

2002

# Economic Analysis of Contract Law after Three Decades: Success or Failure?

Eric A. Posner

Follow this and additional works at: [https://chicagounbound.uchicago.edu/law\\_and\\_economics](https://chicagounbound.uchicago.edu/law_and_economics)



Part of the [Law Commons](#)

---

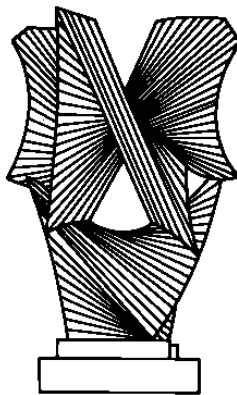
## Recommended Citation

Eric Posner, "Economic Analysis of Contract Law after Three Decades: Success or Failure?" (John M. Olin Program in Law and Economics Working Paper No. 146, 2002).

This Working Paper is brought to you for free and open access by the Coase-Sandor Institute for Law and Economics at Chicago Unbound. It has been accepted for inclusion in Coase-Sandor Working Paper Series in Law and Economics by an authorized administrator of Chicago Unbound. For more information, please contact [unbound@law.uchicago.edu](mailto:unbound@law.uchicago.edu).

# CHICAGO

JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 146  
(2D SERIES)



## Economic Analysis of Contract Law after Three Decades: Success or Failure?

*Eric A. Posner*

**THE LAW SCHOOL  
THE UNIVERSITY OF CHICAGO**

This paper can be downloaded without charge at:  
The Chicago Working Paper Series Index:  
<http://www.law.uchicago.edu/Lawecon/index.html>

The Social Science Research Network Electronic Paper Collection:  
[http://ssrn.com/abstract\\_id=304977](http://ssrn.com/abstract_id=304977)

# **Economic Analysis of Contract Law After Three Decades: Success or Failure?**

Eric A. Posner<sup>1</sup>

*Abstract:* Law and economics has failed to produce plausible descriptive theories of contract doctrines. This paper documents these failures and suggests that they are due to a methodological problem involving the concept of transaction costs. If transaction costs refer to writing or information costs, then rational individuals would agree to complex contracts that are not in fact observed, and contract law would, for the most part, have no other function than that of specifically enforcing contracts. If transaction costs refer to limits on foreseeability and other cognitive restrictions, then law and economics assumes implausibly both that people are rational enough to allow legal rules to influence their investment and breach decisions, but not rational enough to allow legal rules to influence contractual design. Implications for normative analysis are discussed, and non-economic approaches to contract law are surveyed and criticized.

## INTRODUCTION

Modern economic analysis of contract law began about 30 years ago and, many scholars would agree, has become the dominant academic style of contract theory. Traditional doctrinal analysis exerts less influence than it did prior to 1970, and enjoys little prestige. Philosophical work on the nature of promising has captured some attention, but petered out in the 1980s, with little to show for the effort other than arid generalizations about the nature of promising. Academic critiques from the left no longer stir up excitement as they did twenty years ago. Scholarship influenced by cognitive psychology has so far produced few insights. Only economic analysis seems to be on solid footing.

Anyone familiar with a body of scholarship can tell the difference between a flourishing area of study, and a backwater. Economically oriented scholars writing in the early 1970s had foundational insights, and then over time subsequent writers have criticized and refined them; because these refinements were derived from common premises, there has been a sense of forward movement in the subject, of the building of an increasingly sophisticated consensus. Although critics of economic analysis deride its scientific aspirations, the steady accumulation of insights over time resembles scientific progress. Doctrinal, philosophical, and critical scholarship has, by contrast, been static. The authors agree or disagree, and about the same things, as much today as they did twenty or thirty years ago.

---

<sup>1</sup> Professor of Law, University of Chicago. Thanks to Richard Craswell, Richard Posner, and Kathy Spier for helpful comments, to Bryan Dayton and Tana Ryan for valuable research assistance, and to The Sarah Scaife Foundation Fund and The Lynde and Harry Bradley Foundation Fund for generous financial support.

Yet there are grounds for concern about the economic analysis of contract law. Careful observers of its history know that the sense of convergence described above ended years ago; in the last ten years theory has become divergent, and impasses have emerged. The simple models that dominated discussion prior to the 1990s do not predict observed contract doctrine. The more complex models that emerged in the 1980s and dominated discussion in the 1990s fail to predict doctrine or rely on variables that cannot, as a practical matter, be measured, so that their predictions are indeterminate.

Despite the dominance of the economic approach to contract law, and despite its many accomplishments, I will argue that it has failed to produce an “economic theory” of contract law, and does not seem likely to be able to do so. By this, I mean that the economic approach cannot explain the current system of contract law, nor can it provide a basis for criticizing and reforming contract law. This is not to say that the economic approach has not produced any wisdom; but the nature of its accomplishment turns out to be subtle, and it will become clear only after an extended discussion.

This article has two purposes: to document the failures of economic models to explain contract law or to justify reform, and to provide an explanation for these failures. But at the outset, a few comments must be made in order to avoid some possible misunderstandings of the argument. First, I will not argue that some other approach to contract law is superior to the economic approach, nor that economic analysis should be immediately abandoned. If a moral must be extracted from the discussion, it is skepticism about the value of theory for shedding further light on contract law at this point in its intellectual history.

Second, I do not make claims about the value of economic analysis for understanding other areas of law. Indeed, it will become clear that my critique rests in part on the problem of understanding how “rational” actors will negotiate contracts; this problem is not necessarily as significant in, say, tort or property.

Third, I want to avoid making general arguments about what counts as a good theory of contract. One might argue that any methodology that yields surprises or insights about a familiar topic is valuable, and those surprises or insights should be counted as theories. To avoid these philosophical issues, I will focus on the original aspiration of the economic analysis of contract law: to provide an explanation of existing legal rules; and to provide a basis for criticizing or defending those rules.<sup>2</sup>

Finally, I want to avoid debates about what counts as “economic analysis of contract law” by stipulating that it did not exist before 1970. This is, of course, artificial. Many earlier scholars, including Holmes, Llewellyn, Hale, and Fuller, had economic insights, in the sense that from time to time they would assume that contracting parties are rational, and then would speculate about how different legal rules would affect these

---

<sup>2</sup> Recently described in Richard A. Posner, *Economic Analysis of Law* 26–29 (5<sup>th</sup> ed. 1998).

parties' incentives.<sup>3</sup> From a modern perspective, however, their insights seem banal, and that is because post-1970 economic analysis is more systematic and careful.<sup>4</sup> The interesting question is whether the post-1970 commitment to methodological individualism and the other premises of the rational actor approach provide the basis for a theory that can be used to explain or criticize contract law.

My plan is as follows. Part I describes various results from the economic analysis of contract law, and compares them with the legal doctrine. In virtually every case models make either false or indeterminate predictions about the doctrines of contract law. Part II discusses the closely related literature on incomplete contracts, a literature that attempts to predict the content of contracts, as opposed to contract law, albeit with equal lack of success. The separation of these two bodies of scholarship, now gradually disappearing, is an accident of history, but useful for seeing the general problems with the economic project. Part III speculates about what went wrong with economic analysis, and argues that an ambiguity at the heart of the concept of transaction cost is to blame. Lawyers tend to treat transaction costs as a cognitive limit, but this assumption is in tension with the assumption that the rules of contract law can influence people's behavior. Economists tend to treat transaction costs as information asymmetries, but their assumption that individuals are rational leads to predictions about contract design practices and contract law that are at variance with reality.

Part IV looks at trends in contracts scholarship. Part V criticizes alternative approaches to contract theory. Part VI discusses the future.

## I. THE ECONOMIC ANALYSIS OF CONTRACT LAW

### *A. Premises and Basic Results*

The economic analysis of contract law is too familiar to warrant an extended discussion; there are also several excellent surveys.<sup>5</sup> Fundamental assumptions, common

---

<sup>3</sup> Alan Schwartz, Karl Llewellyn and the Origins of Contract Theory, in *The Jurisprudential Foundations of Corporate and Commercial Law* (Jody S. Kraus and Steven D. Walt eds., 2000); Richard A. Posner, Introduction, in *The Essential Holmes: Selections from the Letters, Speeches, Judicial Opinions, and Other Writings of Oliver Wendell Holmes, Jr.* (Richard A. Posner ed., 1992); Barbara H. Fried, *The Progressive Assault on Laissez Faire: Robert Hale and the First Law and Economics Movement* (1998); and Avery Katz, Reflections on Fuller and Perdue's *The Reliance Interest in Contract Damages: A Positive Economic Framework*, 21 *U. Mich. J. L. Reform* 541 (1988).

<sup>4</sup> Hovenkamp and Fried argue that modern economic analysis has much to learn from earlier economic analysis, and in particular they suggest that the earlier economic analysis is better because less "conservative." See Herbert Hovenkamp, *The First Great Law & Economic Movement*, 42 *Stan. L. Rev.* 993 (1990); Fried, *supra* note \_\_\_. The truth is that the earlier economic analysis directed its efforts at criticizing the "will theory" of contract law, and related ideas, and that critique is consistent with modern economic analysis. The earlier work produced few insights into contract doctrine, and for that reason has not influenced modern scholars.

<sup>5</sup> See the relevant entries in *The New Palgrave Dictionary of Economics and the Law* (Peter Newman ed., 1998) and *Encyclopedia of Law and Economics* (Boudewijn Bouckaert & Gerrit De Geest eds., 1998);

to nearly all efforts at economic analysis, are that individuals have preferences over outcomes; these preferences obey basic consistency conditions; and individuals satisfy these preferences subject to an exogenous budget constraint. Contract scholars usually assume that individuals do not have preferences regarding the consumption or well-being of other individuals, nor regarding contract doctrine itself—there is no preference for expectation damages, for example.<sup>6</sup>

When two individuals enter a contract, each seeks favorable terms. Suppose initially that the individuals have the same information about the good, and know each other's valuations. If an exchange would make both parties better off, they would enter a contract. The terms of the contract will create the greatest pie, and parties will divide that pie according to their relative bargaining power. For example, if Seller values a widget at \$10, and Buyer values a widget at \$20, they will make a deal. The surplus is \$10, and they will split it by choosing a price between \$10 and \$20. If Buyer will also pay \$2 for a warranty, and the warranty will cost Seller \$1, then the contract will include a warranty, and a price adjustment between \$1 and \$2. In a competitive market, Seller has no bargaining power because Buyer can choose among many other sellers, so Seller will set the price at her marginal cost (\$10 for the widget, \$1 for the warranty).

Parties include in their contracts terms describing performance and governing the main contingencies that might affect the value of performance. Terms might describe the goods to be delivered, the date of delivery, and the identity of the party that bears the risk of an accident during the shipment. The terms might also release the seller from its obligation if a strike or similar event occurs. A theoretically complete contract would describe all the possible contingencies, but transaction costs—including the cost of negotiating and writing down the terms, and foreseeing low-probability events—render all contracts incomplete. Beyond this, parties might choose some terms or avoid others for strategic reasons, in order to exploit superior bargaining power or information asymmetries. Thus, contracts are usually quite incomplete. Parties rely on custom, trade usage, and—in the end—the courts to fill out the terms of the contract in light of the parties' initial understanding of its purpose or external policy considerations.

The terms that appear in contracts, then, depend on what the parties are trying to accomplish, shared understandings about the relevant industry, transaction costs, general characteristics of their interaction such as asymmetric information and unequal bargaining power, and the background legal regime. The last factor—the legal regime—is the focus of the economic analysis of contract law. The question is, broadly speaking, what rules of contract law would best serve the interests of the parties. This question is

---

Louis Kaplow & Steve Shavell, *Principles of Fairness Versus Welfare: On the Evaluation of Legal Policy*, 114 Harv. L. Rev. 961 (2001); Lewis A. Kornhauser, *An Introduction to the Economic Analysis of Contract Remedies*, 57 U. Colo. L. Rev. 683, 720–21 (1986); Posner, *Economic Analysis of Law*, supra note \_\_, at ch. 4.

<sup>6</sup> But not always; scholarship on donative promises usually assumes that the promisor cares about the well-being of the promisee. See, e.g., Eric A. Posner, *Altruism, Status, and Trust in the Law of Gifts and Gratuitous Promises*, Wisc. L. Rev. 567 (1997).

asked in two different ways, depending on whether the scholar takes a descriptive or normative approach.

Descriptive analysis provides a “prediction” of contract doctrine.<sup>7</sup> Built into this approach is the assumption that judges decide cases (and/or choose doctrine) in a manner that maximizes efficiency. The question why judges would decide cases in this way, or whether it is necessary for them to do so in order to generate efficient law, is bracketed.<sup>8</sup> The author constructs a model in which parties would maximize their utility if they could enter an optimal contract. They cannot enter such a contract in the absence of legal enforcement, so the question becomes what legal rule enables the parties to enter the optimal contract. This hypothetical legal rule is then compared to actual legal rules, and if they are the same, the descriptive hypothesis is vindicated.

The normative position assumes that contract law should be efficient. As before, the author constructs a model in which parties can increase their welfare through a contract that is legally enforceable. The author first shows the optimal outcome—where, for example, performance occurs only when the buyer’s valuation exceeds the seller’s cost, and/or buyer and seller make efficient investments—and then the equilibrium outcomes under alternative legal rules. Typically, the author recommends one rule as efficient, or shows that different rules are efficient under different assumptions, or else criticizes various existing rules because they do not enable the parties to achieve the optimal outcome.

In the following sections, I will show the ways in which contract doctrine diverges from the predictions of the descriptive hypotheses; and I will show that the normative implications of the models are weak or nonexistent. The reason for discussing normative and descriptive failures at the same time is that the two are closely connected. From a descriptive perspective, the models generate either false or indeterminate predictions. From a normative perspective, the models generate either implausible or indeterminate recommendations. The reason in both cases is that the determinate models omit important variables, but including these variables makes them indeterminate, or, in some cases, unrealistic, because they place too great a burden on courts. The nature and origin of these difficulties will become clearer as we examine the models.

### *B. Remedies*

Much contract doctrine comprises background rules that parties can change, albeit within limits. The victim of breach, by default, receives expectation damages, but the parties can vary this outcome *ex ante* by providing for liquidated damages in the contract.

---

<sup>7</sup> Of, if you want, a “retrodiction.” The doctrine already exists; the models are thought experiments that, in effect, predict the doctrine chosen by decisionmakers who seek to maximize welfare.

<sup>8</sup> A literature that analyzes this assumption is inconclusive. See, e.g., George Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 *J. Legal Stud.* 65 (1977); Paul Rubin, *Why Is the Common Law Efficient?*, 6 *J. Legal Stud.* 51 (1977).

Their ability to contract around the expectation damages rule in this way is circumscribed by the penalty doctrine, which forbids liquidated damages that are unreasonably high.

At an early stage scholars argued that the default rule should maximize the ex ante value of the contract. Let us consider the case of expectation damages. This measure of damages has an attractive property: it gives a party the incentive to breach if and only if the cost of performance for the promisor exceeds the value of performance for the promisee—performance occurs if and only if it is efficient. For this reason, expectation damages seemed to be the right measure of damages: economics “predicts” the remedy used in contract law.<sup>9</sup>

This conclusion was premature, however. First, the argument overlooks the ability of the parties to renegotiate prior to performance. If renegotiation costs are low enough, efficient performance will occur regardless of the remedy. If the remedy is less than expectation damages, the promisee will bribe the promisor to perform. If the remedy is greater than expectation damages, the promisor will pay the promisee for a release.

