source of economically efficient legal rules. The Note argues that the inefficiencies inherent in common law decisionmaking have contributed to the codification<sup>4</sup> of Anglo-American law, and urges a reevaluation of studies indicating that the common law is largely efficient.<sup>5</sup>

The analysis in this Note is framed in terms of the economic effects of accident rules—how unforeseen losses are produced and allocated. Part I of the Note describes the economic effects of different types of liability rules, and the conditions under which a liability rule maximizes social wealth.<sup>6</sup> Part II suggests a measure of the inefficiency of legal rules, employing a model that expands upon the traditional dichotomy between efficient and inefficient rules. Part III analyzes the determinants of legal decision, criticizes previous models of the evolution of the common law, and argues that the common law process will result in non-optimal expenditures on accident prevention. Part IV discusses the implications of this result for theories of Anglo-American legal development.

## I. The Production and Allocation of Accident Prevention

From an economic perspective, an efficient liability rule is one that maximizes social wealth. It does this by providing economic actors with an incentive to undertake that amount of accident prevention activity that minimizes the sum of accident avoidance and accident damage costs. By outlining the conditions under which efficiency is obtained, this Part will

for the more general theory that common law decision-making facilitates over time the efficient allocation of resources.”); Landes & Posner, *supra* note 2, at 284 (“Our analysis suggests that this literature has overstated the tendency of a common law system to produce efficient rules, although areas can be identified where such a tendency can indeed be predicted on economic grounds.”); Terrebonne, *supra* note 2, at 405 (“The results of this evolutionary model support the thesis of selection favoring common law rules that promote economic efficiency.”); Landes & Posner, *supra* note 2, at 259 (“[T]he economic theory of the common law . . . predicts that common law rules are efficient but has been unable to discover the mechanism that generates these results.”); cf. Tushnet, *Legal Scholarship: Its Causes and Cure*, 90 YALE L.J. 1205, 1219 (1981) (“[E]very day in every way the common law is getting better and better.”).

4. The word “codification” will be used loosely in this Note to refer to the “orgy of statute-making” indulged in by American legislatures in the past 80 years. See G. GILMORE, *THE AGES OF AMERICAN LAW* 95 (1977). A more precise term might be “statutorification,” used in G. CALABRESI, *A COMMON LAW FOR THE AGE OF STATUTES* 1 (1982).

5. The model used in this Note disputes the findings of previous studies and instead concludes that the common law should not result in efficiency. Empirical research indicating that the common law is efficient should be re-examined in light of this result. The scientific method normally provides that theories should be modified to fit evidence. But in this case the evidence of efficiency is exceptionally uncertain and prone to bias.

6. This analysis is equally applicable to intentional torts, and contract and property law. See R. POSNER, *ECONOMIC ANALYSIS OF LAW* 98-102 (1972) (analysis of legal rules allocating losses identical for different areas of law); Rubin, *supra* note 2, at 52 (same).

provide a foundation for analyzing the nature of inefficient rules.

#### A. Liability Rules, Accident Prevention Activity, and Social Wealth

Accident prevention<sup>7</sup> is a good produced by two classes of economic actors—injurers and victims.<sup>8</sup> In any economic activity,<sup>9</sup> these two classes seek to minimize their private costs by investing in accident prevention up to the point at which the cost of one unit of additional prevention is equal to the cost of one unit of additional damage.<sup>10</sup> Since the production of accident prevention involves significant externalities,<sup>11</sup> market failure results. The amount of accident prevention produced is less than the socially optimal level. A manufacturer, for example, will only produce enough care to balance at the margin the accident costs that he would have paid if he had not produced the last unit of care, not those costs that he creates but does not have to bear, such as the cost of environmental pollution. To rectify this market failure, a public decision must be made on how much accident prevention should be produced and how that production should be allocated between injurers and victims. This choice is often imple-

7. Accident prevention is defined in this Note as the reduction in accident damages when injurer and victim take levels of care  $I$  and  $V$ , where  $I$  is the amount of care exerted by the injurer and  $V$  is the amount of care exerted by the victim. Care is considered to be composed of indivisible, homogeneous units. The benefit from accident prevention in any economic activity can be expressed as a function  $A(I, V)$ . Note that the benefit from accident prevention,  $A(I, V)$ , is equivalent to accident damage costs at levels of care  $I$  and  $V$ . As  $I$  and  $V$  increase, accident damage costs decline, a benefit to society. The cost of accident prevention is  $C_I I + C_V V$ , where  $C_I$  is the cost of a unit of injurer's care, and  $C_V$  is the cost of a unit of a victim's care. The assumptions concerning the functional forms of the cost and benefit equations are discussed *infra* note 14.

In this Note, the terms "accident prevention" and "accident avoidance" are used interchangeably. "Care" refers to  $I$  and  $V$ , the inputs to the production of accident prevention.

8. Obviously, other parties, such as insurance companies, pay accident costs in the common law system. Their participation can be discounted, if not ignored, in this analysis for two reasons. First, the influence of these institutions was small during the formative era of the Anglo-American common law. Second, the effect of their involvement was to reduce risk to injurers and victims, not to reduce the anticipated accident costs to parties. Only costs are relevant to this analysis. See *infra* note 13. The analysis can be expanded to consider the wealth effects of liability rules on injurers and victims. See *infra* p. 885.

9. For the purposes of this model, an economic activity is defined as any activity where losses are allocated among potential cost bearers by a liability rule. An economic function such as railroading may be composed of numerous economic activities. Cf. Diamond, *Single Activity Accidents*, 3 J. LEGAL STUD. 107 (1974) (mathematical analysis of cheapest cost avoider in single economic activity).

10. Implicitly assumed is that all parties are rational economic actors—they wish to minimize private costs and maximize private wealth. This assumption leads to the construction of basic economic principles such as the law of demand, opportunity cost, and substitutability of production inputs. See R. POSNER, *supra* note 1, at 1-5.

11. Externalities are costs created by an economic actor that are not borne by that actor. When externalities are present, an actor who minimizes his private costs will not minimize social costs. The presence of externalities has traditionally been a justification for public intervention in the market. See M. FRIEDMAN, *CAPITALISM AND FREEDOM* 30-32 (1971); H. VARIAN, *MICROECONOMIC ANALYSIS* 203-07 (1978); cf. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141 (1979) (arguing that transaction costs, not externalities, are key to analysis of welfare maximization).

mented through the use of liability rules.<sup>12</sup>

If society's goal were the maximization of social wealth<sup>13</sup>—the sum of the wealth of all individuals in a society<sup>14</sup>—then the production and allocation of accident prevention would be governed by two principles. First, the cost of the last unit of accident avoidance produced by either party should equal the benefit of the last unit of accident damage prevented.<sup>15</sup>

12. Accident prevention is called a "public good," that is, a good whose benefits accrue to others than those who produce it. If those who enjoy the benefits of a public good without paying for it can be excluded from it, or charged for it, the external benefit can be internalized. This process of internalization is accomplished through liability rules.

Put another way, liability rules seek to internalize the benefits of accident prevention by regulating the production of care for the public good. In the same way that an efficient producer of private goods produces until the marginal cost of the goods equals the marginal benefit (revenue), society seeks to duplicate this behavior for public goods by producing the social wealth-maximizing level of the public good. On the economic analysis of public goods, see L. BUCHANAN, *THE DEMAND AND SUPPLY OF COLLECTIVE GOODS* (1969); M. OLSON, *THE LOGIC OF COLLECTIVE ACTION* (1965).

13. The efficiency literature has been concerned with the minimization of the damage costs of accidents and accident prevention (that is, the maximization of social wealth). See, e.g., W. BAXTER, *PEOPLE OR PENGUINS* (1974) (cost-benefit analysis of pollution policies); G. CALABRESI, *THE COSTS OF ACCIDENTS* 26-27 (student ed. 1970) (referring to goal of primary accident cost reduction). But see Roberts & Stewart, Book Review, 88 HARV. L. REV. 1644 (1975) (Baxter's analysis ignores non-monetizable costs and distributional concerns). A normative argument for wealth maximization is found in Posner, *Utilitarianism, Economics, and Legal Theory*, 8 J. LEGAL STUD. 103 (1979).

An alternative to wealth maximization would be to maximize the parties' utility through appropriate liability rules. See, e.g., Bator, *The Simple Analytics of Welfare Maximization*, 47 AM. ECON. REV. 22 (1957) (pioneering explication of utility maximization); Note, *An Efficiency Analysis of Vicarious Liability Under the Law of Agency*, 91 YALE L.J. 168 (1981) (analyzing utility-maximizing vicarious liability rule). A review of the assumptions of wealth and utility maximization in terms of Pareto-optimal behavior is found in Coleman, Book Review, 34 STAN. L. REV. 1105 (1982) (reviewing R. POSNER, *THE ECONOMICS OF JUSTICE* (1982)).

14. The maximization of social wealth (or the minimization of the costs of accidents) requires the identification of the optimal amount of injurer's care  $I^*$  and victim's care  $V^*$ . This determination follows essentially a two-stage process. Society first finds the efficient level of accident prevention, denoted  $A^*(I, V)$ . See *infra* note 15. Second, society decides how most cheaply to produce that level. See *infra* note 18.

This two-stage process is formally equivalent to minimizing the complete social cost function in an economic activity. Thus, the task, for any single economic activity, is to minimize

$$C_s = C_I I + C_V V + A(I, V)$$

over  $I$  and  $V$ , where  $C_s$  is the social costs of accidents at a level of care  $I$  by the injurer and  $V$  by the victim;  $C_I I$  and  $C_V V$  are the costs of prevention; and  $A(I, V)$  is the damage costs of accidents.

This function is equivalent to satisfying simultaneously the equations

$$C_I = A_I(I, V)$$

$$C_V = A_V(I, V)$$

where  $A_I(I, V)$  is the marginal product of  $I$ , and  $A_V(I, V)$  is the marginal product of  $V$ . These equations identify the optimal levels of care for injurer and victim as the point at which the benefit from a marginal unit of accident prevention is equal to the cost of the inputs of care for each party. See Brown, *Toward an Economic Theory of Liability*, 2 J. LEGAL STUD. 323, 324-26 (1973).