Second, the argument overlooks the effect of the expectation measure on other incentives. Consider the promisee’s incentive to rely or invest in anticipation of performance. Under the rule of expectation damages, the promisee’s reliance investment is fully compensated. But if the promisee expects to recover the investment regardless of whether trade is efficient or not, the promisee will overinvest—will invest as though the return were certain rather than stochastic, externalizing the cost on the promisor.<sup>10</sup> A superior measure of damages would give the promisee the amount of damages that would compensate the promisee if the latter engaged in efficient reliance, not the amount that would actually compensate the promisee for the loss given whatever level of reliance was engaged in.<sup>11</sup>

The concept of efficient investment is subtle, and a numerical example might help. Suppose Buyer can invest 0, 5, or 10. If Buyer invests 0, his valuation of the goods equals 100. If Buyer invests 5, his valuation of the goods equals 120. If Buyer invests 10, his valuation of the goods equals 128. If Buyer will obtain the goods with certainty, then efficiency requires that he invest 10:  $128 - 10 > 120 - 5 > 100 - 0$ . However, if Buyer will obtain the goods with only a 50% probability, then efficiency requires that he invest 5:  $0.5(120) - 5 > 0.5(128) - 10$ , and  $0.5(120) - 5 > 0.5(100) - 0$ . A person who invests money in some outcome will, of course, invest more if the outcome is certain than if the outcome is uncertain. Because expectation damages provides a return to the promisee

---

<sup>9</sup> John H. Barton, *The Economic Basis of Damages for Breach of Contract*, 1 *J. Legal Stud.* 277 (1972); Robert L. Birmingham, *Breach of Contract, Damage Measures, and Economic Efficiency*, 24 *Rutgers L. Rev.* 273 (1970).

<sup>10</sup> See Steven Shavell, *The Design of Contracts and Remedies for Breach*, 99 *Q.J. Econ.* 121 (1984); William P. Rogerson, *Efficient Reliance and Damage Measures for Breach of Contract*, 15 *Rand J. Econ.* 39 (1984).

<sup>11</sup> See Robert Cooter, *Unity in Tort, Contract, and Property: The Model of Precaution*, 73 *Cal. L. Rev.* 1 (1985).



whether or not breach is efficient, the promisee will invest as though the yield of the investment would occur with probability of 1 rather than with the probability ( $<1$ ) that performance occurs. The promisee thus invests an amount greater than would be efficient.<sup>12</sup>

Third, the argument neglects the ability of the parties to design remedial provisions for their contract. If expectation damages would be optimal, the parties can achieve this remedy by giving each side the option to perform or pay an amount that is the function of revealed ex post values. If it is not optimal, then they can choose some superior remedy that would, for example, take account of reliance incentives. These considerations suggest that specific performance of the remedial portion of the contract would be efficient, not expectation damages, which in essence converts the obligation to perform into an option to perform or pay an amount determined by a court.

This last point is more significant than it might appear. The methodological approach usually taken by scholars restricts the range of contractual designs to which the parties can agree—usually to a simple fixed price contract, sometimes with a provision for fixed liquidated damages—and then examines the influence of different legal rules on the parties' reliance and breach behavior, which is allowed to vary. As a result, parties design contracts as though they were boundedly rational but respond to legal incentives as though they were perfectly rational. This stance is arbitrary, and we will see that when the assumption of bounded rationality is relaxed, the results of the argument change.

And we have only scratched the surface of a complex analysis. Expectation damages are also undesirable if courts have trouble determining the parties' valuations at the time of breach. The better remedy is specific performance, because the latter does not require the court to determine the promisee's valuation.<sup>13</sup>

Expectation damages are also undesirable under conditions of asymmetric information unless highly specific conditions are met. Consider the Hadley rule, according to which a victim of breach obtains compensation for average, rather than actual, loss unless it has revealed its valuation to the promisor ex ante.<sup>14</sup> Thus, the shipper cannot recover expectation damages from a carrier who has breached the shipment contract if the shipper does not reveal the special value of the goods shipped.

---

<sup>12</sup> See A. Mitchell Polinsky, *An Introduction to Law and Economics* \_\_ (1983), for another example.

<sup>13</sup> Kronman argues that the common law efficiently reserves specific performance for disputes involving valuation problems such as those involving unique goods. See Anthony Kronman, *Specific Performance*, 45 *U. Chi. L. Rev.* 351 (1978). Schwartz points out that information problems about valuation, enforcement, and so forth, are always present, and therefore specific performance should be the default rule. See Alan Schwartz, *The Case for Specific Performance*, 89 *Yale L.J.* 271 (1979). The two remedies also have different effects on reliance incentives; see Shavell, *supra* note \_\_. But the simplest defense of specific performance is that if parties are rational, they will design an optimal contract, and courts should enforce their terms rather than giving the parties an option (expectation damages) when they did not bargain for it.

<sup>14</sup> *Hadley v. Baxendale*, 156 *Eng. Rep.* 145 (Ex. 1854).

But it turns out that the argument could be reversed. Imagine an anti-Hadley rule that gave the victim of breach actual damages (that is, expectation damages). The defense of Hadley implicitly assumed that the high-value shipper no longer has an incentive to reveal his valuation: if he is to be fully compensated, he has no reason to reveal his valuation, which would in any event enable the carrier to charge a higher price. But the anti-Hadley rule does give the low-value shipper the incentive to reveal his valuation: if he does not, he will be charged *ex ante* for average compensation, but he would prefer to be charged a lower price, even if this means that the carrier will take less care. If the low-value shippers reveal their valuation, then the carrier can infer that any shipper that does not reveal its valuation must have a high valuation. Both the Hadley rule and anti-Hadley rule produce efficient incentives for revealing information.

Authors who have pursued this argument point out that one rule could be better than the other, depending on the distribution of valuations, the cost of revealing information, and related factors. If there are more low-value shippers than high-value shippers, the anti-Hadley rule requires more bargaining around, and therefore more transaction costs, and thus might be suboptimal.<sup>15</sup> But we again find that the relevant variables are too complex and too hard to test. We do not observe doctrine incorporating them, nor do we have enough empirical data in order to be able to guess which rule is based on assumptions that are closer to reality.<sup>16</sup>

And yet we still have not taken account of all the relevant incentives that determine the optimal contract remedy. The remedy that is chosen will affect the incentive of each party to search for the optimal partners prior to contracting; to reveal private information about the probability that performance will be possible; to take precautions against breach; and to renegotiate after information is revealed about the state of the world.<sup>17</sup> Remedies will also affect the ability of the parties to shift risk in a contract when one or both parties are risk averse. And, as we discuss below, remedies affect the ability of the contracting parties to take advantage of third parties who come onto the scene after the parties have entered the contract, and value performance more than either of the contracting parties.

---

<sup>15</sup> Ian Ayres & Robert Gertner, Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules, 99 Yale L.J. 87 (1989); Ian Ayres & Robert Gertner, Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules, 101 Yale L.J. 729 (1992); Jason Scott Johnston, Strategic Bargaining and the Economic Theory of Contract Default Rules, 100 Yale L.J. 615 (1991); Lucian Ayre Bebchuk and Steven Shavell, Information and the Scope of Liability for Breach of Contract: The Rule of Hadley v. Baxendale, 7 J. L., Econ., & Org. 284 (1991); Charles J. Goetz & Robert E. Scott, Enforcing Promises: An Examination of the Basis of Contract, 89 Yale L.J. 1261 (1980); Louis E. Wolcher, Price Discrimination and Inefficient Risk Allocation Under the Rule of Hadley v. Baxendale, 9 Res. Law and Econ. 9 (1989).

<sup>16</sup> For further epicycles, see Barry E. Adler, The Questionable Ascent of Hadley v. Baxendale, 51 Stan. L. Rev. 1547 (1999). Adler overstates his argument as a critique of Hadley v. Baxendale; in fact, he just shows that courts must take into account yet another factor when determining the optimal rule.

<sup>17</sup> For a clear discussion, see Richard Craswell, Contract Remedies, Renegotiation, and the Theory of Efficient Breach, 61 S. Cal. L. Rev. 629 (1988).

Articles that discuss these various incentives typically bracket most of them for the purpose of analysis, and focus on one or two. As a result, the optimal remedy derived from a model is optimal only under very narrow conditions. If we are to put the models together, and try to draw from them as a group their prediction about contract law, we could take two approaches.

First, we could argue that the models collectively show that different remedies are optimal under different conditions, and therefore predict that contract law should incorporate these conditions in doctrine. Contract law will, for example, make expectation damages the remedy when the parties can only make choices about breach or performance, and not about how much to invest.

There are two problems with this approach. (i) Contract law does not resemble the predictions of the models. Expectation damages is the general rule in contract law, but it can be justified by the models only under narrow conditions. Furthermore, doctrine does not make the application of expectation damages turn on variables that matter in the models, such as the degree of reliance by the promisee.

(ii) The models taken together are probably indeterminate. To generate predictions, one would need a vast amount of information about the characteristics of the parties and the transactions. If one remedy is best when renegotiation costs are high, and another is best when renegotiation costs are low, we need some way to measure renegotiation costs. If the optimal remedy depends on the shape of probability distributions for sellers' valuations and buyers' costs, we need this information as well. Yet no one has proposed a method for collecting and evaluating this information, and it is difficult to imagine how this task could be accomplished.

Second, we could argue that the models collectively show that one particular remedial structure—the existing doctrine of contract law—is optimal given the “average” circumstances of the parties. We might think, for example, that on average pre-performance investment is not a significant issue, or, if it is, it is adequately controlled by the doctrine of mitigation.<sup>18</sup> The rule of expectation damages is optimal because the perform or breach decision matters most, with specific performance reserved for when valuation problems are insurmountable. The problem with this view, however, is that it is unsupported by any evidence.

### *C. Contract Interpretation*

Many contract disputes turn on questions of interpretation. Seller delivers the goods, but Buyer argues that the goods do not conform to the requirements of the contract. Suppose the contract says “chicken,” and the delivery is a scrawny stewing chicken. Buyer says that “chicken” refers to a plump, juicy broiler; Seller says that the

---

<sup>18</sup> On which, see Charles J. Goetz and Robert E. Scott, *The Mitigation Principle*, 69 Va. L. Rev. 967 (1983).

word just picks out the species, and leaves the quality of the bird to Seller's discretion.<sup>19</sup> How should the court resolve this dispute?

Economists have proposed a number of interpretive strategies for courts.<sup>20</sup> One is to choose a "majoritarian default"—the meaning that most parties to chicken contracts would use—which will often be the same as the customary meaning or trade usage. If parties expect that courts will apply a majoritarian default when disputes arise over the meaning of the contract, they will know that most of the time the court will choose the term that maximizes the probability of efficient trade. Accordingly, they would be more willing to enter a contract in the first place, despite high transaction costs, than they would under an alternative rule. Choosing a majoritarian default rule reduces the negative consequences of high transaction costs.

Another strategy is to choose a "penalty default"—a meaning that most parties to chicken contracts would *not* use. This strategy, which would give parties an incentive to write a less ambiguous contract than they might otherwise, has two motivations. First, it discourages parties from externalizing the cost of interpreting the contract on the courts. If parties were clearer, courts would have less work to do. Second, it discourages parties from opportunistically concealing information from each other. If one party knows about the ambiguity of the word "chicken," and prefers the majoritarian meaning, and the other party does not know about the ambiguity, then the first party would have no incentive to disclose the ambiguity to the second, unless a penalty default rule held the informed party to the less favorable meaning.

A third strategy is to enforce the contract in a literalistic way. If the party says "chicken," and the dictionary or common sense definition of "chicken" has a general meaning, then Seller has the right to deliver the stringy old rooster. The court does not try to determine what most parties mean by "chicken," or what most parties do *not* mean. This strategy, like the penalty default strategy, gives the parties an incentive to be clear, or at least to anticipate how courts normally interpret terms.

A final strategy is for the court to enforce whatever term would be efficient in the particular case. One can derive this term by asking the question, supposing that transaction costs had been zero at the time of contracting, what would the parties have done? Buyer and Seller would have anticipated their dispute about the meaning of "chicken," and either chosen a more precise term (if trade is still efficient) or not made a deal (if trade is not still efficient). What they would have done depends on the costs and values of the trade. The difference between this strategy and the majoritarian default is the difference between a standard and a rule. The court chooses whatever is efficient for the contract in dispute, rather than enforcing whatever term is efficient for the majority of parties who enter similar or identical contracts.

---

<sup>19</sup> Cf. *Frigalment Importing Co., Ltd. v. B.N.S. Int'l Sales Corp.*, 190 F. Supp. 116 (S.D.N.Y. 1960).

<sup>20</sup> Charles J. Goetz & Robert E. Scott, *The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms*, 73 *Calif. L. Rev.* 261 (1985).

We have already examined a model comparing the first and second strategy, namely, Ayres and Gertner's model of the Hadley rule.<sup>21</sup> The Hadley rule, in Ayres and Gertner's argument, plays the role of a penalty default, for they assume that a majority of buyers prefer unlimited liability, which would thus serve as a majoritarian default. Choosing between limited liability and unlimited liability when the contract does not specify one or the other, is like choosing between the ordinary meaning of chicken and a narrow meaning of chicken when the contract does not define the term. The choice between these two meanings depends on the same factors that determine the efficiency of the Hadley rule: the cost of bargaining around the default rule, the distribution of valuations in the population of buyers, the market power of the seller, the degree to which the seller's performance would improve with superior information, and other factors that are not likely within the grasp of a decisionmaker. Thus, the indeterminacy that afflicts the Hadley analysis undermines any effort to choose between a majoritarian and penalty default.

For this reason, one might argue that courts should simply engage in literalistic enforcement. Indeed, Schwartz makes just such an argument, claiming that the responsibility for choosing default rules puts an unrealistically high informational burden on the courts.<sup>22</sup> But although it is true that literalism does put a lighter burden on courts, it does not follow that literalism is superior to the majoritarian (or penalty) approach. The choice between the two approaches is, as Schwartz acknowledges, an empirical question about which we have no evidence. He stresses the complexity of the choices that the majoritarian approach requires courts to make, but he discounts the benefits to parties, who save on transaction costs to the extent that courts succeed, and can design their contracts to minimize risk to the extent that courts fail. The most significant problem with Schwartz's analysis, however, is that it depends on a methodological trick, the assuming away of cognitive limitations. The majoritarian approach depends on the assumption that parties fail to anticipate the future; Schwartz simply assumes the opposite. If parties can perfectly plan for the future, and thus give courts perfect directions for enforcing contracts in case of dispute, it follows that courts should do nothing but obey these directions. But the "if" clause is surely false.

This point can also be made of Schwartz's criticism of the view that courts should choose efficient terms ex post (strategy 4). Schwartz argues that if the information necessary to choose such terms ex post is verifiable, then parties will bargain to the efficient result, in which case judicial intervention is not necessary.<sup>23</sup> In our example, the parties will trade the chicken only if the buyer values it more than the seller does—so that if the buyer accepts the stewing chicken, the ex post interpretation of the contract is effectively that the general meaning of chicken holds. If the information is not verifiable,

---

<sup>21</sup> Ayres and Gertner, *Filling Gaps*, supra note \_\_\_\_.

<sup>22</sup> Alan Schwartz, *Incomplete Contracts*, in 1 *The New Palgrave Dictionary of Economics and the Law* (Peter Newman ed. 1998).

<sup>23</sup> *Id.*

and indeed not observable as well, they might bargain to an impasse, or to an inefficient term, in which case courts cannot help. However, if the parties are boundedly rational—again, outside Schwartz’s model—we do not know how they would bargain with each other, and therefore whether a court could improve on the outcome.

Let me summarize. From a descriptive perspective, we can distinguish two bodies of work. The standard economic analysis of default rules is broadly consistent with judicial practices—courts employ a mix of majoritarian and penalty defaults—but it does no more than rationalize these practices, for there is no way to measure the variables that determine the relative efficiency of the rules. Schwartz’s argument, which is simpler and truer to economic premises, fails to account for courts’ refusal (for the most part) to rely on the literalistic approach.<sup>24</sup>

From a normative perspective, Schwartz’s argument that courts should engage in literalistic interpretation should appeal to those steeped in law and economics, but the appeal derives from the methodological decision to model bounded rationality by stipulating that all agents are perfectly rational and that courts have incomplete information about their behavior.<sup>25</sup> The normative conclusion that courts should defer to parties follows uninterestingly from the premise that parties have more information about their interests and activities.

#### *D. Unconscionability and Consumer Protection*

The premises of economics push in the direction of freedom of contract, and this current can be resisted only with difficulty. If parties are rational, they will enter contracts only when it is in their self-interest, and they will agree only to terms that make them better off. Courts that refused to enforce these terms would make it more difficult for future parties to use contracts to enhance their joint well-being. Therefore, courts should enforce the terms of the contract.

And yet courts do not always enforce the terms of contracts. They often refuse to enforce terms that seem harsh or oppressive or improper: strict liquidated damages provisions, expansive security arrangements, alienation of the equity of redemption, restrictive arbitration provisions, broad covenants not to compete, wagers, choice of forum clauses and disclaimers of warranties in fine print or confusing language, and even price terms that seem too high or too low. Some of these practices derive from statutes (for example, usury laws), others arose in the common law or equity. The catch-all term is unconscionability, but the relatively unusual application of this doctrine by courts only

---

<sup>24</sup> See Alan Schwartz, *Relational Contracts in the Courts: An Analysis of Incomplete Agreements and Judicial Strategies*, 21 *J. Legal Stud.* 271 (1992), which tests a hypothesis that courts are passive or literalistic except when there are bargaining defects, and the incomplete contract is completed with an efficient and verifiable term. Assuming the empirical verification of this hypothesis is correct, it still shows that courts are interventionist, and indeed that is understanding of the various doctrines—excuse, good faith, and so forth—that Schwartz investigates.

<sup>25</sup> See Part II.B., below, for a similar argument.

deflects attention from the widespread judicial scrutiny of transactions involving consumers, much of it in the form of interpretive presumptions that can interfere as much with freedom of contract as prohibitions do.

Economics has been better at deflating standard explanations for the unconscionability and related doctrines, than at explaining these doctrines. Let me say a few words about these standard explanations.

*Unequal bargaining power; monopoly power.* Courts sometimes say that a contract is unconscionable because of the unequal bargaining power of the seller and buyer. It is not always clear what courts mean when they use this term, but the closest economic concept is that of market or monopoly power. A seller has market power if it can increase the price of the good above its marginal cost by restricting supply. As is well-known, such behavior is inefficient in the Kaldor-Hicks sense, and forcing the seller to sell at marginal cost would in theory eliminate a deadweight cost.

Nonetheless, economists typically argue that courts should not avoid contracts because of the unequal bargaining power of the parties. When contracts appear to have very high price terms, a court could only with great difficulty determine whether the high price is due to market power or fluctuations in the costs of inputs. A high interest rate, for example, could result from the creditor's judgment about the risk of default posed by a particular debtor, and generally courts should defer to such judgments in a competitive market. A determination that the creditor has market power requires an evaluation of the structure of the market, a notoriously difficult enterprise usually reserved for antitrust cases. A seller or creditor with temporary market power as a result of a patent, or some innovation that other market participants have not had a chance to imitate, should (arguably) be permitted to reap above-market returns, for that is how innovation is encouraged in a market economy.

When contracts appear to have harsh non-price terms, there is another reason for thinking that these terms are unobjectionable. For even if the seller or creditor has market power, it has the right incentive to supply the terms that parties desire. For example, a debtor might be willing to consent to a harsh remedial term in return for a low interest rate.<sup>26</sup> And a supplier might be willing to give the buyer the power to terminate the contract with little notice, if that is the only way to get the buyer's business. The party with market power will supply terms if the parties want them and charge them a fee, but will not force terms on parties who do not want them, for the most efficient way to exploit market power is through the price term.<sup>27</sup> Although there are models in which a combination of market power and asymmetric information can result in inefficient terms, they justify nonenforcement only under complex and hard-to-identify conditions.<sup>28</sup>

---

<sup>26</sup> Richard A. Epstein, *Unconscionability: A Critical Reappraisal*, 18 J.L. & Econ. 293 (1975)

<sup>27</sup> Alan Schwartz, *A Reexamination of Nonsubstantive Unconscionability*, 63 Va. L. Rev. 1053 (1977).

<sup>28</sup> Alan Schwartz & Louis L. Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. Pa. L. Rev. 630 (1979); Lewis A. Kornhauser, *Unconscionability in*

These theories do not describe what courts do. Courts strike down contracts when the price and non-price terms seem harsh and the parties have unequal bargaining power. Although one might argue about whether courts do this consistently, and whether they might have something in mind different from the economic concept of bargaining power, the phenomenon is generally recognized, and indeed most economic work is cast as a normative critique of the judicial practice.

*Lack of information.* Courts sometimes say that a contract is unconscionable because one party—usually a consumer—lacks sophistication. Lack of sophistication is not the same thing as lack of information, but lack of information does seem to play a role in the cases. When terms are harsh and complex or hard to read, and consumers are unsophisticated, courts often express doubt that the consumers understood their obligations under the contract. This has led economists to investigate the role of information deficiencies in contract enforcement.

The topic is too complex to discuss here in any detail, but let me make a few observations. Consumers who lack information have incentives to acquire information. Some consumers will acquire information more easily than others—these are the people who read Consumer’s Reports, for example—but the other consumers can free ride on the efforts of the first group. If sellers cannot easily distinguish informed and uninformed consumers, they cannot exploit the latter by charging them a higher price. Thus, information deficiency alone does not justify judicial intervention; it must be sufficiently difficult for enough consumers to engage in comparison shopping.<sup>29</sup>

In addition, sellers have incentives to provide information to otherwise uninformed consumers. If seller X has lower costs than seller Y, and thus can charge lower prices and obtain a profit, X will invest in advertising in order to attract consumers from Y. However, there are limits to the amount of information X will provide. If X’s cars are cheaper than Y’s cars, X has the right incentives; but if X knows that cars are more dangerous than consumers believe, X has no incentive to provide *that* information.<sup>30</sup> Supplying such information is costly, both intrinsically and in the form of lost sales, and X does not internalize the benefits when it honestly warns of the dangers of automobile travel and consumers refrain from buying cars and avoid being injured.<sup>31</sup>

---

Standard Forms, 64 Cal. L. Rev. 1151 (1976); Richard Hynes & Eric A. Posner, The Law and Economics of Consumer Finance: A Survey, Amer. L. & Econ. Rev. (forthcoming 2002).

<sup>29</sup> Schwartz and Wilde, supra note \_\_\_\_.

<sup>30</sup> See Howard Beales, Richard Craswell, and Stephen C. Salop, The Efficient Regulation of Consumer Information, 24 J L & Econ 491 (1981)

<sup>31</sup> X’s incentives are suboptimal even if cars are safer rather than dangerous, because X would not internalize gains to Y that would result if X revealed this information to consumers. Monopolists might gain more from information disclosure than competitors, but there are further complications. See Beales et al., supra note \_\_\_\_.



One might conclude that courts can improve contractual outcomes as the amount of information that parties have declines, or, more generally, by penalizing parties who engage in force and fraud.<sup>32</sup> But it does not follow that the model “predicts” the existing unconscionability doctrine. Indeed, the unconscionability doctrine, as noted above, does not focus on the lack of information of the consumer. That is just one of many factors. In addition, courts do not appear to take account of market structure when deciding whether to apply the unconscionability doctrine, in contradiction to the theory.

The more general point is that if courts strike down contracts where the consumer is uninformed, and the cost of informing consumers to the satisfaction of courts is high enough, sellers will withdraw the product from the market, in which case some buyers will be benefited and others harmed. Buyers might also take insufficient steps to inform themselves.<sup>33</sup> To know whether the unconscionability doctrine benefited or harmed consumers in the aggregate, one would need to have a great deal of data about how markets work, what consumers know, how complex products are, and so forth.

In sum, a simple model of the consumer goods market implies that courts should not use the unconscionability doctrine to strike down contracts. More complex models that take account of asymmetric information and bargaining power imply that such contracts should be struck down only in particular circumstances, when courts have information about variables that are intrinsically difficult to measure. These models do not justify striking down contracts with harsh terms when there is no evidence of fraud or serious information asymmetry. Yet courts do just that; they scrutinize consumer transactions more vigorously than other kinds of transactions, and they strike down contracts that are unobjectionable from an economic perspective.

#### *E. Mistake*

Courts avoid contracts that are the result of mistakes in some circumstances. If the parties committed a mutual mistake as to a basic assumption of the contract, or if one party committed a mistake that the other party could have detected, the adversely affected party will sometimes have the right to avoid the contract.

Parties could, in theory, design contracts that released one or both parties who made a mistake. Consider a contract between Buyer and Seller for the sale of a cow.<sup>34</sup> Buyer and Seller might believe that the cow is barren when in fact she is fertile, in which case Seller will want to avoid the contract. Or Buyer and Seller might believe that the cow is healthy when in fact she is ill, in which case Buyer will want to avoid the contract. In either event, the parties can design the contract accordingly. The parties could enter a contract giving the Seller the right to withdraw from the contract if the cow proves to be

---

<sup>32</sup> See Richard Craswell, Property Rules and Liability Rules in Unconscionability and Related Doctrines, 60 U. Chi. L. Rev. 1 (1993).

<sup>33</sup> The analysis is similar to the mistake analysis, discussed below, in Part \_\_\_\_.

<sup>34</sup> *Sherwood v. Walker*, 66 Mich. 568, 33 N.W. 919 (1887).

fertile—or indeed, make performance contingent on subsequent confirmation that the cow is barren. And in the second case Seller could give Buyer a warranty against illness or not, depending on how they want to allocate the risk. The general point is that if parties are rational, they know that they can make mistakes, and they will design the contract in a way that assigns this risk in the appropriate way.

One might respond that because the parties are, by hypothesis, mistaken, it does not occur to them to build these contingencies into the contract. This is usually what is meant when courts say that the mistake was about a basic assumption of the contract. But rational parties always know that something could happen that makes performance more or less costly to Seller, and more or less valuable to Buyer. It could be that the cow has a hidden characteristic, good or bad; it could be that market conditions will change, so that a cow gains or loses value relative to other goods. From an economic perspective, there is nothing special about the cow being fertile or ill, nothing that distinguishes this contingency from a change in the price caused by a shift in market conditions. Parties can design contracts that take account of all these contingencies.

If this argument is correct, there is no reason for courts to release parties when one or both of them make mistakes. It would be like releasing an insurance company from a fire insurance contract on the ground that the insurance company mistakenly believed that a fire would not occur. Indeed, from an economic perspective, parties cannot make mistakes: they have probability distributions that reflect information they have about the world. They know that they do not possess the absolute truth and would not believe otherwise.<sup>35</sup>

In order to explain the mistake doctrines, then, we need to make additional assumptions. One possible assumption, which by now should be familiar, is that “transaction costs” prevent parties from designing optimal contracts.<sup>36</sup> This is the implicit route taken by Rasmusen and Ayres in an article on the mistake doctrines.<sup>37</sup> Before we turn to this article, we should observe that using this assumption to explain the mistake doctrine is not satisfactory on theoretical grounds. For the assumption makes the analysis of the mistake doctrine the same as the analysis of any problem of contractual interpretation, where, as law and economics assumes, transactions costs prevent parties from including a term that governs the contingency—the storm that destroys the crops, the war that closes the canal—that caused the dispute. If one thinks, for example, that courts should use a majoritarian default in order to determine whether a carrier should be excused from shipping the goods when the canal is closed, then one should use a majoritarian default to determine whether the seller should be excused from delivering

---

<sup>35</sup> Cf. Eric Rasmusen & Ian Ayres, *Mutual and Unilateral Mistake in Contract Law*, 22 *J. Legal Stud.* 309, 315 & n.13 (1993).

<sup>36</sup> The assumption does not resolve the tension between rationality premises and the ordinary understanding of mistake. Indeed, it makes mistake cases analytically identical to ordinary cases of interpretation, where the contract does not explicitly govern a contingency, and the court must decide whether to enforce the contract in a literal manner or in the manner it thinks most parties, or these parties, would have wanted.

<sup>37</sup> Rasmusen & Ayres, *supra* note \_\_\_\_.

the cow when the cow is fertile. But the mistake doctrines do not duplicate the interpretive doctrines.

To evaluate them, Rasmusen and Ayres assume that parties can set a price but that they cannot make performance contingent on the occurrence of the desired states of the world (either directly or through the use of an optimal incomplete contract). Seller expects an average cost to perform,  $c$ , and Buyer expects an average valuation,  $v$ , such that  $v > c$ , on average, but in some states of the world  $v < c$ , and trade should not occur. Ayres and Rasmusen investigate the question whether the mistake doctrine should release the parties from the contract (presumably, at the request of Buyer if the price is higher than his realized valuation, or Seller if the price is lower than her realized cost).