Production of accident prevention that satisfies these equations yields the efficient level of care  $I^*$  for the injurer and  $V^*$  for the victim. The assumptions underlying this type of production function are that  $A(I, V)$  is continuous and twice differentiable in  $I$  and  $V$ ; the marginal cost of increased parties' care is positive, that is,  $C_I, C_V > 0$ ; marginal accident damage costs are non-negative and non-decreasing, that is,  $A_I(I, V) > 0$ ;  $A_V(I, V) > 0$ ;  $d^2 A(I, V)/dI^2 < 0$ ; and  $d^2 A(I, V)/dV^2 < 0$ ; and the marginal substitutability of inputs is declining, that is,  $dA^2(I, V)/dIdV < 0$ . *Id.* at 324 n.3.

15. Given that the efficient level of accident prevention is denoted  $A^*(I, V)$ , see *supra* note 14, then under this condition, society is required to produce  $A^*(I, V)$  in prevention. Since  $I$  and  $V$ , the injurer's and victim's levels of care can be varied in such a way as to keep  $A^*(I, V)$  constant, this condition

This principle is best explained in terms of the formal components of total accident costs: accident prevention costs and accident damage costs. These two costs are inversely related.<sup>16</sup> Accident costs are minimized by spending on accident prevention up to the point at which the marginal benefit of avoidance equals the marginal cost of accident damages.<sup>17</sup>

Second, the allocation of the production of accident prevention between injurers and victims should be structured so that the reduction in accident costs due to the last dollar of care expended by one party is equal to the reduction in accident costs due to the last dollar of care expended by the other.<sup>18</sup> This allocation of the burden of preventing accidents will minimize production costs.

A liability rule that simultaneously satisfies these two conditions maximizes social wealth.<sup>19</sup> From this result, two conclusions can be drawn: A

identifies a production isoquant—a function that specifies all values of I and V that produce a fixed amount of output. The exact values of I and V that generate the optimal production isoquant,  $A^*(I,V)$ , depend on the marginal technical rate of substitution of I and V. See J. HENDERSON & R. QUANDT, MICROECONOMIC THEORY 42-54 (1958) (theory of multi-factor production).

16. Accident damage costs decrease as accident prevention costs rise. This is a consequence of the positive marginal products of inputs I and V.

Other systems of categorizing accident costs have been identified. Guido Calabresi bases his analysis on three separate types of accident costs. G. CALABRESI, *supra* note 13, at 26-31. Primary costs to Calabresi are accident and avoidance costs. Secondary costs are associated with administration of the liability system. Tertiary costs are associated with wealth effects of the distribution of societal income. Given the complexity of these variables, a formal mathematical efficiency analysis based on them would be extremely difficult. Diamond, *supra* note 9, has attempted such an analysis, but the implications of his results are unclear.

17. Stopping production of accident prevention before the efficient point leads to the occurrence of some accidents that could be avoided at less than their social cost. Producing accident prevention beyond this point avoids some accidents at more than their cost. Neither outcome is socially efficient.

It is a general principle of economics that balancing marginal costs and benefits leads to efficiency. This result assumes that all relevant costs, including transaction and information costs, are included in the social cost function.

18. Since the marginal cost of substituting production inputs declines with output, efficient production of accident prevention requires determining the combination of inputs that sets the relative prices of the production of accident prevention by injurer and victim equal to the relative substitutability of inputs. See J. HENDERSON & R. QUANDT, *supra* note 15, at 42-54.

This condition puts a constraint on the values of I and V such that

$$A_I(I,V) / C_I = A_V(I,V) / C_V$$

must hold. This equation gives the scale expansion path for producing accident prevention—the optimal combination of I and V for every level of output. This condition is achieved when the slope of the budget constraint,  $C_I/C_V$ , equals the slope of the production isoquant,  $A_I(I,V)/A_V(I,V)$ . This condition prescribes the cheapest combination of production inputs I and V given a desired level of accident prevention. In combination with the condition that minimizes the social cost function, see *supra* note 14, this equation determines a unique combination of care by injurer and victim,  $(I^*,V^*)$ , that minimizes the social cost function. *Id.*

19. Much of the preceding analysis was developed by John Prather Brown. Brown, *supra* note 14. Brown begins by showing that parties' private costs are minimized by a rule setting a negligence standard at the social optimum for that party ( $I^*$  or  $V^*$ ). Brown's analysis assumed that accident costs are fixed and that the care exercised by the parties has an effect only on the probability and not the severity of an accident. The Brown analysis allowed the cost of an accident, but not the number of accidents, to decrease with care. Thus Brown's framework does not provide for the "occurrence" effect. See *infra* p. 877; see also Blume & Rubinfeld, *The Dynamics of the Legal Process*, 11 J. LEGAL STUD. 405 (1982) (expansion of Brown's model to standards of care which may change over

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rule may be non-wealth-maximizing if it either leads to too great or too little production of accident prevention by the parties, or if it misallocates the burden of production between injurers and victims.<sup>20</sup>

### B. Types of Liability Rules and Social Wealth

Liability rules of varying degrees of efficiency have developed in the Anglo-American legal system. The efficiency of each type of rule is a consequence of the effect of the rule on the production of accident prevention and the allocation of accident costs.

#### 1. Pure Comparative Fault

A rule of pure comparative fault imposes liability for accident costs on parties in proportion to their causal responsibility. This rule optimally allocates the burden of producing accident prevention by making the injurer or victim liable for the costs he creates. The rule thus internalizes all costs; a rational economic actor who minimizes private costs will also minimize social cost.<sup>21</sup> This rule also produces the optimal amount of accident prevention since all costs of accidents are taken into account by a party.<sup>22</sup> Absolute comparative fault is rare in law,<sup>23</sup> but it offers guidelines for efficiency in allocating accident liability.

time). The present model allows all accident costs (costs per accident and number of accidents) to vary with the parties' care.

20. In the first case the injurer and victim do not produce the optimal amount of accident prevention  $A^*(I,V)$ ; necessarily either  $I \neq I^*$  or  $V \neq V^*$ . This inefficiency loss is due to the presence of some accidents which could have been avoided at less than their damage cost.

In the second case, the injurer and victim produce non-optimal individual amounts of care,  $I \neq I^*$  and  $V \neq V^*$ , although the amount of accident prevention is optimized at  $A^*(I,V) = A(I^*,V^*)$ . The efficient amount of prevention is produced, but at non-optimal cost.

Usually the inefficiency loss in any activity will be due to both non-optimal division of the production of prevention and production of a sub-optimal level of prevention.

21. See Brown, *supra* note 14, at 337-40. Brown analyzes pure comparative fault under the name of comparative negligence and concludes that it is inefficient. His analysis is faulty because he assumes that parties are equally liable for accident damage costs. In pure comparative fault, the liability of a party is proportional to the costs caused by that party. Determining such a fine division of causation is admittedly difficult in practice.

22. Cf. Polinsky, *Strict Liability vs. Negligence in a Market Setting*, 70 AM. ECON. REV. 863 (1980) (examines case where one party, the injurer, internalizes all costs).

23. Arkansas and Mississippi have both implemented a rule of pure comparative fault in negligence actions. ARK. STAT. ANN. §§ 27-1763 to -1765 (Supp. 1975); MISS. CODE ANN. § 11-7-5 (1972); Twynner, *A Survey and Analysis of Comparative Fault in Mississippi*, 52 MISS. L.J. 563 (1982). Admiralty imposes the comparative fault rule for actions of personal injury and collisions between ships. See *The Woodrop-Sims*, 2 Dod. 83, 165 Eng. Rep. 1422 (1815) (origin of rule on collisions in Great Britain); *The Max Morris*, 137 U.S. 1 (1890) (adoption of rule for personal injury in United States); *United States v. Reliable Transfer Co.*, 421 U.S. 397 (1975) (adoption of rule for collisions in United States). The most extensive application of comparative fault in admiralty, however, has come through statutory enactment. See Maritime Conventions Act of 1911, 1 & 2 Geo. 5, ch. 57, § 1 (comparative fault applied in collision of two or more ships); Death on the High Seas Act § 2, 46 U.S.C. § 762 (1976) (comparative fault applied to death actions by seamen or their personal representatives against employers); Merchant Marine (Jones) Act § 8, 46 U.S.C. § 688 (1976) (same

## 2. Negligence Standards

Under a negligence rule, liability of an injurer or victim for accident damage costs is predicated on the amount of care he took compared to a pre-designated level.<sup>24</sup> Since the private cost to an injurer or a victim will not usually be equal to the social cost he creates (a negligent injurer may bear no costs in some liability systems, for example), it is not obvious that this type of rule minimizes social cost.<sup>25</sup>

John Prather Brown has shown that the application of a negligence

for personal injury or death); cf. Employers' Liability Act (FELA) § 3, 45 U.S.C. § 53 (1976) (comparative fault applied to personal injury or death actions by employees of common carriers); Mole & Wilson, *A Study of Comparative Negligence* (pt. 1), 17 CORNELL L.Q. 333, 339-59 (1932); *id.* at 359-66 (comparing FELA with Jones Act).

Many states have a hybrid form of negligence and comparative fault. A common system is to apportion liability on the basis of comparative fault up to the point where the victim is 50% at fault, after which recovery by the victim is barred. See, e.g., TEX. REV. CIV. STAT. ANN. art. 2212a, § 1 (Vernon Supp. 1982). A review of hybrid "comparative negligence" systems is found in Special Project, *Texas Tort Law in Transition*, 57 TEX. L. REV. 381 (1979). It is significant that, despite this being the most efficient of liability rules, absolute comparative fault has usually been implemented by statute, never by court decision. See W. PROSSER, *HANDBOOK OF THE LAW OF TORTS* § 67 (4th ed. 1971); see also *infra* pp. 885-86 (rise of statutory law response to inefficient common law).

24. The usual negligence rule is that liability falls on the victim unless the injurer is negligent and the victim is not. However, many variations are possible. The doctrines of assumption of risk and last clear chance, for instance, can be subsumed into the negligence and contributory negligence standards. Each doctrine changes slightly the level of care required of a party. See W. PROSSER, *supra* note 23, § 66 (last clear chance); *id.* § 68 (assumption of risk).

There is an elegant symmetry between various types of negligence rules.

Rule	The victim is liable	The injurer is liable
Strict liability	in no cases	in all cases.
No liability	in all cases	in no cases.
Negligence	if injurer is not negligent	if injurer is negligent.
Pure contributory negligence	if victim is negligent	if victim is not negligent.
Negligence with contributory negligence	if injurer is not negligent or victim is negligent	if injurer is negligent and victim is not negligent.
Negligence with dual contributory negligence	if victim is negligent and injurer is not negligent	if victim is not negligent or injurer is negligent.

A more involved explanation of these rules, including a graphical display of their properties, is found in Brown, *supra* note 14, at 327-31. Strict liability is the inverse of no liability; the standards of care for the victim and injurer are switched. The same is true for negligence versus pure contributory negligence, and negligence with contributory negligence versus negligence with dual contributory negligence.

25. The case for the efficiency of using negligence rules to allocate accident liability is made in Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29 (1972) (negligence rules economically efficient); Posner, *Strict Liability: A Comment*, 2 J. LEGAL STUD. 205 (1973) (strict liability rule generally less efficient than negligence rule); see also Diamond, *Accident Law and Resource Allocation*, 5 BELL J. ECON. 366 (1974) (mathematical analysis of negligence-contributory negligence liability system). Posner later abandoned this position. See Landes & Posner, *supra* note 2, at 264 (apparently accepting Calabresi's strict liability standard as efficient).



standard to the injurer, the victim, or both, can result in optimal production of accident prevention in a static economic activity.<sup>26</sup> This result holds if the levels of care required are set at the negligence standard advocated by Judge Learned Hand. The Learned Hand rule designates a party as negligent if the marginal benefit to society of his taking additional care is greater than the marginal cost to society of that care.<sup>27</sup> Private cost under such a rule is minimized at the same level of care as social cost.<sup>28</sup>

### 3. *Strict Liability*

Some liability rules impose the costs of accidents on either the injurer or victim regardless of his level of care.<sup>29</sup> One party is liable no matter how careful he is. In the presence of transaction costs,<sup>30</sup> parties minimizing their private costs under this rule will generally fail to produce accident prevention at the optimal level: those liable will produce too much, and those not liable will produce too little.<sup>31</sup> An efficient liability rule will almost always require both victims and injurers to produce accident prevention since the first unit of one party's care will generally be of more value than some later unit of the other's care.<sup>32</sup> Thus, even if a strict liability rule results in the optimal amount of accident prevention, it will not efficiently divide production between injurer and victim. Nevertheless, some commentators have wrongly recommended strict liability on effi-

26. See Brown, *supra* note 14, at 340-43. Brown's analysis of a static economic activity ignores the entry and exit of economic actors. See *infra* note 28.

27. See *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) (L. Hand, J.); see also Brown, *supra* note 14, at 331-35 (analysis of various interpretations of Learned Hand rule).

28. Mitchell Polinsky expanded on Brown's work by taking into account the dynamics of the market. If the entry or exit of producers of accident prevention from an economic activity is considered, Polinsky showed that the Learned Hand negligence rule is inefficient and that Brown's analysis resulted in too little accident avoidance. Polinsky showed that efficiency could be achieved by a rule of strict liability that would impose on the injurer those costs caused by him (actually a modified rule of pure comparative fault). Alternatively, argued Polinsky, the level of care required by the negligence standard could be increased so that the parties would expend more on prevention. See Polinsky, *supra* note 22.

29. Some commentators have argued that strict liability was the general rule in the infancy of accident law. See Green, *The Thrust of Tort Law, Part I: The Influence of the Environment*, 64 W. VA. L. REV. 1, 3 (1961), reprinted in L. GREEN, *THE LITIGATION PROCESS IN TORT LAW* 59 (1965); W. PROSSER, *supra* note 23, § 74. But see Schwartz, *Tort Law and the Economy in Nineteenth-Century America: A Reinterpretation*, 90 YALE L.J. 1717 (1981) (American tort law evolved primarily in terms of negligence doctrines, and was influenced less by English strict liability notions than by early ideas of fault). Products liability law is the primary source of current strict liability law. Thirty-nine states have adopted some form of strict product liability similar to that found in RESTATEMENT (SECOND) OF TORTS § 402A (1965). See 2 L. FRUMER & M. FRIEDMAN, *PRODUCTS LIABILITY* § 16A[3] (1982) (review of states adopting strict liability either by statute or court decision).

30. Without transaction costs, parties will negotiate between themselves to produce the optimal amount of accident prevention. See *infra* note 37.

31. See Brown, *supra* note 14, at 326-27, 338.

32. This is because of the declining marginal rate of substitution of injurer's and victim's care in producing accident prevention. It is generally cheaper to produce a good with two inputs than with one. See J. HENDERSON & R. QUANDT, *supra* note 15, at 44-47.

ciency grounds.<sup>33</sup>

An example might make comparison of different types of liability rules clearer. In nineteenth-century England, railroad tracks often ran near open fields; sparks from trains sometimes caused fires.<sup>34</sup> In evaluating this situation, society determined that a certain level of accident damage from fire was optimal. Assume for the moment that costs of transacting between field owners and railroads are prohibitive, and that the field owner has a comparative advantage at taking care. The railroad alone could achieve this socially desired level of accident damage costs by taking a certain amount of care, say at a cost of \$30. The field owner alone could attain this same level of damage costs by taking a certain amount of care less cheaply than the railroad, say at a cost of \$40. Probably some combination of both victim's care and injurer's care would be cheaper than either alone, say at \$20.<sup>35</sup> This is the efficient division of inputs for the production of accident prevention.<sup>36</sup> It can be attained only if both parties have an incentive to take care. If the assumption of prohibitive transaction costs is relaxed, the parties will contract to allocate the burden of production

33. See Calabresi & Hirschhoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L.J. 1055, 1060-67 (1972); Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980). Calabresi claims to be minimizing the sum of accident prevention costs and damage costs by placing liability on the "best cost avoider." See Calabresi & Hirschhoff, *supra*, at 1057; see also G. CALABRESI, *supra* note 13, at 174-75. Calabresi also claims that a "cheapest cost avoider" strict liability rule minimizes the sum of the three types of costs he considers. See *supra* note 13.

Calabresi has argued that placing liability on the cheapest cost avoider is best given the potential errors involved in assessing fault, the presence of transaction costs, and the ability of parties to shift liability by bargaining. Using this Note's terminology, Calabresi's argument is equivalent to introducing a presumption into tort law that a single party is the cheapest accident prevention producer. This condition is not likely to be efficient, since most activities, to be efficient, require care by both parties. The starting point should impose liability on both parties.

Calabresi has usually advocated a rule of strict liability that would impose liability on one party—the victim or the injurer. Calabresi, *Optimal Deterrence and Accidents*, 84 YALE L.J. 656, 656 (1975). Other commentators have also assumed that an economically efficient strict liability rule would impose costs on only one of the parties. Landes & Posner, *supra* note 2, at 264.

In a departure from this idea, Calabresi has also advocated splitting strict liability for accident damages between victim and injurer in a systematic manner based on the activity involved. See G. CALABRESI, *supra* note 13, at 134-40. This is a better liability scheme, since almost all economic activities will require care from both injurers and victims to be efficient. However, as with negligence standards, Calabresi's rule will still be inefficient if the division of liability were not in accordance with the actors' production functions. In only a few cases would an efficient division be made and costs minimized.

The possibility also exists that Calabresi's solution is efficient given the presence of secondary and tertiary accident costs, but this is not demonstrated in his analysis, and is not intuitively obvious. See Diamond, *supra* note 9.

34. See generally Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960) (analysis of placing liability for train-caused fires on railroad, landowner); R. POSNER, *supra* note 1, at 34-39 (review of Coase's analysis).

35. These numbers are consistent with declining marginal technical rate of substitution of inputs for producing accident prevention. See *supra* note 18.

36. This example controls for the amount of care produced by the parties, and hence for accident damages, in order to make the point about the marginal substitutability of production inputs. In an actual example, parties would adjust the amount of care produced depending on their liability.

between themselves in the least expensive manner. Even with lower transaction costs, the result that an efficient rule will usually require both parties to produce accident prevention still holds.<sup>37</sup>

## II. The Recklessness of Common Law Rules

Inefficient liability rules may result in too much or too little production of accident prevention. Inefficiency can be measured along a continuum of recklessness and analyzed based on the costs of accident prevention and accident damage created. This measure of inefficiency is vital to an analysis of the way inefficient common law changes over time.

### A. Inefficient Rules

For a given type of accident, a liability rule has generally arisen allocating the accident loss between injurer and victim. If the rule fails to minimize the total accident costs of the activity, it is inefficient.<sup>38</sup> Society may increase its wealth by substituting an efficient rule in its place.<sup>39</sup> Inefficient rules can create a social wealth loss either by inducing production of a non-optimal amount of prevention, or by prompting production of optimal prevention but misallocating that production between the injurer and victim. This Note classifies rules as non-reckless, efficient, or reckless. Non-reckless rules require too much care, resulting in too much accident prevention and sub-optimal accident damages;<sup>40</sup> reckless rules require too

37. Coase showed that the parties will allocate the production of accident prevention between one another efficiently regardless of the initial allocation of liability if transaction costs are zero. See Coase, *supra* note 34. Thus the marginal conditions that identify I\* and V\*, see *supra* note 14, would be attained.

38. In the common law, a liability rule usually prescribes a standard of care for the victim and a standard of care for the injurer. For most activities, the loss falls on the victim unless the victim exceeds the amount of care prescribed, and the injurer does not. This is the rule of negligence with contributory negligence. The first American case under this rule is *Brown v. Kendall*, 60 Mass. (6 Cush.) 292 (1850) (award to plaintiff barred by his own negligence). This rule has been exhaustively discussed. For an economic approach, see R. POSNER, *supra* note 1, at 123-24; Calabresi & Hirschhoff, *supra* note 33, at 1056-59.

The classification of particular liability rules according to economic efficiency is still in its infancy. The most extensive attempt at classification so far is found in R. POSNER, *supra* note 1, at 25-191.

39. The economic goal of wealth maximization assumes that society is better off as aggregate wealth (goods and services for which people will pay) increases, regardless of how that wealth is distributed. To the extent other goals besides wealth maximization are important to society, the implications of this Note are altered.

40. An example of a typical non-reckless common law rule and the judiciary's response to it is provided by the early rule governing railroad crossings and automobiles. In *Baltimore & Ohio Ry. v. Goodman*, 275 U.S. 66 (1927), Justice Holmes established the common law rule that automobile drivers must "stop, look, and listen" at railroad crossings to avoid liability for accidents. If a driver failed to meet this standard of care, he could not recover for accidental loss if he were hit by a train. In *Pokora v. Wabash Ry.*, 292 U.S. 98 (1934), a driver was confronted with a switch track, a main track, and then two more switch tracks in his direction of travel. The driver stopped at the first switch, but proceeded without stopping thereafter, and was hit by a train. The issue before the Court, therefore, was whether the rule should be that a driver must stop (and perhaps get out and reconnoi-

little care, resulting in insufficient accident prevention and excessive accident damages.<sup>41</sup> These two types of inefficiency have not always been appreciated in the literature.<sup>42</sup> Indeed, the conclusion of many scholars that efficient rules dominate judicial decisionmaking is largely a product of the failure to distinguish between reckless and non-reckless inefficient rules.<sup>43</sup> In Part III, the critical importance of the two types of inefficiency for the development of the common law will be demonstrated.<sup>44</sup>

ter) at each track, or whether he could simply look and listen.