Their analysis is complex, so let me summarize their conclusions about mutual mistake. One possible advantage of the mutual mistake doctrine is that it enables the parties to avoid a second transaction in order to reverse the initial contract when it turns out that  $v < c$ . The problem with the doctrine, however, is that it also enables either party to avoid the contract when (despite the mistake)  $v > c$ : Buyer will avoid the contract when the price  $p > v$ , and Seller will avoid the contract when  $p < c$ . Performance can be efficient even when both parties are mistaken, but the mistake doctrine allows the parties to avoid the contract anyway.<sup>38</sup>

Another possible advantage of the mutual mistake doctrine is that it gives an informed party the incentive to reveal the information to the uninformed party. In fact, the opposite is true. The mutual mistake doctrine gives the informed party no incentive to provide information to the uninformed party; if one party has information, then the mutual mistake doctrine cannot be invoked whether or not the other party has information. By contrast, the unilateral mistake rule gives the informed party the incentive to provide information to the other party, so that the other party cannot obtain rescission of a contract that turns out to be advantageous to the first.<sup>39</sup>

A final possible advantage of the mutual mistake doctrine is that it gives parties proper incentives to gather information prior to entering contracts. Again, however, the opposite is true. Suppose that parties can at some cost acquire information about the value of the good. If the acquisition of information does not increase the value of the good, then the mutual mistake doctrine is dominated either by a no excuse rule or unilateral mistake. When the cost of acquiring information is high enough, enforcement is optimal, for then parties will not bother to pay for the information and have no ability to rescind (which is assumed to be costly). When the cost of information is lower, the problem with the mutual mistake doctrine is that it encourages each party to acquire information—in order to prevent the other party from invoking mutual mistake—even though the additional information does not increase the value of the good. On the other hand, if the acquisition of information *does* increase the value of the good, then the no

---

<sup>38</sup> Id.

<sup>39</sup> Id.

excuse rule can become superior again, for it—unlike unilateral mistake, and more than mutual mistake—gives parties an incentive to acquire information.<sup>40</sup>

Let me conclude by stressing the peculiarity of Ayres and Rasmusen’s analysis: they treat mistakes—where people overlook contingencies and fail to provide for them in their contracts—as though they were intended outcomes of bargains in which parties rationally declined to incur the transaction costs of negotiating about contingencies that they *do* foresee. On this view, mistakes are just “gaps” in contracts that courts should fill, just as they do when they interpret ambiguous words like “chicken.” But courts treat mistakes and ambiguities differently—releasing parties from the contract in the first case and not in the second. The law makes a distinction that cannot be handled by economic analysis.

### *F. Impossibility*

Courts sometimes release promisors from performance when performance is “impossible” or “impracticable.” Posner and Rosenfield argue that these doctrines efficiently shift risk from the promisor when the promisor is more risk averse than the promisee.<sup>41</sup> Suppose a seller cannot insure itself against a strike by its workforce, but that the buyer can easily arrange for deliveries from alternative sellers if supply from the first is cut off. If the seller subsequently cannot make deliveries because of a strike, a court might excuse the seller from its contractual obligations on the grounds of impossibility, with the real reason being that buyer could have insured against this contingency more easily than the seller could.

Subsequent work casts doubt on this argument. First, Posner and Rosenfield’s argument neglects the other incentives of the parties. If seller pays no damages or a limited amount like restitution, it has no incentive to perform when it is efficient to do so. The argument assumes that the court can determine whether the cost of performance exceeds its value to the buyer, but in other contexts—the justification of expectation damages, for example—it is assumed that the court cannot make this determination.<sup>42</sup>

Second, and more important, the impossibility and impracticability doctrines do not spread risk in the efficient way. To see why, imagine a risk averse seller and a risk neutral buyer. The optimal resolution of a dispute will place all the risk on Buyer; in effect, the court writes an insurance policy of which Seller is the beneficiary. Such an insurance policy would give Seller the same payoff in both states of the world—the breach state and the performance state. The impossibility and impracticability doctrines, however, do no such thing. They, at best, give Seller a zero payoff in the breach state

---

<sup>40</sup> Id.

<sup>41</sup> Richard A. Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. Legal Stud. 88 (1977).

<sup>42</sup> Michelle J. White, *Contract Breach and Contract Discharge Due to Impossibility: A Unified Theory*, 17 J. Leg. Stud. 353 (1988).

(and less if Seller has incurred some costs or must make restitution), instead of giving Seller some amount between zero and its profits. Indeed, the risk sharing argument implies that in some cases Seller should pay negative damages, something which is of course never observed.<sup>43</sup>

The excuse doctrines are hard to understand from the economic perspective. Sophisticated parties know that contingencies might occur that will make performance impossible or extremely costly. If they want to share the risk of these contingencies, they can write excuses into the contract. We observe this behavior not just in the use of force majeure clauses; excuses are frequently built into the central terms of the contract. Insurance contracts contain exclusions; ordinary sales contracts shift risk by tying the price to market indices. The widespread use of such devices casts doubt on the conjecture that transaction costs prevent the parties from writing contracts that allocate risks optimally.<sup>44</sup>

Indeed, the surface plausibility of transaction cost arguments derives from a mistake about how parties can design their contracts. Authors say that transaction costs prevent parties from adding terms to govern remote contingencies like the closure of a canal or a strike, but the relevant contingency is not a particular event but simply whether  $v > c$ . Parties obviously foresee that values and costs will change: Seller knows that its costs might rise though it does not know precisely what might cause its costs to rise; Buyer knows that its valuation might fall though it does not know precisely what might cause it to fall. But the parties can design their contract to exploit these valuation and cost distributions, as we will see below, and then it is not necessary for the contract to refer to the precise event that produces the valuation and cost outcome. For example, the contract can transfer risk from Seller to Buyer by giving Seller the option to pay a certain level of damages, high or low depending on how risk averse it is, rather than perform. A court could not improve on this contract by releasing Seller from performance.

### *G. Consideration and Promissory Estoppel*

Economics assumes that people exchange promises when both benefit from the exchange, but it does not follow that the law should enforce all promises. Courts make errors, and legal sanctions are sometimes clumsier than nonlegal sanctions; as a result, people who make and receive promises often do not expect—and would not want—

---

<sup>43</sup> See White, *supra* note \_\_; Alan O. Sykes, The Doctrine of Commercial Impracticability in a Second-Best World, 19 J. Leg. Stud. 43 (1990). See also A. Mitchell Polinsky, Risk Sharing Through Breach of Contract Remedies, 12 J. Leg. Stud. 427 (1983); Victor P. Goldberg, Impossibility and Related Excuses, 144 J. Institutional & Theoretical Econ. 100 (1988); Christopher J. Bruce, An Economic Analysis of the Impossibility Doctrine, 11 J. Legal Stud. 311 (1982); George G. Triantis, Contractual Allocations of Unknown Risks: A Critique of the Doctrine of Commercial Impracticability, 42 U. Toronto L.J. 450 (1992).

<sup>44</sup> A possible test is whether the impossibility doctrine is less likely to be invoked by courts in cases involving form contracts, where transaction costs are spread over many transactions and are therefore less likely to prevent parties from allocating risks in the contract.

courts to provide legal remedies if the promisor breaks the promise. But when the promisor wants the promise to be legally enforceable, and the promisee expects the promise to be legally enforceable, courts should enforce promises.<sup>45</sup>

Economics, then, implies that courts should enforce promises when parties want their promises to be enforceable, and not otherwise. Consistent with this view, courts both routinely enforce promises and respect terms of agreements that disclaim legal enforceability.<sup>46</sup>

But these simple ideas do not explain the main doctrines that draw a line between the legally enforceable promise and the unenforceable promise, namely, the consideration and promissory estoppel doctrines.

The consideration doctrine holds that a court cannot enforce a promise if it was not exchanged for “consideration,” a legal benefit to the promisor or detriment to the promisee. In essence, the doctrine knocks out of court promises that are not part of a *quid pro quo*. Such promises include option contracts, promises to give a gift, and open-ended agreements that bind one party but not the other.

Yet these promises are unobjectionable from an economic perspective. An option contract—for example, a promise to keep open an offer to sell something while the offeree investigates its value—might be the only way to attract the interest of a prospective purchaser. A promise to give a gift enables the promisee to rely in anticipation of receiving the benefit and enables the promisor to defer performance until the funds or goods are acquired. Open-ended contracts—where, for example, one side commits itself to purchase goods produced by the other side—are often efficient methods for shifting risk, with the legally unconstrained party bound by reputational concerns and nonlegal sanctions.

The courts, possibly because they recognize the force of these arguments, have whittled down the consideration doctrine. Its main function is now to bar gift-giving, which thus continues to pose a challenge to economics, for the reasons just discussed.<sup>47</sup> The consideration doctrine also serves, under the Restatement, as a formality: options are unenforceable unless the parties “recite” consideration.<sup>48</sup> But there is no reason to require parties to recite a consideration as opposed to reciting that they want their option to be enforceable. The same can be said for Holmes’ argument that the consideration doctrine was always just a formality, so gift promises would be enforced if the promisee gave

---

<sup>45</sup> Putting aside standard market failures. One might stipulate a *de minimis* requirement: courts should not enforce promises when the cost to the legal system exceeds the gains to the parties. Charging the litigants a fee would be a better response.

<sup>46</sup> See, e.g., *Empro Mfg. Co. v. Ball-Co Mfg., Inc.*, 870 F.2d 423 (7th Cir. 1989).

<sup>47</sup> The exception for charitable gifts only complicates the puzzle. If promises to give gifts are socially desirable, then the exception makes sense but the general unenforceability of gift promises does not; if promises to give gifts are not socially desirable, then the exception does not make sense.

<sup>48</sup> Restatement (Second) of Contracts s. 87.

nominal consideration to the promisor.<sup>49</sup> Efforts to rationalize this practice as a way for ensuring that courts can distinguish enforceable and unenforceable promises fail because they do not explain the “form” of the formality.

The doctrine of promissory estoppel might seem consistent with economics because it does not forbid courts to enforce value-enhancing gratuitous promises. The doctrine does place a limit on the enforcement of promises, however, and that limit is the requirement of promisee reliance. This limit is not consistent with economics. If a person wants to make a gratuitous promise, it must be because he wants to make the promisee better off. The promisor can make the promisee better off regardless of whether the promisee relies on the promise; therefore, economic analysis suggests that enforceability of a promise should not depend on whether the promisee relied, or relied reasonably.<sup>50</sup>

Promissory estoppel can also be understood as a device for relaxing the consideration doctrine’s prohibition on liability for precontractual reliance. Parties often spend some time negotiating the terms of a contract before entering it; frequently, one or both parties will make investments during this period in anticipation of the eventual success of the negotiations. An example is the relationship between a franchisor and a potential franchisee, which can extend for months or years before the granting of the franchise.<sup>51</sup> During this time, the franchisor might require the potential franchisee to acquire experience as an employee in another franchise business, or undergo training. To induce the potential franchisee to make these investments of time and effort, the franchisor might make vague or contingent promises that the franchise will be awarded. Even when these promises are not definite enough to form contractual commitments, promisees who are not awarded the contract can sometimes obtain damages for their reliance costs, on the basis of promissory estoppel.

Several scholars have considered the possibility that promissory estoppel is efficient because it protects the promisee’s investment. This view is at first sight attractive because the promisor’s behavior—when not justified by the discovery that the promisee is unfit—seems opportunistic. The promisor can, in theory, hold up the promisee after the promisee has invested, and demand from the promisee additional fees or obligations that extract all the surplus generated from the promisee’s investment.<sup>52</sup>

But if courts could reliably verify the promisee’s behavior—and thus distinguish, for example, the promisee who proves merely to be unfit and the promisee who is the victim of hold up—then the parties could enter a contract at the beginning of their relationship, one which specified what the promisee must invest, and how the promisee

---

<sup>49</sup> Oliver Wendell Holmes, *The Common Law* 86 (Mark Dewolfe Howe ed., 1963); see also Lon L. Fuller, *Consideration and Form*, 41 *Colum. L. Rev.* 799 (1941).

<sup>50</sup> See, e.g., Steven Shavell, *An Economic Analysis of Altruism and Deferred Gifts*, 20 *J. Legal Stud.* 401 (1991).

<sup>51</sup> E.g., *Hoffman v. Red Owl Stores, Inc.*, 133 N.W.2d 267 (Wis. 1965).

<sup>52</sup> Craswell, *Offer*, 48 *Stan. L. Rev.* 481 (1996); Avery Katz, *When Should an Offer Stick? The Economics of Promissory Estoppel in Preliminary Negotiations*, 105 *Yale L.J.* 1249 (1996).

will be evaluated. Parties do not enter such contracts, presumably because they do not believe that courts can make these distinctions.<sup>53</sup>

In addition, an efficient promissory estoppel doctrine would not require courts to compensate all of the promisee's reliance. If it did so, promisees would overinvest in reliance. Courts would need to determine how much reliance is efficient in each case, and then award damages only equal to efficient reliance, undercompensating parties that rely too much. The proper award would depend on such factors as the cost and return on investment, the probability that the preliminary relationship would yield a working franchise,<sup>54</sup> and the parties' incentives to reveal information to each other.<sup>55</sup>

Craswell studied a group of cases in which estoppel or promissory estoppel arguments were advanced by offerees in order to prevent an offeror from withdrawing an offer, and found that courts were more likely take the offeree's side when reliance on the offer is efficient.<sup>56</sup> But he disclaims any intention to show that the case outcomes are themselves efficient, for just the reasons given above: "there are several factors other than the efficiency of [the offeree's] reliance that can affect the desirability of a commitment."<sup>57</sup> The methodological difficulty of showing that contract doctrine is efficient dissuades Craswell from making the attempt.

#### *H. Summary: Descriptive Versus Normative Failure*

The charge of descriptive failure will not surprise scholars familiar with the literature on economic analysis of contract law. The inefficiency of contract law is a theme of Shavell, Goetz and Scott, and Schwartz on expectation damages, Epstein and Kornhauser on the unconscionability doctrine, Ayres and Rasmusen on the mistake doctrine, Sykes and White on the impossibility doctrine, Craswell on promissory estoppel, and many others.<sup>58</sup> None of the authors goes so far as to claim that all of contract law is inefficient. Each examines only a small slice of contract law, and normal methodological practice cautions against making exaggerated claims. But for the outsider who looks at the steady accumulation of failures over thirty years, the conclusion is inescapable.

---

<sup>53</sup> In response to the growth of precontractual liability, franchisors now require franchisees to sign waivers.

<sup>54</sup> See Richard Craswell, Offer, Acceptance, and Efficient Reliance, 48 Stan. L. Rev. 481 (1996); Avery Katz, The Strategic Structure of Offer and Acceptance: Game Theory and the Law of Contract Formation, 89 Mich. L. Rev. 215 (1990); Lucian Bebchuk & Omri Ben-Shahar, Pre-Contractual Liability, J Legal Stud. (forthcoming 2002). See also Jason Scott Johnston, Communication and Courtship: Cheap Talk Economics and the Law of Contract Formation, 85 Va. L. Rev. 385 (1999).

<sup>55</sup> Avery Katz, Contractual Formation, in 1 The New Palgrave Dictionary of Economics and the Law (Peter Newman ed. 1988).

<sup>56</sup> Craswell, Offer, supra note \_\_\_, at 531-36.

<sup>57</sup> Id., at 507.

<sup>58</sup> Katz, Strategic Structure, supra note \_\_\_.



The descriptive failure of the models takes two forms. Simple models, which examine only one or two margins of contractual behavior, fail to predict contract law as it exists. The other models are more complex because they examine a greater variety of behavior, or because they rely on more complicated ideas, such as information asymmetry. These models sometimes fail because they make predictions that are inconsistent with contract law. But more often they fail because they are indeterminate. The models incorporate variables that cannot be measured, and to which one cannot with any confidence attach general ranges or distributions.