Justice Cardozo, author of the *Pokora* opinion, rejected the earlier decision that stopping and investigating were usually necessary. The rationale of this reversal was that reconnoitering was uncommon, inconvenient, and not very useful. In economic terms, the Court was analyzing whether the *Goodman* rule was inefficiently non-reckless. It was possible that the excessive inconvenience of stopping at all tracks was not worth the decrease in the discounted cost of crossing accidents. In fact, Justice Cardozo's ruling was simply a roundabout way of saying that the marginal cost of stopping was greater than the marginal benefit of preventing accidents.

Justice Cardozo was apparently not altogether satisfied with the concept of the judiciary's sanctioning a certain number of accidents at railway crossings, even if this was necessary given the practicalities of rail travel. Thus, he also hit upon a safety justification for his decision. It could be, wrote Cardozo, that stopping and investigating is itself dangerous: "Where was *Pokora* to leave his truck after getting out to reconnoitre? If he was to leave it on the switch, there was the possibility that the box cars would be shunted down upon him before he could regain his seat." 292 U.S. at 105. While this eventuality cannot be ruled out, it is highly unlikely, and it does not change the net result of a "stop, look, and listen" rule, which is drastically to curtail railroad accidents. The few accidents that Cardozo postulated would be outweighed by a decrease in accidents because of drivers' enhanced awareness of oncoming trains.

This opinion, with its strained analysis of accident costs, can thus be read as an early recognition of the implicit economic logic of accident law as applied to a non-reckless rule.

41. An example of a reckless rule appears in *Lorenzo v. Wirth*, 170 Mass. 596, 49 N.E. 1010 (1898). In this case, plaintiff Lorenzo fell into a coal hole situated next to a house, and sued the leaseholder of the land. The trial court refused to direct a verdict for the plaintiff, and Lorenzo appealed. Oliver Wendell Holmes, then on the Supreme Judicial Court of Massachusetts, sustained the appeal, and held that the plaintiff was presumed to know the dangers of coal loading despite her total unfamiliarity with the practice. *Id.* at 601, 49 N.E. at 1011.

Although framed in terms of an analysis of "duty of care," Holmes' rationale for his decision seems to be based on a rough cost-benefit calculation. The "dangers" created by loading coal are only "temporary," and warning the public of the hole would be burdensome. *Id.*

This case illustrates the difficulties associated with making estimates of the efficiency of legal rules. A warning by coal hole users could prevent more accident damages than it would cost, but this is not certain, and the question is ultimately resolvable only on an empirical level. Holmes' reasoning—a rough economic analysis performed in terms of formal legal concepts—is typical of that of judges confronted by liability rules in novel circumstances.

42. See, e.g., Landes & Posner, *supra* note 2, at 263-75 (inefficient rule defined as one that does not place liability on cheapest cost avoider); Priest, *supra* note 2, at 65-66 (inefficient rule defined as one that does not minimize social costs); Rubin, *supra* note 2, at 52-53 (same). Nor has any previous model contemplated that inefficient rules may impose a continuum of losses on parties.

43. Priest, for example, argues that inefficient rules will be litigated and overturned more often than efficient rules, and hence will disappear from the common law. Priest, *supra* note 2, at 67. He errs in assuming that both reckless and non-reckless rules will be litigated more often than efficient rules; actually only non-reckless rules will be less litigated than their efficient counterparts. He also errs in assuming that an overturned inefficient rule is necessarily replaced by an efficient standard. The analysis in this Note makes more realistic assumptions about inefficiency and litigation. See *infra* pp. 877-81.

44. The placement of liability rules along a continuum of recklessness is important in determining how different types of rules are affected by the mechanism of legal precedent and litigation. See *infra* pp. 877-81.

B. *The Measure of Inefficiency and Recklessness*

An efficient rule maximizes social wealth by minimizing costs to society. In Figure 1, the marginal cost of accident prevention,<sup>45</sup> the marginal cost of accident damages,<sup>46</sup> and the total social cost<sup>47</sup> curves are presented for one party subject to a hypothetical common law rule. For purposes of explication, the care taken by this party is allowed to vary while the care taken by the other party in the activity is fixed at the optimal level.<sup>48</sup> The lowest point on the total social cost curve, Point A, locates the optimal marginal units of care society should require of the participant in this activity. Point A' indicates the corresponding total social cost at this point. A reckless rule (indicated at  $r_1$ ) would require too little accident avoidance—the marginal cost of accident prevention would be at B, marginal cost of accident prevention at C, and total social cost at D. The efficiency loss would be measured by the vertical distance between A' and D. A non-reckless rule (indicated at  $r_2$ ) would require too much accident avoidance—the marginal costs of accident prevention would be at E, marginal costs of accident prevention at F, and total social cost at G. Again the inefficiency loss would be the vertical distance between A' and G. The inefficiency of these rules may be gauged by their distance from the optimum.<sup>49</sup>

A convenient way to measure inefficiency at any level of prevention is to compute a rule's "recklessness," defined as the ratio of actual accident damages to accident damages at the optimum.<sup>50</sup> The most reckless rule

45. The marginal cost of accident prevention is denoted  $C_I$  for the injurer and  $C_V$  for the victim.

46. The marginal benefit of prevented accidents is denoted  $A_I(I,V)$  for the injurer and  $A_V(I,V)$  for the victim.

47. Total social cost, denoted  $C_S$ , is equal to  $C_I I + C_V V + A(I,V)$ .

48. Thus the curves in Figure 1 trace the production of accident prevention, assuming one party is behaving optimally and the other party varies his care-taking behavior. The actual determination of the optimum levels of care for both parties is discussed *supra* note 14.

49. Coase's Theorem posits that in the absence of transaction costs, a market for legal liability will develop which will make all rules efficient. See Coase, *supra* note 34, at 8. This Note assumes that there are transaction costs in the real world, and therefore there are inefficient rules which produce non-wealth-maximizing allocations of liability. Cf. Brown, *supra* note 14, at 343-47 (judges acting with limited information likely to encourage non-optimal behavior by injurers and victims); Priest, *supra* note 2, at 65 (assuming positive real world transaction costs).

This Note assumes that where an area of law is governed by an inefficient liability rule, injurers and victims behave inefficiently (that is, they do not minimize social costs) rather than bargaining among themselves to reach the social optimum. Coase's Theorem suggests that this assumption of inefficient behavior is invalid. However, parties may behave in a socially inefficient manner for several reasons. First, the simple existence of inefficient accident rules that are obeyed by actors implies that this is the case. See example given *supra* note 40. Second, in a world of transaction costs, bargaining among actors to reach an efficient solution cannot be presumed. Third, in a world of limited information, courts will have difficulty accurately locating the efficient level of care, and even efficiency-minded courts could misjudge the optimum level of accident prevention required of parties. See Brown, *supra* note 14, at 343-46 (where courts' information on marginal costs and benefits limited, liability rules do not generate efficient equilibrium between injurer and victim).

50. Recklessness ( $r$ ) is the ratio of accident damages to optimal accident damages under a given

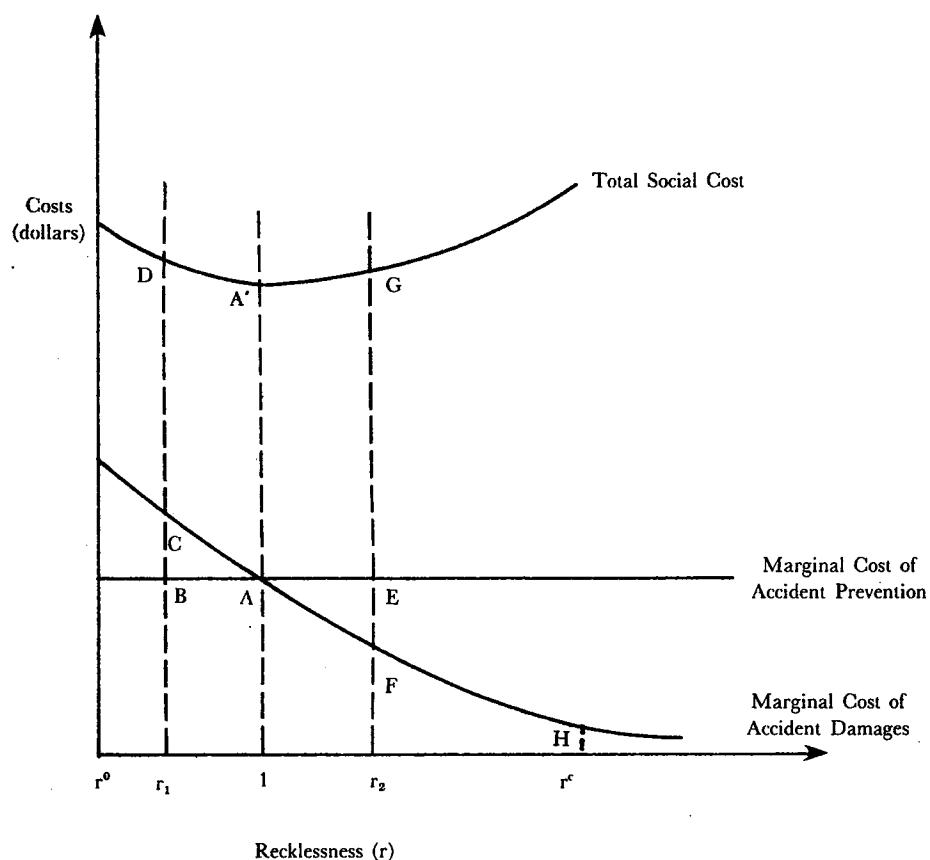


Figure 1

possible in an activity requires no care on the part of the injurer or victim. Recklessness at this point is designated  $r^0$ . Recklessness at the socially efficient level of accident prevention is 1. Infinitely more care can be expended on accident prevention as recklessness approaches zero. At some point, however, it becomes rational for an injurer or victim to ignore the extremely non-reckless rule and produce accident prevention at the efficient standard of care. At this point, H on Figure 1, the recklessness of

rule that is,  $r = A(I,V) / A(I^*,V^*)$ .