In addition, the descriptive approach has not been fruitful in the way that it is in other areas of economics. In these other areas, the thing to be explained is always partly hidden. It makes sense to develop a hypothesis about the world, because in the process of testing it one learns new things about the world, resulting in a productive dialectic between theory and data. By contrast, the thing to be explained by the economic analysis of contract law—contract doctrine—is fully known, or thought to be fully known. And although at one time some scholars thought that case outcomes might diverge from contract doctrine, with the case outcomes reflecting efficiency—in which case, generating and testing hypotheses would make sense—today this view has few adherents.<sup>59</sup> Judges have no reason to describe doctrine in a way that misrepresents the case outcomes.

Rather than arguing that their models explain contract doctrine, most authors argue that their models can be used to criticize contract doctrine. Indeed, for many if not most authors the descriptive failure of economics is obvious. But the normative weaknesses of their models follow as a matter of course. Simple models do not justify legal reform because these models exclude relevant variables. Complex models do not justify legal reform because the optimal rule depends on empirical conditions that cannot be discovered.

One might respond that even if economic models cannot generate a determinate optimal contract law, they helpfully identify the costs and benefits of different legal rules. Before the economic analysis of expectation damages and specific performance, a court trying to decide whether to push the doctrine in one direction or the other had little to go on. The economic analysis identified factors that judges should take account, factors that include the cost of renegotiation and the advantages of permitting breach. Even if economic analysis cannot determine the magnitude of these factors, and the extent to which they offset or interact with each other, the judge who knows about them is more likely to make a wise decision than a judge who does not.

This defense has an air of plausibility but also distressingly open-ended and unambitious implications. The last decade has witnessed a piling on of relevant factors, but no increasing clarity about the function of contract law, and a wise judge might, in

---

<sup>59</sup> But there has been a recent effort: see Fred S. McChesney, *Tortious Interference with Contract Versus “Efficient” Breach: Theory and Empirical Evidence*, 28 *J. Legal Stud.* 131 (1999).

order to avoid paralysis, simply ignore them. But the scholarship itself is mute about its own weaknesses. Part III will provide some methodological reasons for pessimism. Before we get there, however, we can gain additional insight by examining the literature on incomplete contracts.

## II. THE THEORY OF INCOMPLETE CONTRACTS

The literature on incomplete contracts diverges from the law and economics literature, though they overlap in many ways. The theory of incomplete contracts was motivated primarily by descriptive curiosity about the nature of private contracting, not about contract law. As a result, contract law is usually treated in an exceptionally simple manner, as a system that specifically enforces contractual terms when the underlying behavior can be verified by courts.<sup>60</sup> This assumption enables scholars to focus on the parties' choice of contractual form. By contrast, law and economics generally assumes that parties choose simple contracts—fixed price contracts, usually—and focuses on the effect of different legal rules on contractual behavior.

The incomplete contracts literature poses the following question to law and economics: why would rational parties choose fixed price contracts when more sophisticated contracts would enable parties to achieve better results? And if parties did choose more sophisticated contracts, why would courts need to do anything other than enforce these contracts? If they don't, most of contract doctrine, and most of the law and economics literature, would be irrelevant.

Our brief discussion of the theory of incomplete contracts serves two purposes. First, it allows us to examine whether the descriptive failure of law and economics is the result of economic methodology in general, or of the law and economics approach in particular. Second, it sheds light on the methodological difficulties hidden in the concept of transaction cost.

### *A. Premises and Basic Results*

The incomplete contracts literature focuses on two of the kinds of incentives we have been discussing: the incentive to invest (or “rely”) and the incentive to perform or breach. An efficient or “first best” contract does two things: it ensure that (say) Seller performs when her cost is less than Buyer's valuation, and not otherwise (“efficient trade”); and it ensures that Buyer invests the right amount (“efficient investment”).

As we have seen, there is often a tension between efficient trade and efficient investment. A simple way of ensuring efficient trade requires Seller to pay Buyer's valuation if she does not perform. For example, a contract could provide that Seller is

---

<sup>60</sup> E.g., Oliver Hart & John Moore, *Incomplete Contracts and Renegotiation*, 56 *Econometrica* 755 (1988), which is generally considered the seminal article, though the literature has roots in Williamson's work. See Oliver E. Williamson, *Markets and Hierarchies* (1975).

paid in advance, and if Seller fails to perform, she must pay Buyer's valuation as "liquidated damages."<sup>61</sup> If she performs, she incurs her cost; if she does not perform, she must pay Buyer's valuation. Thus, she performs if and only if her cost is less than Buyer's valuation—the condition for efficient trade. However, Buyer will expect to receive his valuation whether performance occurs (in which case he gets the good) or not (in which case he gets liquidated damages equal to his valuation). Expecting to receive his valuation in both states of the world, Buyer will overinvest.<sup>62</sup>

All of this should be familiar from our discussion of the law and economics of remedies. The difference between the two literatures is in the next step. In law and economics, scholars generally conclude that expectation damages provides inefficient reliance incentives; that a more efficient damages rule would limit recovery to a hypothetical amount that would compensate only efficient investment, though such a rule would impose grave information burdens on courts.<sup>63</sup>

By contrast, the authors in the incomplete contracts literature point out that if Seller and Buyer are rational, they will want to prevent Buyer's overinvestment—with the parties sharing the surplus that comes from eliminating this cost. They can do so through correct contractual design—assuming courts will specifically enforce it.<sup>64</sup>

Rather than providing for Seller to be paid in advance, the contract could give Buyer the right to set the price at the time of performance.<sup>65</sup> Seller would have the right to reject the transaction (and receive liquidated damages, assumed for the sake of the example to be 0) or to accept the transaction and accept the price announced by Buyer, in which case Buyer must accept delivery at that price.

This contract would achieve first best efficiency. To see why, suppose first that  $v > c$ . Buyer will set the price equal to (or slightly higher than) Seller's cost, which, remember, Buyer observes. If Buyer set the price lower than Seller's cost, Seller would refuse to trade, and Buyer would gain nothing. But Buyer has no reason to set the price higher than Seller's cost, which would only reduce his own return. Thus, Buyer sets the price equal to  $c$ . But if  $v < c$ , Buyer will set the price at some low level in order to prevent Seller from demanding trade, for Buyer does not want to receive less than he pays. Seller will thus trade if and only if  $v > c$ , so the conditions for efficient trade are met.

When Buyer makes his investment, he knows that he will receive the goods only if  $v > c$ , and not otherwise. Thus, Buyer makes his investment with an eye to obtaining a return only in the performance state of the world. Indeed, Buyer will obtain the full

---

<sup>61</sup> Usually a liquidated damages term is a fixed amount; by contrast, in this example it is set equal to Buyer's realized valuation.

<sup>62</sup> See supra note \_\_\_\_.

<sup>63</sup> E.g., Cooter, Unity, supra note \_\_\_\_.

<sup>64</sup> It is the manifest unrealism of this assumption that probably explains why law and economics scholars did not investigate this possibility.

<sup>65</sup> The sort of analysis that follows originated with Hart & Moore, Incomplete, supra note \_\_\_\_.

residual of the investment because he will set price equal to  $c$ . Thus, Buyer has the incentive to engage in efficient investment.

The contract's trick, in this case, is to give the party with the investment decision the residual from trade. As a result, the party has the correct incentives both to trade and to invest. The other party—Seller—must of course be compensated for her expected costs, and an *ex ante* transfer from Buyer to Seller, a kind of prepayment, accomplishes this task.

This is only the first step in a literature that has become very lengthy and complicated. Authors have discussed such problems as two-sided investment, where Buyer can increase his valuation and Seller can reduce her cost;<sup>66</sup> cooperative investment, where Buyer can reduce Seller's cost and Seller can increase Buyer's valuation;<sup>67</sup> capital constraints; third party effects;<sup>68</sup> and so forth.

The most interesting thing about these models is that they predict that contracts will contain descriptions not of "physical" contingencies but of the bargaining procedures that parties must follow at the time of performance. Lawyers think of contracts either providing absolute obligations (Seller must deliver widgets by December 1) or conditional obligations, with the conditions referring to events that occur in the world such as a strike or price change (Seller must deliver widgets if Buyer's requirements are not met, or unless Seller experiences labor difficulties). In models of incomplete contracts, the bargaining procedures specified in the predicted contracts are designed to force parties to divulge, and act efficiently on the basis of, their realized valuations—Seller's cost, Buyer's value—and so references to events in the world are unnecessary. If Seller suffers a strike, for example, and her costs rise above Buyer's valuation, Seller will exercise an option to pay money rather than produce and deliver the goods. The contract does not need to refer explicitly to Seller's obligations in case of a strike. Because the parties can foresee that their valuations might change, and can design bargaining procedures that elicit efficient behavior (or behavior no more inefficient than would occur under a simpler fixed price contract), they do not have to write down countless contingencies in their contract. For this reason, the guiding premise of law and economics—that transaction costs render contracts incomplete and justify court provision of default rules—seems dubious.<sup>69</sup>

---

<sup>66</sup> Benjamin E. Hermalin & Michael L. Katz, *Judicial Modification of Contracts Between Sophisticated Parties: A More Complete View of Incomplete Contracts and Their Breach*, 9 *J.L. Econ. & Org.* 230 (1993); Philippe Aghion, Mathias Dewatripont & Patrick Rey, *Renegotiation Design with Unverifiable Information*, 62 *Econometrica* 257 (1994); Tai-Yeong Chung, *Incomplete Contracts, Specific Investments and Risk Sharing*, 58 *Rev. Econ. Stud.* 1031 (1991). For a survey, see Klaus M. Schmidt, *Contract Renegotiation and Option Contracts*, in 1 *The New Palgrave Dictionary of Economics and the Law* (Peter Newman ed. 1998).

<sup>67</sup> Yeon-Koo Che & Donald B. Hausch, *Cooperative Investments and the Value of Contracting*, 89 *Am. Econ. Rev.* 125 (1999).

<sup>68</sup> See Part III.B., *infra*.

<sup>69</sup> See Schwartz, *Incomplete Contracts*, *supra* note \_\_\_\_.

And yet the incomplete contracts literature does not provide a promising alternative. The contracts that the models predict do not exist in the real world: instead, we see simple fixed price contracts or contracts that are conditional on a relatively small number of real world contingencies.<sup>70</sup> Intuitively, the problem with the predicted contracts is that they are too complex for parties to design.<sup>71</sup> To write such contracts, parties would need to imagine their bargaining position if a breach should occur, and then work their way via backward induction to the optimal terms of the contract. People are not very good at backward induction; yet the rationality assumptions of economics hold that they can do it perfectly. This problem has led to some discussion among economists about whether a theory of contracts can avoid relying on a model of bounded rationality,<sup>72</sup> an issue to which I will return in Part IV.

### *B. Freedom of Contract and Asymmetric Information: The Penalty Doctrine*

The incomplete contracts literature was motivated by the desire to explain contracting, not contract law; it is a branch of industrial organization, not law and economics. But authors writing in this tradition have tried to explain some contract doctrines, and their efforts are worth examining for the light they shed on the law and economics literature.

Hermalin and Katz show that as long as parties are symmetrically informed, courts cannot increase welfare by modifying, or refusing to enforce, contractual terms.<sup>73</sup> The logic should be familiar by now, and is indeed identical to longstanding defenses of freedom of contract. Parties have more information than courts about their preferences, and even if courts can obtain superior information *ex post*, at the time of performance or dispute, the parties will anticipate this behavior and design their contracts accordingly. Parties might, for example, leave the price term blank, to be filled in by the court *ex post*. But parties would not want a court to change the price term, or any other contractual term, based on its own judgment about what is *ex post* efficient.

If Hermalin and Katz are correct, then much of the common law of contract cannot be explained. Contract law does authorize courts to interfere with contract terms; the penalty doctrine is just one of many examples, as we saw above, and indeed Hermalin and Katz criticize the penalty doctrine for the usual reasons.

Hermalin and Katz's argument is based on the assumption that the parties are symmetrically informed when they enter the contract. This assumption is not always true, and they acknowledge that if the parties are asymmetrically informed, judicial restrictions

---

<sup>70</sup> Oliver Hart & John Moore, *Foundations of Incomplete Contracts*, 66 *Rev. Econ. Stud.* 115, \_\_\_ (1999).

<sup>71</sup> See Karen Eggleston, Eric A. Posner, and Richard Zeckhauser, *The Design and Interpretation of Contracts: Why Complexity Matters*, 95 *Nw. U.L. Rev.* 91 (2000).

<sup>72</sup> *Id.*

<sup>73</sup> Hermalin & Katz, *supra* note \_\_\_.

on contracts could increase welfare. Indeed, Hermalin made just such an argument with another coauthor three years earlier. In the later article, however, Hermalin backs away from the asymmetry information argument.

In the earlier article, Aghion and Hermalin show that when the parties are asymmetrically informed, “legal restrictions on private contracts can enhance efficiency,” as their title puts it.<sup>74</sup> The argument is best made by example. Imagine that a contractor has private information about the likelihood that it will perform a project on time. There are two types of contractor: the “good” type is more likely to perform on time than the “bad” type is. Buyers prefer to deal with good types than bad types, and so good types want to distinguish themselves from bad types. They do so by offering to pay an extremely high late fee or penalty if the performance is late. The bad type might mimic this signal, or not, but in either event the equilibrium—in which one or both types agree to the penalty—can be inferior to an equilibrium in which courts refuse to enforce penalties so that neither party can credibly agree to them.<sup>75</sup>

If we take this argument seriously, we should not apply it only to remedial terms. The same logic applies to the price term or indeed any other term of a contract. The contracts that emerge as a result of asymmetric information are simply inefficient contracts—it’s not that one term is inefficient, and the rest of the contract is efficient once that inefficient term is severed—and courts should refuse to enforce them even when the penalty clause is not activated by a breach.

To see why, imagine an employer who prefers educated applicants not because it cares about their education but because it believes that people who graduate from college work harder than those who do not. The employer offers two employment packages—a low salary for those without diplomas, and a high salary for those with diplomas. Because a potential job applicant’s decision to obtain an education has an external effect—it increase or reduces the employer’s information about the quality of other potential applicants—the resulting equilibrium could involve inefficient signaling. Courts or legislatures might for that reason want to prohibit the employer’s discriminatory behavior.<sup>76</sup> The Aghion and Hermalin argument implies that courts should scrutinize all contractual terms for inefficiency, and not just liquidated damages terms.

Aghion and Hermalin, then, cannot distinguish the common law’s treatment of remedial terms and non-remedial terms such as price terms. As a descriptive theory, it is a failure. As a normative theory, it is also not successful, as it assumes that courts have sufficient information to distinguish signaling equilibria where judicial intervention will

---

<sup>74</sup> Philippe Aghion & Benjamin Hermalin, *Legal Restrictions on Private Contracts Can Enhance Efficiency*, 6 *J.L. Econ. & Org.* 381 (1990).

<sup>75</sup> The conclusion depends on the parameters of the model. Under some parameters, the separation of the types is superior to pooling; under other parameters, the opposite is the case. Aghion and Hermalin’s point is that an inefficient equilibrium without judicial interference is possible, not certain.