For a reckless rule,  $r > 1$ ; for a non-reckless rule,  $r < 1$ . Reference will also be made to the mean recklessness of the common law as a whole. See app. (on file with *Yale Law Journal*). An efficient rule, of course, has recklessness of 1 ( $r=1$ ).

## Common Law

the rule equals  $r^C$ .<sup>51</sup> Any liability rule will thus result in a measure of recklessness between  $r^0$  and  $r^C$ .<sup>52</sup>

### III. The Development of Reckless Common Law: Litigation and Precedent

This Part of the Note presents a formal model of the manner in which litigation<sup>53</sup> and precedent<sup>54</sup> affect liability rules of varying degrees of economic efficiency.<sup>55</sup> The model predicts that reckless liability rules will gradually tend to dominate the common law, at the expense of non-reckless or efficient rules.<sup>56</sup> The result requires only that rules be rankable in

51. The point at which a party relying on a non-reckless rule will disobey and behave at the efficient level is where the prevention costs of an accident equal the optimum social cost. For the injurer, this is where  $C_I I = C_I I^* + A(I^*, V^*)$ , and for the victim, this is where  $C_V V = C_V V^* + A(I^*, V^*)$ . The recklessness of a rule at these levels of care is  $A[I^* + A(I^*, V^*)/C_I, V^* + A(I^*, V^*)/C_V]/C_S$ . A liability rule, however, never becomes this non-reckless. As soon as one party's prevention costs equal total private costs (accident prevention expenditures and accident damage costs) at the optimum level of prevention, he will ignore the rule, and produce accident prevention at the optimum. The level of recklessness  $r^C$  is located where one party first ceases following a non-reckless rule. This is the minimum recklessness of a rule. The level of recklessness  $r^0$  is located where no accident prevention is produced.

To give an example of the limits of non-reckless behavior, it would be cheaper for a railway to violate, at some point, an extremely high negligence standard (and thus accept liability for accidents), rather than expend extravagant sums on prevention to remain above the standard.

52. A full proof would require examining each party's cost curves under a liability system of negligence with contributory negligence. Given that the victim is expending care at the standard established, the costs of accidents for the injurer are minimized at the negligence standard for the injurer (call it  $I^n$ ). With a non-reckless standard of negligence, an injurer is always negligent from 0 to  $I^n$  (assuming the victim is behaving non-negligently), and is non-negligent from  $I^n$  onwards, thus bearing only prevention costs. For any standard of care greater than  $I^n$ , it is cheaper for the injurer to expend care only at  $I^n$ , and accept the full cost of accidents (damage and prevention), rather than to accept only prevention costs at levels of care greater than  $I^n$ . This is the result for any combination of reckless, efficient, and non-reckless victims and injurers, under any system of liability incorporating negligence standards.

53. For the purposes of this Note, litigation refers to rulemaking at both the trial and appellate levels. Cf. R. POSNER, *supra* note 1, at 419-23 (most common law made at appellate level).

54. This Note will use "precedent" or "precedent stock" to denote that body of judicial decisions supporting a particular rule of liability with respect to an accident-producing activity. See Landes & Posner, *supra* note 2, at 264.

55. The models most in the tradition of this Note are found in Rubin, *supra* note 2; Priest, *supra* note 2; Landes & Posner, *supra* note 2; and Terrebonne, *supra* note 2. Rubin and Priest initially argued that a systematic mechanism existed to generate efficient common law. Goodman and Landes & Posner found that in some situations efficiency could not be obtained. Terrebonne confirmed this. None of these models considered the assumptions made in this Note that departures from efficiency may be in either a reckless or non-reckless direction, and none of them generate precedent as a function of the degree of recklessness.

More generally, previous models have made over-simplified assumptions and invalid inferences about judicial decisionmaking. This Note modifies or relaxes many of the assumptions of these models to present a more accurate model of the evolution of efficiency in the common law. Other assumptions are retained. For a discussion of the utility of even unrealistic assumptions, see M. FRIEDMAN, *The Methodology of Positive Economics*, in *ESSAYS IN POSITIVE ECONOMICS* 3 (1953).

56. All previous models have reached the result that the common law will develop toward economic efficiency. The Terrebonne, Goodman, and Cooter & Kornhauser analyses have qualified this result by showing that the common law will reach an equilibrium of efficient and inefficient rules with efficient rules predominating.

terms of efficiency.<sup>57</sup>

The process underlying this model can be summarized in three points. First, more reckless rules are more likely to be litigated. Second, rules litigated more often are more likely to develop precedent favorable to their replication. Third, rules with a large favorable precedent stock "squeeze out" less favored rules. It should be stressed at the outset that this model purports to explain no more than one important facet of the common law. Obviously, other considerations besides economic efficiency are involved in a complete analysis of legal rulemaking.<sup>58</sup>

#### A. Reckless Rules and Litigation

As the recklessness of liability rules increases, so do the amount of accident damages and the litigation associated with damage costs. The rela-

This model can be grouped into the broad category of economic theories that rely on "invisible hand" mechanisms to analyze systemic behavior. This is because this model makes no assumptions about the individual predilections toward efficiency of judges or disputants, but relies on the "invisible hand" of litigation to explain change in the common law. "Invisible hand" mechanisms explain the structure of systems studied in terms of systematic patterns of development, regardless of the desires of individual actors. See generally Terrebonne, *supra* note 2, at 398-400 & n.4 (comparison of evolutionary and economic assumptions about human behavior).

Other economic models of the common law have hypothesized a trend toward efficiency based on judicial attitudes favorable to efficiency. See R. POSNER, *supra* note 6, at 320-29 (judges decide cases in conformance with community standards of wealth-maximization); Clark, *The Interdisciplinary Study of Legal Evolution*, 90 YALE L.J. 1238, 1241-42 (1981) (actors in the judicial process seek long term cost-minimizing legal rules). But see R. POSNER, *supra* note 1, at 434-41 (reliance on invisible hand explanation of development of common law); Priest, *The New Scientism in Legal Scholarship: A Comment on Clark and Posner*, 90 YALE L.J. 1284 (1981) (critique of Clark's approach and defense of invisible hand mechanisms). Non-evolutionary theories that incorporate judges' attitudes toward economic efficiency can be analyzed in terms of the model proposed in this Note. See *infra* note 86.

57. For an analysis in terms of Markov chains of the relationship between liability rules ordered in terms of efficiency (or any orderable value), see Cooter & Kornhauser, *supra* note 2. They find that with a constant probability of a court's transforming rules of a certain degree of efficiency into rules of efficiency one degree lesser or greater, a stable equilibrium will obtain with a mixture of efficient and inefficient rules. The analysis is limited by their unrealistic assumption about how courts revise rules in light of precedent.

58. The economic theory of the common law has been widely criticized for ignoring important factors shaping legal decisionmaking. See Clark, *supra* note 56 (critique of literature on efficiency of common law for failure to generate testable hypotheses); Michelman, *Norms and Normativity in the Economic Theory of Law*, 62 MINN. L. REV. 1015 (1979) (criticizing implied ethical assumption in literature and arguing that evidence is lacking that efficiency is primary value influencing common law development); Rizzo, *The Mirage of Efficiency*, 8 HOFSTRA L. REV. 641 (1980) (criticizing impracticality of pursuing efficiency as social goal); Schwartz, *Economics, Wealth Distribution, and Justice*, 1979 WIS. L. REV. 799 (criticizing literature on basis of distributional consequences of efficiency-based adjudication).

George Priest wrote a pioneering article on the theory of generating efficient rules from litigation. Priest, *supra* note 2. But he recanted that piece in 1979 and contended that "it is impossible to devise a coherent substantive theory of decision-making that can explain all common law decisions. An implication of this showing is the improbability of the claim that all, or even most, common law rules are efficient in their various applications." Priest, *Selective Characteristics of Litigation*, 9 J. LEGAL STUD. 399, 400 (1979); cf. Priest, *supra* note 2, at 66 ("common law decision-making facilitates over time the efficient allocation of resources").



tionship between recklessness of rules and accident damages is established by definition, since the more reckless a rule is, the less accident avoidance activity it requires, and the more accident damages it causes.<sup>59</sup> Two factors relate the recklessness of rules with the degree of litigation of rules. The first factor can be called the occurrence effect: As a rule becomes more reckless, it results in more accidents. Thus, the occurrence effect will lead to greater litigation of reckless rules than of non-reckless rules since more accidents occur to be litigated. Previous analyses of common law development have ignored the occurrence effect.<sup>60</sup>

Second, more reckless rules may result in more severe accidents—the severity effect. Accidents under a reckless rule are on the average more expensive.<sup>61</sup> The severity effect will also lead to increased litigation, although the process is less direct. In general, it can be shown that the probability of litigation is proportional to the gain to the parties from litigating: the sum of their current and future stakes in a dispute, less their expenses.<sup>62</sup> Current stakes simply consist of accident damages, and these increase as the recklessness of the liability rule increases.<sup>63</sup> Future

59. As accident damages costs,  $A(I,V)$ , increase, recklessness (defined as  $A(I,V)/A(I^*,V^*)$ ) also increases. See *supra* note 50.

60. The occurrence effect is intuitive and easily derived, but has so far been ignored in the literature in favor of the severity effect. Cf. Priest, *supra* note 2, at 67 (inefficient rules cause "more accidents and more severe accidents," but implication of more accidents not addressed).

61. Either the occurrence effect or the severity effect or both hold as a rule increases in recklessness. In general, reckless rules result in both more accidents and more severe accidents, although it is possible to hypothesize rules that have only an occurrence or a severity effect. A common law rule that places full liability for railroad crossing accidents on automobile drivers is likely to be reckless—there is some amount of care, such as reducing speed, that trains could take at a lower marginal cost than car drivers. Imposing liability on auto drivers would likely cause more accidents (the occurrence effect), and more severe accidents (the severity effect) than if trains were held to a standard of care as well.

62. See Landes & Posner, *supra* note 2, at 263-67 (considering current and future stakes); Priest, *supra* note 2, at 73 (considering solely current stakes); Rubin, *supra* note 2, at 53-56 (considering solely future stakes). If the total gain to the injurer is  $G_I$ , and the total gain to the victim is  $G_V$ , then their joint gain from litigating is  $G_I + G_V$ . If this term is positive, they will go to court; if it is negative, there is a shared incentive to settle. For example, if the injurer expects to win \$5, and the victim expects to lose \$10, then  $G_I + G_V = \$5 + (-\$10) = -\$5$ . The parties can gain from settling if the victim gives the injurer any sum between \$5 and \$10.