<sup>76</sup> The diploma example is taken from A. Michael Spence, *Market Signaling* (1974).

increase welfare, and other equilibria where it will not. It is for this reason that Hermalin and Katz back away from the conclusions of Aghion and Hermalin. The former article, as I noted, expresses skepticism about the ability of courts to improve on parties' contracts even when asymmetric information is present. This is another descriptive failure, of course, because they therefore cannot explain judicial restrictions on remedial terms.

### *C. Freedom of Contract and Externalities: The Penalty Doctrine Again*

Another approach to the penalty doctrine emphasizes externalities rather than information asymmetries. When two parties design a contract, they will choose terms that are optimal for themselves; they will not take account of the interests of third parties who might be affected by the contract. But there are such third parties. Consider a contract in which Seller must pay Buyer liquidated damages if Seller breaches. If liquidated damages are set very high, they might interfere with the effort of a third party ("TP") to purchase the good from Seller, even though TP might value the good more than Buyer does.

To understand why, imagine that different potential TP's have different valuations. Among those who value the good more than Buyer does, some value it slightly more and some value it considerably more. When Seller and Buyer agree to relatively high liquidated damages, this prevents the low-value TP's from buying the goods (Seller won't sell to them because she has to pay high liquidated damages if she does) but it also enables Seller to extract a very high price from the high-value TP's, who must pay an amount at least as high as the already high liquidated damages. Under plausible conditions, Buyer and Seller jointly gain more by extracting the surplus from the high-value TP's than they lose because they fail to sell to the low-value TP's. But this is inefficient, and the law should deter such behavior by refusing to enforce high liquidated damages provisions.<sup>77</sup>

This inefficiency disappears if renegotiation is possible: ex post, the three parties will renegotiate so that TP will end up with the good, and efficient trade is achieved. But then the inefficiency pops up in the parties' investment incentives. The parties will choose inefficiently high liquidated damages to improve Seller's bargaining position vis-à-vis TP. Seller will use this bargaining power to extract some of the surplus generated by TP's high valuation. But this means that Seller and Buyer jointly enjoy a return on, say, an investment in Buyer's valuation even in the state of the world in which TP, not Buyer, acquires the good. So Buyer will overinvest.<sup>78</sup>

Do these arguments show that the penalty doctrine is efficient? They do show that, under certain parameters, specific performance of a contract can produce negative externalities. But the arguments do not travel the distance from this modest observation,

---

<sup>77</sup> Aghion & Bolton, *supra* note \_\_; Tai-Yeong Chung, On the Social Optimality of Liquidated Damage Clauses: An Economic Analysis, 8 J.L. Econ. & Org. 280 (1992).

<sup>78</sup> Kathryn Spier & Michael Whinston, On the Efficiency of Privately Stipulated Damages for Breach of Contract: Entry Barriers, Reliance, and Renegotiation, 26 RAND J. Econ. 180 (1995).

to the conclusion that the penalty doctrine is justified. Indeed, the fit is poor. A court's decision to strike down a penalty clause does not turn on any of the variables identified in the literature: the cost of renegotiation, the distribution of valuations among potential TP's, the incentives to overinvest, and so forth. Further, the penalty doctrine effectively substitutes expectation damages for the invalid liquidated damages provision, but the literature we have been discussing does not establish that expectation damages are optimal.<sup>79</sup> Finally, parties can harm TP's in the way we have examined even without using liquidated damages, simply by overinvesting, which raises the expectation damages that the breacher would have to pay.<sup>80</sup> If courts care about efficiency and can detect this kind of strategic behavior, they should limit expectation damages. If they care about efficiency and cannot detect this kind of strategic behavior, they should not subject liquidated damages clauses to special scrutiny.

#### *D. Summary*

Our diversion through the literature on incomplete contracts has taken us through formidable terrain. This literature is flourishing, and I do not consider myself knowledgeable enough to criticize it. Instead, I want to make a few points about its relevance for understanding contract law.

First, so far the literature has failed to come up with successful predictions of the content of contracts, and also for legal doctrines such as the penalty doctrine. For this reason, one should feel little confidence that it can be used to rescue the law and economics of contracts.

Second, if the literature has any normative implications, they are that courts should always specifically enforce all terms of every contract unless negative externalities are present. Yet the normative argument is not interesting; it follows trivially from nineteenth century defenses of freedom of contract, which hold that courts should defer to contracts because the parties know more about their interests than courts do. We have also seen highly stylized arguments that information asymmetries might justify judicial intervention, but these arguments depend on implausible assumptions about how much information is available to judges.

Third, the problems with the literature suggest methodological complications for the theory of contract law. The literature takes more seriously than law and economics the premise that parties are rational, and permits them to design complicated contracts. But it turns out that these complicated contracts bear no resemblance to the contracts designed by real parties. A more rigorous law and economics approach is likely to find itself in the same dead end. But the current, less rigorous law and economics approach, which assumes without explanation that parties can design only simple contracts, is

---

<sup>79</sup> Chung, Social Optimality, *supra* note \_\_\_\_.

<sup>80</sup> Tai-Yeong Chung, Commitment Through Specific Investment in Contractual Relationships, 31 *Canadian J. Econ.* 1057 (1998).



revealed to have less solid moorings in economic theory. The problem comes down to the meaning of transaction costs, the topic of the next section.

### III. WHY ECONOMICS FAILS TO EXPLAIN CONTRACT LAW

#### *A. The Problem of Methodological Indeterminacy*

Richard Craswell has taken philosophical approaches to contract law to task for failing to provide fine grained explanations of contract doctrine.<sup>81</sup> He points out that philosophical theories, at best, explain why promises should be enforced—typically, by restating the moral intuition that promises should be kept, and then assigning the government a role in encouraging people to keep them—but never explain the details of doctrine. A theory that people should keep their promises does not tell us whether expectation damages, reliance damages, specific performance, or some other remedy is the appropriate response when a contract is broken. Indeed, when philosophers turn to these matters, they usually engage in implicit economic analysis or make assertions about the role of custom or other factors that are unrelated to their theories.<sup>82</sup>

Craswell's critique is methodological, not substantive. He argues that even if the philosophical theories capture some aspect of the truth about why contracts are enforced, they have no determinate implications for the phenomena that their authors purport to study—the doctrines, or the vast majority of the doctrines, of contract law. Although Craswell does not assert that economic analysis avoids this methodological problem, many readers will understand him to be implicitly making this claim. One cannot avoid being impressed by the contrast between the large and ingenious economic body of work on default rules, and the small and vapid body of work produced by philosophers.

But accepting Craswell's critique of philosophical theories of contract law, we must ask whether economics really enjoys any advantages.

By now the answer should be familiar. Economists have proposed some models of contract behavior that make determinate but wrong predictions about the law. These models avoid Craswell's charge of indeterminacy but they are still wrong. Determinate but wrong predictions enjoy a little more intellectual respectability than indeterminate predictions, but they get us no closer to an understanding of contract law.

Economists have proposed other models of contract behavior that make predictions that are, for all intents and purposes, indeterminate. These models enjoy some intellectual advantages over the philosophical theories, for they would enable us to make complex and interesting predictions about contract law if we had sufficient information

---

<sup>81</sup> Richard Craswell, *Contract Law, Default Rules, and the Philosophy of Promising*, 88 Mich. L. Rev. 489 (1989).

<sup>82</sup> See Charles Fried, *Contract as Promise* (1984); Randy E. Barnett, *A Consent Theory of Contract*, 86 Colum. L. Rev. 269 (1986).

about empirical conditions. But because we do not have such information, and it is—in my view, though others might disagree—unlikely that we ever would, the complex economic theories in the end get us no closer to an understanding of contract law than the philosophical theories do.

### *B. The Problem of Bounded Rationality*

The economic scholarship on contract law purports to assume that individuals are rational in the sense of neoclassical economics. Their preferences obey certain consistency requirements, and their cognitive capacity is indefinite. But on inspection, the truth turns out to be more complex.

If individuals were rational, with no cognitive limits, and if transaction costs were zero, the role of contract law would be simple and uninteresting. Parties would foresee every possible future state of the world, and—the story goes—their contract would describe each party's obligation in each of these possible future states. For example, a contract for the sale of widgets would describe Seller's obligation if the cost of widgets increase or declines, and indeed could make Seller's obligation turn on whether Seller invested in the right way, and so forth. Courts would specifically enforce the terms of the contract. In general conditions efficiency would be obtained.

Economic analysis of contract law assumes that contracts cannot be designed to describe every future state of the world. The usual statement is that transaction costs prevent the parties from achieving such a detailed and complex contract. Some authors seem to mean the cost of negotiating and writing a contract; other authors seem to refer to cognitive limits of the parties, which includes the inability to foresee future events and maybe something more. In any event, one needs some such assumption to get the economic analysis of contract law off the ground; if the parties entered complete contracts, the law would not need to supply default terms such as expectation damages. Instead, the parties would choose expectation damages whenever they anticipated the need, namely, when they want to give the promisor the option to perform or pay a sum of money to the promisee.

Let us examine the two main ways that authors use the idea of transaction cost. The first approach assumes that parties are rational but that entering a contract involves some special cost. Some authors assume that this cost refers to time spent negotiating, or the time and materials needed to draft a document.<sup>83</sup> Others assume that the cost results from problems of asymmetric information, and in particular the inability of a court to verify a subset of the contract-related actions in which the parties engage.<sup>84</sup> Neither of these versions, however, predict observed contracts, which lack the ex post bargaining mechanisms to which rational parties would agree.

---

<sup>83</sup> E.g., Ayres & Gertner, Filling Gaps, supra note \_\_\_\_.

<sup>84</sup> Like investment levels. See Hart & Moore, Incomplete Contracts, supra note \_\_\_\_.

This problem is less clear in the law and economics literature than in the incomplete contracts literature, but that is only because the law and economics models constrain the types of contracts that parties may enter. The models generally permit parties to choose prices and quantities in fixed price contracts, and not to choose contracts that stipulate ex post bargaining procedures, though these are likely to be superior. One defense of the methodological approach of law and economics is that the latter contracts are too complex to be useful, so it is a justified simplification to assume that only fixed price contracts are available to parties. The problem with this defense, however, is that it surreptitiously relies on bounded rationality.

This brings us to the second approach to the idea of transaction cost, which is in fact to treat it as a metaphor for bounded rationality.<sup>85</sup> Although law and economics scholars rarely put their argument in this way, the assumption is reflected, as just noted, in the modeling device of permitting parties to choose only fixed price contracts. To understand the problem with this strategy, consider the common claim that default rules should be designed to give a party an incentive to reveal information about its cost or valuation. If “transaction costs,” meaning bounded rationality, prevent the parties from choosing a sophisticated contract in light of future events, then they should also prevent parties from anticipating the effect of legal rules (which would be applied only in the remote future) on the simple contract that they design. Instead, the model simultaneously assumes that individuals can foresee remote events and make complex calculations (otherwise they would not be motivated by the default rule to release information) and cannot engage in a perfect cognitive response (otherwise the cost of entering the bargain would be zero). The assumptions are jointly implausible.

It is hard to avoid the conclusion that bounded rationality accounts for the failure of the incomplete contracts models to predict the content of contracts. But once we relax the assumption of perfect rationality, the claims of the law and economics models become harder to credit.

### *C. A Way Out?*

One way out of this impasse involves greater consideration about what parties can realistically be expected to foresee. Contrast the efficient breach theory and the Hadley theory. If Seller experiences higher than expected costs, and would like to avoid the deal, she would probably consult a lawyer. The lawyer would tell her that if she breaches the contract, she will probably pay expectation damages. Comparing the cost of performance and expectation damages, Seller will decide whether to perform or not. This decision seems well within the cognitive abilities of an ordinary Seller.

By contrast, the Hadley theory applies to a decisionmaking process that occurs well before performance. At the time of contracting, Buyer (for example) must anticipate that Seller might breach rather than perform; that Seller must pay damages if she

---

<sup>85</sup> As suggested by Williamson, *supra* note \_\_\_, and others.

breaches; that these damages depend on the valuations of other buyers as well as Buyer's revelation of his private valuations; that Seller will (or maybe won't) anticipate these damages when deciding how much care to use when performing; that Seller will (or maybe won't) use Buyer's information to price discriminate; and so on. This chain of reasoning seems likely to exceed the cognitive capacities of an ordinary Buyer.

One way out of the impasse, then, requires incorporation of cognitive limitations into a theory of the relationship between contract law and contract-related behavior, so that one can distinguish incentives that are likely to influence behavior, and those that are too remote to influence behavior. Unfortunately existing models of bounded rationality have little value for understanding contract law. I will discuss why in Part \_\_\_.

#### IV. THE INFLUENCE OF ECONOMICS ON SCHOLARSHIP AND LAW

##### *A. The Influence of Economics on Contracts Scholarship*

Defenders of economic analysis of contract law point to the significant influence of economics on contracts scholarship, and indeed this influence can be documented in many ways. Economic analysis played a role in almost no contracts scholarship prior to 1970; economic analysis played a dominant role in about half of the contracts scholarship published in the major law reviews in the 1990s. It has influenced some of the analysis in the major treatises. It shows up in the major case books. Economic articles on contracts are frequently cited in non-economic articles. And contracts scholars at the top law schools are frequently identified with the law and economics approach.

But this rosy picture does not tell the whole story, which is one of initial success and subsequent decline. The most influential economic articles, with one exception, were published in the 1970s and early 1980s. The exception—Ayres and Gertner's 1989 article on default rules—is usually cited for the useful distinction between majoritarian and penalty defaults and not for the economic analysis of this distinction. Otherwise, economics articles published in the last 15 years are cited no more frequently than non-economics articles are.<sup>86</sup>

Case books and treatises show the influence of economics, but it is the influence of pre-1980 economics. Most case books and treatises mention the idea of efficient breach, but not the equally important idea of efficient reliance.<sup>87</sup> Case books generally

---

<sup>86</sup> Based on a survey of all the contracts articles published in a few of the leading law reviews (California, Chicago, Columbia, Harvard, Michigan Northwestern, NYU, Virginia, Texas, Yale), and excluding faculty edited journals such as the *Journal of Legal Studies*. The statistics are:

Economics Articles: 66 with 2431 journal cites; average: 36.83.

Non-Economics Articles: 54 with 2247 cites; average: 41.61.

Fancier tests that control for time and other factors yield no statistical difference.

<sup>87</sup> A Westlaw search of Farnsworth's treatise yields the following results: efficient! = 32 results; economic! = 113 results; transaction! cost!=5 results; Coase = 2 results. The "economic" search caught many concepts unrelated to economic analysis such as economic waste.

treat the economic approach as an exotic “perspective,” as an object of wonderment to be marveled at, and not as the underlying logic of contract law. To be sure, most case book authors are non-economists, but what is important is that these authors have apparently concluded that greater economic content would not expand the market share of their case books.<sup>88</sup> Case books on administrative law, antitrust law, and even employment law provide a contrast.

### *B. The Influence of Economics on Contract Doctrine*

The influence of economic analysis on contract law is harder to discern. Let us start with the common law. Judicial opinions occasionally cite economic articles, and occasionally use economic concepts such as transaction costs and risk aversion. But it is very hard to find cases where the judges self-consciously rely on an economic argument in order to justify a result. One such case is the Van Wagner case,<sup>89</sup> which relies heavily on Anthony Kronman’s (doubtful) analysis of specific performance.<sup>90</sup> Many opinions cite Posner and Rosenfield’s article on the impossibility doctrine, but almost always for the proposition that contracts shift risk, an idea that predates economic analysis by many decades. The notes to the Restatement (Second) of Contracts contain only a handful of references to economic ideas.<sup>91</sup>

To examine the influence of economic analysis on contract doctrine more systematically, I read all the state and federal court opinions that cite an economics article that appeared in a major law review or faculty edited journal after 1980. Only 23 such opinions were issued; of these only four of them discussed rather than cited the article; and none of these opinions could properly be said to be influenced by the article. This hardly shows much recent influence.<sup>92</sup> Compared to what?, one might ask. It might be true that, say, critical legal studies has had no influence on contract doctrine; but the influence of economics is no greater by any measure of statistical significance.<sup>93</sup>

Economic analysis has also had no influence, as far as I can tell, on statutory and regulatory law. Statutes and regulations in the 1970s incorporated common law developments that economic analysis critiqued, and although the consumer protection

---

<sup>88</sup> The Goetz and Scott casebook is the exception; compare the contracts casebooks by Dawson, Speidel, Kronman, Eisenberg, and Barnett.

<sup>89</sup> *Van Wagner Advertising Corp. v. S & M Enters.*, 492 N.E.2d 756, 760 (N.Y. 1986).

<sup>90</sup> Kronman, *Specific Performance*, supra note \_\_\_\_.

<sup>91</sup> Restatement (Second) of Contracts, Notes. Searches on Westlaw yielded the following results: efficien!=8 results; economic!=38 results; transaction! cost!=1; Coase=0 results. Few of the “economic!” results were in fact related to economic analysis (as opposed to “economic waste,” etc.).

<sup>92</sup> However, Richard Posner’s *Economic Analysis of Law*, supra note \_\_\_\_, has been cited in 116 cases in the LEXIS contracts database. A sample suggests a mix of meaningful analysis and meaningless citation. Cooter and Ulen’s textbook was cited only once.

<sup>93</sup> It might be the case that Judges Easterbrook and Posner have influenced contract doctrine, and I have not tried to measure their influence by looking at whether other judges accept their views about contract law.

movement crested in the 1970s, economics did not spur deregulation of the consumer product market as it did for so many other markets such as trucking and air travel.

## V. THE FUTURE

If economic analysis has failed contract law, can some other methodology succeed? A brief survey of the other contenders provides little reason for hope.

### A. *Philosophy*

Legal scholars have for a long time sought a philosophical explanation for contract law. Fuller and Perdue argued that contract law is based on corrective justice.<sup>94</sup> Fried argued that contract law is based on the morality of promising.<sup>95</sup> These theories remain the most influential despite their inadequacies.

Let us first consider each theory from a descriptive perspective. Fried argues that contracts should be enforced because individuals have a moral obligation to keep their promises. Fried's theory has the virtue of simplicity but cannot explain the many ways that contract law refuses to enforce promises. Unreciprocated offers, promises that lack consideration, promises that violate the Statute of Frauds, promises that lack specific terms—all of these promises are, in ordinary cases, not enforced. And contract law imposes liability even on parties who do not make promises, including people whose careless use of words leads others to believe that they are making a promise, and people who operate within trades where certain signals are interpreted as promises even when not meant as promises. Finally, as Craswell has pointed out, Fried cannot explain the default terms the law uses to fill out promises that otherwise are ill defined.<sup>96</sup>

Fuller and Perdue argue that contracts should be enforced in order to prevent one party, the promisor, from benefiting at the expense of the other party. Corrective justice demands that the breaching promisor make the promisee whole. The reliance measure is ideal for this purpose but because reliance costs are hard to measure and the expectation measure approximates the reliance measure in competitive markets, the expectation measure is the appropriate rule. But as Craswell shows, Fuller and Perdue's theory cannot explain why the appropriate baseline for exercising corrective justice is the promisee's position prior to the making of the promise, as opposed to after the making of the promise.<sup>97</sup> Others—notably Grant Gilmore and Patrick Atiyah—tried to generalize the Fuller/Perdue analysis and claimed that contract is being absorbed into tort.<sup>98</sup> But these efforts have gone nowhere.

---

<sup>94</sup> Lon L. Fuller & William R. Perdue, Jr., *The Reliance Interest in Contract Damages*, 46 *Yale L.J.* 52 (1936).

<sup>95</sup> Fried, *supra* note \_\_\_\_.

<sup>96</sup> Richard Craswell, *Contract Law, Default Rules, and the Philosophy of Promising*, 88 *Mich. L. Rev.* 489 (1989).

<sup>97</sup> *Id.*

<sup>98</sup> Grant Gilmore, *The Death of Contract* (1974); Patrick Atiyah, *Essays on Contract* (1990).

The theories fare no better when conceived as normative arguments for the reform of contract law. As Craswell shows, they are indeterminate over nearly all aspects of contract doctrine.<sup>99</sup> Fried's theory justifies the enforcement of promises, but sheds no light on which of many remedies—expectation damages, reliance damages, specific performance, even nominal damages—is the right one. Fuller and Perdue's theory, as just mentioned, cannot solve the baseline problem.

None of this is to say that philosophy has nothing to offer contract law. Philosophical reasoning, if not necessarily the reasoning of philosophers, has a significant accomplishment: the critique of the “will theory” of contract. The will theory, which derives contract doctrine from the premise that a contract is the coming together of two wills, is not just a once popular legal theory; it is also an intuitive, common sense approach to understanding contract law, instinctively adopted by generation after generation of first year law students, and a happy target for philosophical criticism. The celebrated critique of the will theory of the duress doctrine—namely, contracts entered under duress and contracts entered “voluntarily” involve the same kind of coercion—is powerful and important, and this critique owes something to philosophical reasoning. But one must also understand that this critique is much older than those who are credited with it: not just Dawson and Hale and Holmes; it can be found in Hume and probably earlier.<sup>100</sup> Basic philosophical ideas about the nature of the will, of agreement, of contract, go back for centuries and have changed little. Philosophical contribution to modern contract law and theory is minimal.<sup>101</sup>

### *B. Psychology*

Several scholars have recently argued that cognitive psychology holds promise for explaining the law, including contract law. This view has superficial attractiveness. If, as I have argued, economic models of the law are undermined by their rationality assumptions, then psychologically accurate models of human cognition might fill in the gaps left by the economic explanation.<sup>102</sup> Unfortunately, this optimism is misplaced.

Let us focus on the example of the penalty doctrine, because it is the topic of a recent debate about the value of using cognitive psychology to understand the law. We have already seen that economics fails to explain the penalty doctrine; can cognitive psychology?

---

<sup>99</sup> Craswell, Default Rules, *supra* note \_\_\_\_.

<sup>100</sup> David Hume, *A Treatise of Human Nature* 525 (L.A. Selby-Bigge ed. 1960).

<sup>101</sup> The recent contributions of philosophers to the debate have been singularly unilluminating. Scanlon proposes an interesting theory of the morality of promise keeping, but concludes that courts should enforce this theory as long as error and decision costs are not too high. See Thomas M. Scanlon, *Promises and Contracts*, in *Philosophy and Contract Law* (Peter Benson ed. 2000). See also Joseph Raz, *The Morality of Freedom* (1986).

<sup>102</sup> See, e.g., Russell B. Korobkin & Thomas S. Ulen, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 *Cal. L. Rev.* 1051 (2000).

The question is why courts give less deference to liquidated damages clauses than they do to other provisions of a contract, including provisions such as choice of forum clauses, which will become relevant only if a dispute arises. In response to Robert Hillman's skepticism about whether cognitive psychology can explain this practice,<sup>103</sup> Jeffrey Rachlinski argues that (1) biases that cause overoptimism justify scrutiny of liquidated damages provisions; (2) the status quo bias (contrary to Hillman's claim) does not justify deference because the increased effort to bargain around the damages rule does not necessarily eliminate the effects of overoptimism; (3) and although aversion to ambiguity justifies deference to liquidated damages, courts actually use this insight under the penalty doctrine by giving more deference to liquidated damages clauses when damages are hard to calculate (and thus ambiguous).<sup>104</sup>

Even accepting these arguments, which will strike many as ad hoc, Rachlinski cannot explain why the biases justify judicial scrutiny of liquidated damages terms but not other terms. Breach is not the only low-probability event that occurs within contractual relations; a contract might make any number of obligations conditional on events that occur with a low probability. Think of bond covenants that give creditors the right to accelerate repayment when the debtor's asset-debt ratio falls below a threshold; employment compensation packages that provide payoffs only when market conditions are favorable; and sales contracts that allocate the risk of the destruction of the goods during delivery. If parties overlook low-probability events, then any of these provisions could be defective, but because they are not liquidated damages provisions, courts do not subject them to scrutiny. Indeed, Rachlinski concedes the explanatory failure of cognitive psychology when he says that the field "might cause scholars to question much of contract law's foundations."<sup>105</sup> Rachlinski slips from a descriptive claim to a normative claim in face of the poor fit of cognitive psychology and the penalty doctrine.

### *C. History*

Historical explanations of contract law once held promise, but early enthusiasm has given way to skepticism. Consider the attempt to link trends in contract law doctrine to the rise of the welfare state.<sup>106</sup> Scholars claimed that the increasing informality of contract law over the last century, and especially the rise of promissory estoppel, showed courts moving away from *laissez faire* and toward statism and the enforcement of community standards. The convenient link to other trends in political economy, and specifically the rise of the welfare state, obscured the poor fit between the theory and

---

<sup>103</sup> Robert A. Hillman, *The Limits of Behavioral Decision Theory in Legal Analysis: The Case of Liquidated Damages*, 85 *Cornell L. Rev.* 717 (2000).

<sup>104</sup> Jeffrey J. Rachlinski, *The "New" Law and Psychology: A Reply to Critics, Skeptics, and Cautious Supporters*, 85 *Cornell L. Rev.* 739, 762 (2000).

<sup>105</sup> *Id.*, at 763.

<sup>106</sup> Gilmore, *supra* note \_\_; Patrick Atiyah, *The Rise and Fall of Freedom of Contract* (1986).



doctrinal trends.<sup>107</sup> The rise of promissory estoppel, for example, could be interpreted as reflecting judicial impatience with a formality—the consideration doctrine—that interfered with, rather than promoted, private contracting.<sup>108</sup> Contract doctrine can coexist with many different political systems; and broad trends, such as the decline of formalism, do not necessarily reflect changes in politics or morality.

Similar criticisms apply to Simpson’s argument that the shift from judicial accommodation to hostility toward penalties—which occurred in the eighteenth century—was due to “social evolution” away from tolerance for the private use of terror, to the monopoly of force held by the state.<sup>109</sup> Simpson argues that once courts deprived private parties of the right to use force, the courts vindicated their longstanding commitment to the compensation principle by banning penalties.

The argument raises more questions than it answers. Both before and after the “social evolution,” parties depended on courts to enforce their contracts. Before, a party could not collect a penal bond without first obtaining a judgment from a court; the other party had a number of legal defenses: not only full performance of the underlying promise, but such conventional defenses as duress and impossibility. The doctrinal change did not reflect a shift away from tolerance for private use of terror; it reflected a shift in the degree of deference given to remedial terms in contracts. Simpson’s argument boils down to the assertion that judges stopped deferring to remedial terms because they wanted to control remedies, but he does not explain why they would want to treat contractually stipulated remedies differently from other terms in the contract.

Even if we accepted the “social evolution” argument—the shift from private to public remedies—we need to understand why judges would think that the “compensation principle” should control remedies and thus exclude penalties.<sup>110</sup> Simpson observes that judges had a longstanding belief that the law should provide compensation (not overcompensation) for injuries; but he also notes that they had held this view for centuries, so that the shift in the eighteenth century is unexplained. That is why he adverts to the shift from private to public use of force. But Simpson also observes that judges believed that “the real function of contractual institutions is to make sure, so far as possible, that agreements are performed.”<sup>111</sup> He observes that the two principles—compensation and respect for agreement—are in conflict, but does not explain why the first prevailed over the second.

---

<sup>107</sup> See Richard A. Epstein, *Contracts Small and Contracts Large: Contract Law through the Lens of Laissez-Faire*, in *The Fall and Rise of Freedom of Contract* 25 (F.H. Buckley ed. 1999).

<sup>108</sup> Eric A. Posner, *The Decline of Formality in Contract Law*, in *The Fall and Rise of Freedom of Contract* 61 (F. H. Buckley ed. 1999).

<sup>109</sup> A.W.B. Simpson, *A History of the Common Law of Contract* 124 (1975).

<sup>110</sup> Recall also the ambiguity of the notion of “compensation,” which presupposed a baseline. See *supra* note \_\_\_. But we will assume that whatever compensation means, a penalty requires something beyond compensation.

<sup>111</sup> *Id.*, at 123.

Simpson’s argument shares the flaws of the less careful historical scholarship described above—the use of macro trends to explain micro phenomena that are consistent with other trends, the casual appeal to such long term trends to explain a change that occurred at a particular time, and the arbitrary resolution of tensions between different principles or ideas in favor of one rather than the other. Historical scholarship is often illuminating, and any good theory of contract law would need to account for aspects of its historical evolution, but historical explanations have not so far resolved basic puzzles about modern contract doctrine.

#### *D. Advances in Economics and Game Theory*

I argued in Section III. C. that the failures of the economic analysis of contract law derive, in part, from the bounded rationality of individuals who enter contracts. If people were rational in the economic sense, then their contracts could be predicted, albeit within limits, given further doubt about the empirical content of the parameters of the models. And if people’s behavior could be predicted in this way, then firm recommendations about contract doctrine could be made. But because the models press rationality to its outer limits, the world falls short of the predictions, and so the natural consequence is to model people’s cognitive processes.

The economic literature on bounded rationality is complex and large, and I cannot do justice to it. None of the models of bounded rationality that have been proposed has achieved canonical status, and thus it is difficult to discuss in general what bounded rationality means for contract law. Indeed, economists and game theorists agree that they are a long way from establishing a new paradigm of individual choice.<sup>112</sup> An example will illustrate the problems, and, I think, justify pessimism about the ability of future models of bounded rationality to shed light on contract doctrine.<sup>113</sup>

In the beauty contest game, the experimenter asks each member of a group to write down a number between 0 and 100 that is  $\frac{2}{3}$  of the average number (between 0 and 100) that everyone else writes down. The person who writes the correct answer wins a prize; if there is a tie, the prize is divided among the people with the right answer.

Game theory—that is, game theory that assumes “unbounded” rationality—predicts that everyone will write down 0 and share the prize. The intuitive explanation for this prediction follows. Imagine that you are one of the people asked to write down the number. You might start by imagining that everyone else will pick a number at random. If so, you would expect a uniform distribution from 0 to 100, with a mean of 50. Thus, you would pick  $\frac{2}{3}$  of the mean, which is about 34. But then it might occur to you that everyone will have reasoned in the same way that you have. Thus, everyone else will have written down 34. But if everyone else has written down 34, then you can win only

---

<sup>112</sup> E.g., David M. Kreps, Bounded Rationality, in 1 *The New Palgrave Dictionary of Economics and the Law* 168 (Peter Newman ed. 1998).