63. Current stakes for the injurer are  $G_I = p_I(x) - e_I$  where  $p_I$  is the injurer's estimate of his chances of prevailing in litigation,  $e_I$  is the injurer's litigation expenses, and  $X$  is the damages from the accident (current stakes). Similarly, the victim's gain is  $G_V = p_V(X) - e_V$ . In this model, the probability assigned by the injurer or the victim of prevailing at trial (or on appeal) is subjective, that is, the probability of the case outcome can be assessed differently by injurer and victim. Landes & Posner's model, *supra* note 2, at 263, assumed that the probability of prevailing is objective, that is,  $p = p_I = p_V$ . Priest's model, on the other hand, assumed subjective estimates of the likelihood of success. Priest, *supra* note 2, at 68. The present model subsumes the possibility of equal estimates by parties (the objective approach), and also provides for the likelihood that estimates will differ.

Litigation expenses of the parties,  $e_I$  and  $e_V$ , are assumed to be exogenous (predetermined) in this model. This is consistent with Rubin and Priest, but Landes & Posner considered the possibility that litigation expenditures increase as stakes increase. Rubin, *supra* note 2, at 52; Priest, *supra* note 2, at 67-68; Landes & Posner, *supra* note 2, at 263, 278-80. They argued that this increases the amount of litigation at any level of efficiency, since parties have greater expenses to recover, as well as current

stakes are the expected returns of parties from establishing favorable precedents, and these are greater the more nearly efficient a rule is.<sup>64</sup> The present analysis assumes future stakes are symmetric between parties. The implications of relaxing this assumption are discussed in Part IV.

For most litigation, current stakes dominate,<sup>65</sup> parties are more interested in the immediate benefits of trial than in the ultimate effect of their dispute on the law. Hence, the reckless rule is tried more often since it causes greater current accident damages.<sup>66</sup> If parties are risk-averse, the correlation between stakes and litigation is blunted somewhat.<sup>67</sup> The result of the combined occurrence and severity effects is a strong direct link between the recklessness of a common law rule and the amount of litigation.<sup>68</sup> The greater the recklessness of a common law rule, the more litigation

and future stakes. See Landes & Posner, *supra* note 2, at 278-80; see also Denzau, *Litigation Expenditures as Private Determinants of Judicial Decisions: A Comment*, 8 J. LEGAL STUD. 95 (1979). Cooter & Kornhauser also considered litigation expenditures to be determined by game-playing behavior of parties. Cooter & Kornhauser, *supra* note 2, at 140. They concluded that this would result in the entrenchment of inefficient rules. In terms of the present model, making litigation expenditures exogenous would speed the trend to recklessness since litigation would increase, as in the Landes & Posner model.

64. The best analysis of future stakes is found in Landes & Posner, *supra* note 2, at 263-67.

65. See Galanter, *Why the "Haves" Come Out Ahead: Speculation on the Limits of Legal Change*, 9 LAW & SOC'Y REV. 95, 113-14 (1974) (most parties in litigation not concerned with establishment of rules for similar future litigation). Empirical support for the proposition that higher current stakes increase the likelihood of litigation is found in H. ROSS, *SETTLED OUT OF COURT* 222 (1970); *MEDICAL MAL-PRACTICE—REPORT OF THE SECRETARY'S COMM. ON MEDICAL MALPRACTICE*, U.S. DEPT. OF HEALTH, EDUCATION, AND WELFARE app. at 13 (1973).

66. Let  $h(r)$  be a continuous function from  $r^0$  to  $r^c$  measuring the aggregate amount of litigation produced by common law rules at any level of recklessness  $r$ . It would seem that  $h(r)$  could have any form so long as  $dh(r)/dr > 0$ , that is, more reckless rules are litigated more often than less reckless rules. In this analysis, a simple linear relation between litigation and precedent is posited:  $h(r) = mr + c$ . The slope of this function is  $m$ , where  $m > 0$ , with the constraint that  $mr^c + c > 0$ . The properties of  $h(r)$  are considered in an appendix (on file with *Yale Law Journal*).

67. If parties are risk averse, litigation will not increase proportionately to current stakes, but will increase at a decreasing rate as parties settle high-stake disputes. Hence,  $d^2h(r)/dr^2 < 0$ . The assumption of risk averseness goes outside the model in that utility, rather than cost, governs parties' behavior. See generally Gould, *The Economics of Legal Conflicts*, 2 J. LEGAL STUD. 279 (1973) (analysis of risk in legal conflicts).

68. Consider the set of activities where losses are governed by a common law liability rule. Each of these rules will tend to produce a certain number of accidents in a period. The number of accidents any rule will produce is a function of the efficiency of the rule and the nature of the activity. If one controls for the nature of the activity, then as rules increase in recklessness, the number of accidents increases. This model assumes that the type of activity is independent of the efficiency of the rule. That is, over all rules, the number of accidents occurring at a certain level of recklessness is solely a function of the care expended by the parties. That assumption follows in turn from the assumption that there is a random mix of types of activities at any level of recklessness. For instance, at level of recklessness  $r^c$ , there are rules governing railroad crossing accidents and products liability, just as there are at every other level of recklessness. Hence, the effect of the type of activity on the number of accidents occurring at a certain level of recklessness falls out of the analysis.

Formally, this assumption is equivalent to showing that  $\text{cov}[h(r), z(r)] = 0$ , where  $h(r)$  is the function measuring the number of accidents produced by rules due to the recklessness of the rules, and  $z(r)$  is a function measuring the number of accidents produced by rules due to the types of rules considered.

tion it causes.<sup>69</sup>

## B. *Litigation and Precedent*

The litigation of rules supported by precedents is the driving force of common law evolution. At any time  $t+1$ , the precedents from the previous litigation period  $t$  are applied by trial and appellate courts. Each time a court construes a precedent, that precedent is either upheld, or overturned and revised.<sup>70</sup> Recall that litigation of rules increases with recklessness. Reckless rules are litigated and either upheld or overturned more often than efficient rules, and much more often than non-reckless rules. The stock of precedents at time  $t+1$  consists of precedents upheld in the previous period and precedents overturned in the previous period which have been revised to new standards at time  $t+1$ .<sup>71</sup> In addition, unlitigated precedents from time  $t$  remain in force at time  $t+1$ , although, due to their age, they exert a diminished degree of influence on decisionmaking.<sup>72</sup>

Thus the distribution of rules in terms of recklessness in any period is the sum of three components: (1) the distribution of depreciated, unlitigated precedents from the immediately preceding period;<sup>73</sup> (2) the distri-

69. A caveat on contract law is in order. Parties will often contract in advance of an accident to determine the allocation of accident costs. If contract provisions are drafted in terms of typical liability rules, this behavior increases the gain to parties from litigation, since contracting will only take place where it is cheaper than allocating costs by way of accident rules. Contracting thus makes parties wealthier. This increases future stakes because parties will have an incentive to litigate to establish contract law as well as accident law. Increasing the gain from litigation will result in more litigation of rules and a faster movement toward reckless common law. Formally, assuming contractual relations implies that  $dh(r)/dr$  is greater by an increment due to enhanced wealth.

If contract terms allocate costs without reference to typical liability standards, a floor is set on the possible inefficiency of liability rules, since parties will contract around rules that create a loss greater than the transaction cost of contracting. Formally, the range  $[r^0, r^c]$  is diminished. See Landes & Posner, *supra* note 2, at 261-62.

70. This model assumes that the probability that a rule is overturned, denoted as  $a$ , is constant with respect to the amount of accident prevention required by the rules. A tendency of courts to uphold a rule as a function of its recklessness is a form of judicial bias discussed *infra* note 86.

71. The simplest assumption is that revised rules are randomly distributed over the interval  $[r^0, r^c]$  or are distributed in proportion to a previous distribution  $f_x(r)$ . See app. (on file with *Yale Law Journal*). Any other assumption implies that a court recognizes a standard of efficiency and is biased for or against reckless rules. This possibility is considered *infra* note 86.

72. This is the first model of the evolution of the common law to analyze the implications of depreciated precedents, decisions that have lost value as precedents because of their age. Priest's model did not include a mechanism for precedents; in his model, decision is random. See Priest, *supra* note 2, at 70-71. Rubin posited a model of precedent where the value of precedents does not decline over time. See Rubin, *supra* note 2, at 53-56. Landes & Posner depreciated precedents, but their model is too general on this point to note the implications. See Landes & Posner, *supra* note 2, at 262-63. The depreciation of precedents will speed or hinder any trend toward efficiency or inefficiency in a model of the development of the common law, but depreciation is not necessary to the trend itself. See app. (proof 1) (on file with *Yale Law Journal*).

The production and depreciation of precedents is discussed in Landes & Posner, *Legal Precedent: A Theoretical and Empirical Analysis*, 19 J.L. & ECON. 249 (1976) (depreciation rate of 4% to 5% per year found for federal appellate precedents).

73. This component is the product of  $d$ , a constant of depreciation, and  $f_x(r)$ , the previous distri-

bution of rules resulting from litigating, overturning, and revising old rules during the preceding period;<sup>74</sup> and (3) the distribution of rules from the preceding period that are litigated and upheld.<sup>75</sup> Each of these components can be analyzed separately.

The first term, depreciated precedents from the preceding period, exerts a strong stabilizing effect on the law.<sup>76</sup> If few new cases are generated each period, law at time  $t+1$  will be much like law at time  $t$ .

The second term, measuring the distribution of rules which are overturned and revised, can have either of two consequences. First, if overturned rules are revised to conform with the distribution in terms of efficiency of precedents at time  $t$ , this term moderates the velocity of change in the recklessness of the common law.<sup>77</sup> The revised rules at time  $t+1$  mirror the rules at time  $t$ . Second, if the judiciary favors reckless or non-reckless rules in the distribution of precedents, then this term will reflect the judiciary's preference.<sup>78</sup>

The third term, which measures rules that are litigated and upheld, will tend to shift the distribution toward recklessness. Reckless rules are litigated more often and will accumulate precedent stock.<sup>79</sup> There is a snowball effect. The more cases that arise in each period, the more this term will dominate depreciated cases from previous periods. The result is a trend toward reckless common law, which will be neutralized only by an offsetting judicial bias toward non-reckless rules.

Under the assumptions of the model—that accident costs are amenable to economic analysis and decisions by courts are largely based on previous judicial decisions—reckless rules will be favored more and more by the mechanism of precedent.<sup>80</sup> This result is not necessarily invalidated by a

bution of precedents. See app. (on file with *Yale Law Journal*).

74. This component is denoted  $f_w(r)$ . It is a distribution potentially different from  $f_v(r)$ . It is weighted by  $(1-a)$ , where  $a$  is the proportion of rules overturned. See app. (on file with *Yale Law Journal*).

75. This component is the product of the distribution of precedent at the previous period weighted by  $h(r)$ , the amount of litigation at any level of recklessness, and  $a$ , the proportion of rules overturned. See app. (on file with *Yale Law Journal*).

76. An assumption of this model, and an implicit assumption in the models of Rubin and Landes & Posner, is that precedent behaves similarly for rules of different degrees of recklessness. This is the most parsimonious assumption about the interaction of precedent and efficiency, and it finds some support in the inability of many courts to distinguish the efficiency of rules. See *infra* note 89. Judges' bias toward efficiency aspects of precedent is subsumable into the model. See *infra* note 86.

77. See app. (proof 1) (on file with *Yale Law Journal*).

78. See app. (proof 2) (on file with *Yale Law Journal*).

79. Reckless, efficient, and non-reckless rules are upheld (and overturned) at the same rate in this model. The domination of reckless rules arises from the accumulation of reckless precedents because of intense litigation. See app. (on file with *Yale Law Journal*).

80. This model and other models of precedent, such as that of Landes & Posner, assume that a court determines that a litigated accident unambiguously falls under a certain rule of common law. The point has been made that a court is usually faced with competing lines of decision, which it must synthesize in rendering a decision. See Priest, *supra* note 58, at 403-07. However, this complication

more complex causal mechanism for judicial decision. It is the product of a legal system where many factors—including the stock of precedents in the activity under examination—account for the decision in a case.<sup>81</sup>

### C. *The Dominance of Reckless Rules*

As a consequence of the accumulation of a large stock of reckless precedent,<sup>82</sup> reckless law will be the standard for evaluating accident rules. Reckless precedents will tend to be relatively sophisticated and comprehensive since they are so often litigated and considered.<sup>83</sup> The more extensive litigation of reckless rules will also tend to make this law more internally consistent.<sup>84</sup> Therefore, as new areas of law arise, courts and commentators will look to reckless areas of law for models. Precedent favoring reckless rules will tend to overshadow precedent favoring non-reckless rules, and non-reckless areas of law will be synthesized into the common law to comply with the reckless standard.<sup>85</sup>

does not undermine a model of precedent, which contemplates that the distribution of precedents at any time  $t$  is a function of the previous distribution as weighted by the amount of litigation undertaken. The process is driven by the disproportionate litigation of rules that cause more accidents and more serious accidents. All that is necessary to the results of a model of precedent is that the rule relied on by parties in producing accident prevention is the same rule litigated in court. See app. (on file with *Yale Law Journal*).

This result holds regardless of the initial distribution of precedents. An initial distribution of precedents that favored less reckless rules will simply take longer to move to any degree of recklessness than would an initial distribution favoring more reckless rules. See app. (on file with *Yale Law Journal*).

81. Many causal mechanisms for judicial decision besides the stock of precedent favoring a rule have been identified. These factors are not considered in this Note because they are unlikely to have a systematic effect in terms of efficiency on the distribution of precedents. Some judges may favor certain classes of litigants, and base some percentage of their decisions on this consideration. Because this dimension of decisionmaking is independent of efficiency, if the remainder of their decisions are based on precedent, the findings of this Note hold. The non-precedential causal mechanism simply reduces the speed of the trend toward recklessness.

One factor that may influence decisions of judges is the relative wealth of parties. This is likely to have a systematic effect on efficiency and is considered *infra* p. 885.

This Note offers an "invisible hand" explanation for the development of inefficiency in the common law; it does not rely on the wisdom or attitudes of judges, but merely on the systematic behavior of litigants. For an approach to common law evolution relying on judicial insight, see Cooter, Kornhauser & Lane, *supra* note 2 (demonstrating that courts can determine efficient standards of care with limited information if legal precedent can be revised by judges in light of experience).

82. This model assumes that precedents are on the average of equal weight. This is certainly untrue, but it is also a harmless reduction of reality, since the model is only concerned with the aggregate effect of precedents. It seems safe to assume that important and unimportant precedents are distributed randomly along the continuum of reckless rules; such a distribution would cause no systematic bias in the model. Other models have made a similar implicit assumption about precedents. See Rubin, *supra* note 2, at 53-56; Landes & Posner, *supra* note 2, at 264.

83. On the development of new areas of common law and the evolution of influential legal thought, see O.W. HOLMES, *THE COMMON LAW* (Howe ed. 1968); G. WHITE, *TORT LAW IN AMERICA* (1980).

84. Internal consistency is likely to prove attractive to courts and commentators concerned with legal formality. This possibility is considered by Landes & Posner, *supra* note 2, at 283 & n.103.

85. See G. CALABRESI, *supra* note 4, at 129-30 (analysis of conditions under which anachronistic law is revised).

William Landes and Richard Posner have proposed that a principle of consistency exists in the common law such that the variance in terms of efficiency of rules in an area of law is reduced

The tendency of reckless rules to squeeze out efficient or non-reckless rules is present even when judicial attitudes toward recklessness are unfavorable. Judicial bias against certain rules can take two forms: the proportion of rules upheld can vary, either directly or inversely, with the recklessness of rules; or overturned rules can be revised to a standard favoring a certain distribution.<sup>86</sup> Both types of judicial bias,<sup>87</sup> if sufficiently strong, can eventually counteract the trend to recklessness.<sup>88</sup> It is unlikely, however, that the judiciary is sufficiently conscious of efficiency to be biased strongly in favor of any type of rule.<sup>89</sup>

George Priest has argued that the parties to a dispute, not the judge, discern the efficiency of an area of law and cease bringing suit if an area is clearly dominated by a standard.<sup>90</sup> For example, if the common law were dominated by reckless rules, disputants on the losing (non-reckless) side of a rule would settle rather than litigate. Only issues where the outcome is ambiguous would continue to go to trial. There are two difficulties with this argument. First, if Priest is correct that parties selectively settle disputes, his model will not result in greater litigation of any particular type of rule, but rather in litigation of rules of uncertain application, a

over time. See Landes & Posner, *supra* note 2, at 282-84. If this trend toward consistency is a result of the litigation of rules, then it will speed the development of reckless rules, since reckless, oft-litigated areas of law will become consistent faster than non-reckless, less litigated areas of law.

86. The two types of judicial bias have different consequences for the economic model of the common law. The first type of bias is modelled by substituting a function  $A(r)$  for the constant  $a$  in the proof developed in the appendix. See *supra* note 74; app. (on file with *Yale Law Journal*). This function would measure the extent to which judges favor rules of certain degrees of recklessness. This type of bias could speed the trend toward recklessness, or reverse it entirely.

The second type of bias entails that the distribution of revised rules is shaped by judges' attitudes toward degrees of recklessness. This would require a modification of the term  $f_w(r)$  in the proofs in the appendix to take account of judicial preference. See *supra* note 74; app. (proof 2) (on file with *Yale Law Journal*). A judicial bias against reckless rules can still result in a trend toward recklessness, although the process is slowed.

87. Priest discusses judicial bias in his model only in terms of the first type of bias. In Priest's model, there are only two classes of rules: efficient and inefficient. When an inefficient rule is overturned, the rule that replaces it is necessarily efficient, and vice versa. See Priest, *supra* note 2.

88. Of course, if judges favor more reckless rules, the trend toward a predominantly reckless common law is accelerated.

89. Egregious examples of inefficiency are probably disfavored by the judiciary. Justice Cardozo's analysis of the *Pokora* rule, see *supra* note 40, furnishes an example. But sometimes even outrageously inefficient rules are treated without reference to their economic consequence. In *Andrew v. White Line Bus Corp.*, 115 Conn. 464, 161 A. 792 (1932), the Connecticut Supreme Court upheld an interpretation of a state statute that required motor vehicles to stay to the right of a street's median when turning left. Failure to do so was negligence per se, although adherence to the rule was impossible for a bus making forward progress. The rule (although not common law) was obviously inefficient.

It is probably fair to say that within very broad limits, judges do not consider the economic efficiency of a rule in its adjudication. Priest argues, in fact, that the capacity of parties to settle or litigate a dispute makes difficult the extraction of any systematic basis for common law decision. Specifically, Priest contends, uncertainty associated with the outcomes of disputes will neutralize or disguise any efficiency-generating mechanism (either based on precedent or judicial attitudes) in the common law. See Priest, *supra* note 58, at 409-15.

90. Priest, *supra* note 58.

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factor that is independent of the rule's recklessness. Reckless rules would still be litigated more often than non-reckless rules; the uncertainty of rules would form an independent dimension of analysis. Second, the operation of this selective effect assumes that information on the mean efficiency of the common law is available to every disputant.<sup>91</sup> This is unlikely, especially for disputants with small future stakes and little interest in precedent.

This Note's model of the evolution of common law liability rules predicts a trend to a certain type of economic inefficiency. It stands in sharp contrast to previous models that have sought to generate efficient rules from the common law process.

### IV. Implications of the Model

This model of the development of the common law indicates that liability rules will increase in recklessness over time. This result lends theoretical support to the empirical finding of some scholars that a statutory tort system favoring victims has replaced a common law tort system favoring injurers. It also suggests the need to reevaluate the efficiency literature, which has found across-the-board efficiencies in common law adjudication. Moreover, this model of judicial decisionmaking challenges conventional economic views of the comparative efficiency-generating capacity of courts and legislatures.

#### A. *The Inefficient Common Law*

Judicial decisionmaking in the formative period of Anglo-American common law was structured to accommodate the interests of emerging industry.<sup>92</sup> Most injurers were industries that attempted to externalize their costs. Usually these costs were borne by the general populace. The common law evolved doctrines to prevent victims from recovering industry-created costs. Compensation for victims was often limited by the absence

91. Priest's assumption is much stronger than the assumption of this model that parties act in an economically rational manner. Priest's argument requires that parties successfully predict case outcome, in contrast to the assumption of this model that parties make a subjective estimate of the probability of success that may or may not be correct.

92. See, e.g., L. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 409-27 (1973) (corporate enterprise shielded from liability by tort doctrines; by 19th century, doctrines partially undermined); M. HORWITZ, *THE TRANSFORMATION OF AMERICAN LAW, 1780-1860*, at 70-71 (1977) (industrial enterprises granted tort immunity by 19th century common law); Malone, *Ruminations on the Role of Fault in the History of the Common Law of Torts*, 31 *LA. L. REV.* 1, 40-41 (1970) (fault requirement for recovery in tort cases in England expanded during 19th century due to industrialization). But see Schwartz, *supra* note 29 (empirical analysis of California and New Hampshire cases indicates common law did not favor emerging industry in tort cases); Rubin, *The Historical Development of the Fault Principle: A Reinterpretation*, 15 *GA. L. REV.* 925 (1981) (common law during industrialization increasingly imposed liability on injurers).

of liability rules for particular activities, or by the presence of inefficiently stringent negligence standards and inefficiently harsh contributory negligence standards.<sup>93</sup> The early common law principle of strict liability for injuries had vanished and comparative fault rules were unknown.<sup>94</sup> The prevalence of uncompensated externalized costs induced injurers to minimize their private costs by underproducing accident prevention. From an economic perspective, the common law was reckless in the heyday of industrialization in England and America, and has been becoming progressively more so ever since.

Various reasons have been advanced to explain this phenomenon. Richard Posner has proposed that the subsidy to injurers was in fact economically efficient in that it encouraged the development of infant industry, which itself conferred external benefits on society.<sup>95</sup> Other analysts explained the subsidy as a product of the ideology of industrial English and American societies.<sup>96</sup>

The analysis in this Note suggests that the phenomenon can be explained instead in terms of the mechanism of precedent and litigation. The judiciary's reliance on past decisions in regulating economic behavior—the common law method—necessarily favored rules that were often litigated, even if those rules resulted in a non-optimal number of accidents or level of accident damages. The common law was reckless, and tended to grow more reckless over time because reckless rules were favored by the judicial process.

Relaxing one of the assumptions made in Part III provides further support for this new explanation. One reason that reckless rules produce excessive litigation is because reckless rules lead to high-stake accidents, which are often litigated.<sup>97</sup> This result is partially dependent on the exist-

93. For an analysis of doctrines that allowed industry to externalize its costs through negligence rules with inadequate standards of care and contributory negligence doctrines with excessive requirements of care, see Gregory, *Trespass to Negligence to Absolute Liability*, 37 VA. L. REV. 359, 359 (1951) (the principle "of a consistent theory of liability based on fault was developed to confer on industrial enterprise an immunity to liability for accidental harm to others"); Malone, *The Formative Era of Contributory Negligence*, 41 ILL. L. REV. 151 (1946) (doctrine of contributory negligence advanced in U.S. in order to protect nascent industry from jury awards to victims of accidents); see also *Dillon v. Legg*, 68 Cal. 2d 728, 734-35, 441 P.2d 912, 916-17, 69 Cal. Rptr. 72, 76-77 (1968) (concept of "duty" intended to restrict standard of care required on part of injurer).

Costs were also externalized by industry when no basis of liability existed to permit recovery by victims. This was the situation for an injury to land by an adjoining landowner where the cause was "natural." See *Fletcher v. Rylands*, 1 L.R.-Ex. 265 (1866), *aff'd*, 3 L.R.-E. & I. App. 330 (H.L. 1868).

94. See *supra* note 29.

95. See R. POSNER, *supra* note 1, at 181-85. Posner argues that almost all of the common law is efficient. See sources cited *supra* note 1; cf. Posner, *A Theory of Negligence*, *supra* note 25 (negligence rule efficient). But cf. Landes & Posner, *supra* note 2 (rule imposing liability on cheapest cost avoider efficient).

96. See M. HORWITZ, *supra* note 92, at 63-108.

97. See *supra* note 61.



tence of roughly symmetric stakes between injurers and victims.<sup>98</sup> In fact, the distribution of future stakes in early common law cases was quite asymmetric. Injurers tended to be industrial companies with a large interest in establishing favorable precedent; victims were workers or communities with no interest in precedent.<sup>99</sup> Those parties who benefited from the development of reckless rules had the capacity to spend more in litigation than their opponents and thus were more likely to succeed in establishing favorable precedent.<sup>100</sup> If the assumption of symmetry of future stakes is loosened, then there will be a stronger trend toward recklessness in the common law than under the assumption noted in Part III.<sup>101</sup>

### B. *The Rise of Statutory Law*

The twentieth century has witnessed a blizzard of statutes. Law made by legislatures has eclipsed law made by judges in almost every area.<sup>102</sup> The reasons advanced for this trend usually center on the complexity of modern society and the comparative skill of legislatures and administrative agencies in dealing with changing circumstances.<sup>103</sup> The model in this Note suggests that codification could be a reaction to the recklessness of the common law. Legislatures concerned with efficiency may have replaced reckless common law with statute.<sup>104</sup> It is significant that the major change in tort law in recent years—the expansion of strict liability—has

98. The severity effect requires that parties have roughly symmetric future stakes. Current stakes are simply accident damages and are always symmetric between parties.

99. See *supra* note 92. For an example in a specific area of law, see Brenner, *Nuisance Law and the Industrial Revolution*, 3 J. LEGAL STUD. 403 (1974) (by end of 19th century, injurers in nuisance actions were large manufacturers, victims were individuals). There is evidence that victims still have less incentive to establish precedent. See Galanter, *supra* note 65.

100. The assumption that litigation expenditures will influence the decision of a court is admittedly outside the scope of the model in this Note. It is nonetheless plausible and has been considered in another model of the evolution of the common law. See Goodman, *supra* note 2.

101. See Landes & Posner, *supra* note 2, at 273-74, 279-80 (asymmetric stakes cause "inefficient legal rules to become even more inefficient"; but result discounted); Rubin, *supra* note 2, at 56 (there is "no tendency to efficiency" with asymmetric stakes).

Loosening the assumption of symmetric stakes has two effects. First, asymmetric stakes increase potential gain to one of the parties but not to the other. This will speed the trend toward recklessness by causing enhanced litigation of reckless rules. Formally,  $dh(r)/dr$  increases. Second, reckless rules will tend to be upheld proportionately more often than non-reckless rules because injurers, who tend to support reckless rules, will triumph in litigation. Formally, the constant  $a$  in the proof in the appendix is replaced with a function  $A(r)$  that favors litigation of reckless rules. This effect speeds the trend toward recklessness in the common law. See *supra* note 86 (judicial bias modelled in similar manner).

102. See G. CALABRESI, *supra* note 4, at 1-7; L. FRIEDMAN, *supra* note 92, at 99-100; M. HORWITZ, *supra* note 92, at 1-4.

103. See G. CALABRESI, *supra* note 4, at 72-80.

104. R. Peter Terrebonne came to the opposite conclusion about the interaction of statutes and common law. He argued that inefficient statutes will stifle the efficiency-generating features of the common law. See Terrebonne, *supra* note 2, at 405. George Priest contended that his explanation of an efficiency-generating mechanism in the common law also applies to the interpretation of statutes. Priest, *supra* note 2, at 65.

been by way of the Restatement and statute.<sup>105</sup> The most important current development in tort law—the shift to comparative fault—is primarily statutory.<sup>106</sup> Both of these advances diminish the recklessness of accident law.

Law made by legislatures has been criticized as the product of electoral processes unconcerned with economic efficiency.<sup>107</sup> Richard Posner has argued that legislatures do little else than redistribute wealth to politically effective interest groups.<sup>108</sup> These criticisms may have some validity. Certainly the representation of previously disenfranchised groups (often disproportionately victims in liability situations) has had a corrective effect on legislation. This trend is not inconsistent with the production of efficient statutory law, however, since these interest groups can be expected to ameliorate previous reckless, injurer-favoring common law.

Legislation may have moderated some of the inefficiencies in the common law of accidents, but there is no assurance that legislation will always be more efficient than common law. Statutes, however, will not suffer from the trend toward recklessness inherent in judge-made law. In the absence of economic data, a presumption of efficiency should attach to statutes over common law. This Note's analysis of the relative institutional competence of courts and legislatures runs counter to the recommendations of many commentators on the economic development of the common law.<sup>109</sup> Courts have been looked to as the upholders of efficiency (often in the guise of justice<sup>110</sup>) over other values, and legislatures have

105. See *supra* note 29. A rule of strict liability will by itself usually be reckless, but given a comparative advantage by the injurer over the victim in producing accident prevention, it will be less so than a reckless rule of no liability.

106. See *supra* note 23.

107. See, e.g., M. FRIEDMAN, *supra* note 11, at 177-95 (criticizing collectivist, largely legislative rulemaking as inconsistent with efficiency and economic and political freedom); F. HAYEK, *LAW, LEGISLATION AND LIBERTY* 94-144 (1973) (criticizing legislation as inferior to common law on non-economic grounds); Stigler, *The Theory of Economic Regulation*, 2 *BELL J. ECON.* 3 (1971) (economic theory of interest group bargaining in legislatures).

108. See R. POSNER, *supra* note 1, at 399-415.

109. See, e.g., *id.* at 404 (judge-made rules "tend to be efficiency promoting while those made by legislatures tend to be efficiency reducing") (footnotes omitted); Rubin, *supra* note 2, at 61 (statutes inefficient because similar to common law situation where parties have asymmetric stakes in litigation); Terrebonne, *supra* note 2, at 405 (inefficient legislation can create pressures to substitute legislation for common law).

Paul Rubin has argued recently that what appears to be a distinction in terms of efficiency between statute and common law is really a distinction between "law throughout the beginning of this century and later law. That is, in the early period, most law was efficient and most law was common law. In the later period, most law was inefficient and most law was statute law." Rubin, *Common Law and Statute Law*, 11 *J. LEGAL STUD.* 205, 207 (1982). Rubin's idea stands in contrast to the thesis of this Note in that it suggests that law has become more inefficient over time. For Rubin, statutes cause rather than ameliorate inefficiency in the legal system.

110. Richard Posner has argued convincingly that the preoccupation of courts with justice is often a preoccupation with efficiency. Certainly the concepts of justice and efficiency overlap extensively. See R. POSNER, *supra* note 1, at 22-23.

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been cast into the role of wealth redistributors unwilling to consider the efficiency aspects of their actions. The theoretical underpinnings of these views of judicial and legislative decisionmaking must be reexamined.