<sup>113</sup> For other efforts, see *id.*

by writing down  $2/3$  of 34, which is about 23. Yet everyone else knows this as well, so they will write down 23, and you should write down  $2/3$  of 23, and so on. Continuing with this reasoning, we reach 0. If everyone chooses 0, then you can do no better than choosing 0 as well; for then you share the prize, whereas if you choose a higher number, you receive nothing.

The explanation can be given more formally. If everyone chooses 0, everyone gets a share of the prize. If one person decides to choose a number different from 0, that person will no longer receive a share of the prize, and thus will receive a lower payoff. No one can do better than choosing 0 given that everyone else chooses 0. The outcome 0 is what game theorists call a Nash equilibrium: it is an outcome from which no one has an incentive to deviate, given everyone else's choice, because no one can increase one's payoff by deviation.<sup>114</sup> By contrast, if one person knows that everyone else will choose a particular number  $n > 0$ , then that person can do better by choosing a number different from  $n$ , namely  $2/3$  of  $n$ . Thus, any  $n > 0$  cannot be a Nash equilibrium.

Nash equilibrium does a poor job predicting behavior in the initial rounds of play. When people play the beauty contest game, typically there is a distribution as follows. For a sufficiently large group, most or all numbers will be chosen, with spikes around 34, 23, and perhaps 14, and then 0.<sup>115</sup> A natural explanation of this pattern is that some people choose numbers randomly, or misunderstand the game in a basic way; and then others are able to think one, two, or three steps ahead, or even more, but it never happens that everyone figures out, and plays, the Nash equilibrium in the initial rounds. (If the game is repeated, however, people will learn from their mistakes and eventually nearly everyone will play the Nash equilibrium strategy.)

Aside from the empirical disconfirmation, the experiments pose a conundrum. Suppose we imagine a perfectly rational person, X. What do you predict that X will do? In Nash equilibrium X chooses 0, but if X is smart (rational?) enough, X will realize that not everyone else will play the Nash move, in which case X should choose a number greater than 0, its magnitude depending on the distribution of "intelligence" or something like that, in the population. So our purely rational X will not act purely rationally as defined by game theory.

What to do? One idea recently investigated by Colin Camerer and his coauthors, proceeds as follows.<sup>116</sup> Imagine that a person engages in a number of cognitive steps when thinking about how to play the beauty contest game. In step 0, he randomly chooses a number between 0 and 100. In step 1, he thinks that everyone else has engaged in step 0 and only step 0—that is, everyone else has chosen a number at random—and chooses strategically on the basis of this assumption. (In our example, he would choose 34.) In

---

<sup>114</sup> Douglas Baird et al., *Game Theory and the Law* (1994).

<sup>115</sup> Colin F. Camerer, Teck-Hua Ho, and Juin Kuan Chong, *Behavioral Game Theory: Thinking, Learning, and Teaching* (unpublished manuscript, 2001).

<sup>116</sup> Id.

step 2, he thinks that a fraction of the population has engaged in step 0, and the rest has reached step 1, but none (besides himself) has reached step 2, and he chooses accordingly. This process continues for an arbitrary number of steps.

To predict the distribution of numbers chosen in the beauty contest game, we assume that a portion of the population stops at step 0, another group stops at step 1, another group stops at step 2, and so forth. Of course, to make such a prediction, we have to decide how many steps there are, and how the cognitive ability (the number of steps taken) is distributed among the population, but let us suppose that we can make reasonable assumptions about these parameters. Camerer shows that if we make such assumptions, we will predict something close to the actual distribution—all or most numbers being chosen, with spikes near 34, 23, and so forth, except that there will not be a spike at 0.

Let me now mention a few concerns about this theory, and its broader applicability to modeling contracts and contract law. First, one must worry about the degrees of freedom in choosing among parameters. One can choose any number of steps, and although the significance of this choice diminishes as the number becomes high, that is only because Camerer assumes a probability distribution (the Poisson distribution) that tails off quickly, another contestable choice.

Second, there is the question of how well this model captures cognition. The model assumes that the very smartest person takes the highest number of steps, and thus chooses a number approaching 0. But a very smart person would realize that not everyone else is as smart as he is, conclude that many people will choose relatively high numbers, and thus also choose a number that reflects the behavior of these other people: in other words higher than 0. The model assumes a similar lack of self-awareness among dumb people: a step 1 person, for example, assumes that everyone randomizes even though he doesn't himself.

Third, the model makes an incorrect prediction. As I noted above, a non-trivial number of people in the experiments choose 0, and yet the model assumes that only step 0 randomizers choose 0 (with the same frequency that they choose any other number). Camerer says that his model predicts better than Nash equilibrium does, because Nash predicts only 0, whereas Camerer's model gets the other spikes right. But the fact is that neither model gets the distribution of outcomes correct.

Turning to generalizability, one must note that Camerer's model predicts people's behavior before they learn to play Nash strategies. Indeed, as he observes, the distributions move increasingly closer to the Nash prediction as play is repeated. People learn, and as they learn, they act more consistently with the Nash prediction. As we turn from the experimental setting to real life, should we assume that people entering contracts are like the boundedly rational people at the beginning of the experiment, or the Nash-consistent people who have learned how to play the game by the end of the experiment?

This turns out to be the crucial problem for contract theory. Suppose that we agree (as we must) that individuals are boundedly rational, and ask how this might affect how they design their contracts. We immediately conclude that they will not necessarily design the optimal contract because of their cognitive limitations. To design the optimal contract, they must foresee how they will renegotiate the contract at the time that performance is due, including what each party will propose, and how it will respond to the proposals of the other, and so on—exactly the kind of step-by-step thinking that rapidly depletes cognitive capacity. We might therefore conclude that the parties will not necessarily choose the optimal contract, but we have no idea how far short they will fall from optimality.

Although the conclusion that models of bounded rationality will not help contract theory is premature, there is reason for pessimism.

#### *E. A Return to Doctrinalism?*

If interdisciplinary approaches to contract law cannot generate plausible descriptive or normative theories, should legal scholars return to doctrinal analysis? To answer this question, we must first get clear about what doctrinalism means.

The most ambitious doctrinal scholarship attempts to derive “principles” from cases. Fuller and Perdue argued that a “reliance principle” explains contract damages.<sup>117</sup> More recently Eisenberg has argued that a “bargain principle” and a “fairness principle” explain contract enforcement doctrines,<sup>118</sup> and Farnsworth has proposed a “dependence” and “public interest” principle, among many others.<sup>119</sup>

Farnsworth’s effort is a flare-up of embers that have been dying for many years. As many scholars have observed, cases will not yield principles that are more general than the case outcomes themselves. The plausibility of the principles that scholars advance always come from their appeal to moral commitments. The extraction of a fairness principle from the cases, rather than a principle of fairness for litigants who have brown eyes (if such is the case) or of litigants who have some other characteristic coextensive with the cases in which they prevail, is always the result of an implicit appeal to an attractive normative idea—fairness for all, rather than fairness to a morally arbitrary group of people. Ambitious doctrinal scholarship thus converges to a kind of moral philosophy that is especially sensitive to judicial outcomes.<sup>120</sup>

Examples of authors who write in this vein include Fuller and Perdue, who argue that the reliance principle follows from corrective justice, and Eisenberg, who attempts to

---

<sup>117</sup> Fuller & Perdue, *supra* note \_\_\_\_.

<sup>118</sup> Melvin Eisenberg, *The Bargain Principle and its Limits*, 95 Harv. L. Rev. 741 (1982).

<sup>119</sup> E. Allan Farnsworth, *Changing Your Mind: The Law of Regretted Decisions* (1998).

<sup>120</sup> That is, something like Dworkinian interpretivism.

tie the bargain principle and fairness principle to policy concerns and moral commitments. Farnsworth avoids philosophizing or engaging in policy analysis by keeping his discussion vague. He does not, for example, explain how he resolves conflicts between the many principles that he invokes.<sup>121</sup>

A narrower kind of doctrinal analysis is nothing more than ordinary legal analysis, in which a judge or lawyer explains why or why not precedent controls the case under consideration. This kind of doctrinalism is useful, and can be done well or poorly, but a return to this scholarship would have to count as a defeat for the descriptive and normative aspirations of modern legal theory. Doctrinalism does not describe or justify the law; it is simply the doing of legal analysis, the use of legal materials and techniques of reasoning to support the outcome in a given case.

## VI. CONCLUSION

The title of the paper is a question, not a statement, for two reasons. First, the answer can come only with more experience. As economists and lawyers experiment with new models and variations of old ones, they might find better approaches to understanding contracts and contract law. The answer might also turn out to be “sort of,” depending on whether efforts to model bounded rationality, should they succeed, ought to be considered a vindication of economics or psychology.

Second, economics has already succeeded in much, just not in what its proponents set out as the measure of success. If you look at the best work in contracts scholarship today, and you compare it with the best contracts scholarship before the 1970s, you will see many differences. One important difference is that earlier work is methodologically sloppy. Much of this work mixed up two separate tasks—excavating the doctrine, and evaluating it. Evaluation would often be based on intuitive notions of fairness—intuitions that other commentators as well as judges might or might not share—with either no attention to the effects of doctrine on incentives, or casual discussion. The mixing up of doctrine and policy often resulted in the displacement of the policy disagreement into rules/standard debates. For example, the voluminous literature on the unconscionability doctrine in the 1960s and 1970s was vague on the incentive effects of the doctrine—with some concern about interfering with freedom of contract, and some concern about unequal bargaining power—and vigorous on the question whether an ambiguous standard like unconscionability could be applied by courts as consistently as they applied similar supposedly rule-like doctrines like duress.<sup>122</sup> No one seemed to understand that the rules/standard question presupposed a resolution of the policy question.

---

<sup>121</sup> For a critique of Fuller and Perdue’s argument, see Richard Craswell, *Against Fuller and Perdue*, 67 *U. Chi. L. Rev.* 99 (2000); for a critique of Farnsworth’s argument, see Eric A. Posner, *Law and Regret*, 98 *Mich. L. Rev.* 1468 (2000).

<sup>122</sup> See, e.g., M.P. Ellinghaus, *In Defense of Unconscionability*, 78 *Yale L. J.* 757 (1969).

The economic literature on the unconscionability doctrine clarified the policy questions at stake, and largely displaced the earlier literature. Its main accomplishment was showing that the earlier policy arguments were ill defined, or made implausible empirical assumptions, or were inconsistent with widely held views or other, uncontroversial areas of law and policy. Defenses of the unconscionability doctrine are now more candid and clearer, even if they reject economic premises. The literature as a whole proceeds at a higher level of sophistication.

Economics' accomplishment is the introduction of a new vocabulary for studying contracts and contract law. The vocabulary is not perfect, but it does supply relatively clear concepts that can be used to elucidate ideas, principles, and doctrines from contract law. The use of a consistent vocabulary allows one to see, for example, that the mistake and impossibility doctrines are analytically similar, and that remedies are like court-supplied terms. Further, economics' focus on incentives and efficiency provide a common metric so that the various doctrines can be lined up, so to speak, and compared in a systematic way. Finally, economics has identified a series of potential costs and benefits associated with different doctrines, and this information is likely useful to judges and policymakers even if it does not generate determinate recommendations.

Economics' failure to provide comprehensive descriptive and normative theories of contract law stems from an ambiguity at the heart of the concept of transaction cost. If transaction costs refer to non-cognitive difficulties such as the difficulty of describing obligations, then rational individuals would overcome them by entering contracts that provide ex post bargaining rules. Because we do not observe such contracts, it is likely that cognitive problems account for the incompleteness of contracts. But if cognitive problems—and, in particular, the inability to foresee future events—accounts for the incompleteness of contracts, then the rules of contract law, which can have influence only when a dispute occurs, are unlikely to have a fine-grained impact on behavior. Common sense tells us that if contract law provides, say, no remedy at all, then promisors will breach opportunistically when reputational concerns are minimal. But if, as seems likely, people have trouble foreseeing and calculating the consequences of non-performance, then subtle variations in the legal regime—between expectation and reliance damages, for example, or damages and specific performance, or excuses for mistake or not—are unlikely to have predictable influence on people's behavior, and thus clear implications for social welfare.

Readers with comments should address them to:

Professor Eric A. Posner  
University of Chicago Law School  
1111 East 60th Street  
Chicago, IL 60637  
[eric\\_posner@law.uchicago.edu](mailto:eric_posner@law.uchicago.edu)

Chicago Working Papers in Law and Economics  
(Second Series)

1. William M. Landes, Copyright Protection of Letters, Diaries and Other Unpublished Works: An Economic Approach (July 1991).
2. Richard A. Epstein, The Path to *The T. J. Hooper*: The Theory and History of Custom in the Law of Tort (August 1991).
3. Cass R. Sunstein, On Property and Constitutionalism (September 1991).
4. Richard A. Posner, Blackmail, Privacy, and Freedom of Contract (February 1992).
5. Randal C. Picker, Security Interests, Misbehavior, and Common Pools (February 1992).
6. Tomas J. Philipson & Richard A. Posner, Optimal Regulation of AIDS (April 1992).
7. Douglas G. Baird, Revisiting Auctions in Chapter 11 (April 1992).
8. William M. Landes, Sequential versus Unitary Trials: An Economic Analysis (July 1992).
9. William M. Landes & Richard A. Posner, The Influence of Economics on Law: A Quantitative Study (August 1992).
10. Alan O. Sykes, The Welfare Economics of Immigration Law: A Theoretical Survey With An Analysis of U.S. Policy (September 1992).
11. Douglas G. Baird, 1992 Katz Lecture: Reconstructing Contracts (November 1992).
12. Gary S. Becker, The Economic Way of Looking at Life (January 1993).
13. J. Mark Ramseyer, Credibly Committing to Efficiency Wages: Cotton Spinning Cartels in Imperial Japan (March 1993).
14. Cass R. Sunstein, Endogenous Preferences, Environmental Law (April 1993).
15. Richard A. Posner, What Do Judges and Justices Maximize? (The Same Thing Everyone Else Does) (April 1993).
16. Lucian Arye Bebchuk and Randal C. Picker, Bankruptcy Rules, Managerial Entrenchment, and Firm-Specific Human Capital (August 1993).
17. J. Mark Ramseyer, Explicit Reasons for Implicit Contracts: The Legal Logic to the Japanese Main Bank System (August 1993).
18. William M. Landes and Richard A. Posner, The Economics of Anticipatory Adjudication (September 1993).
19. Kenneth W. Dam, The Economic Underpinnings of Patent Law (September 1993).
20. Alan O. Sykes, An Introduction to Regression Analysis (October 1993).
21. Richard A. Epstein, The Ubiquity of the Benefit Principle (March 1994).
22. Randal C. Picker, An Introduction to Game Theory and the Law (June 1994).
23. William M. Landes, Counterclaims: An Economic Analysis (June 1994).
24. J. Mark Ramseyer, The Market for Children: Evidence from Early Modern Japan (August 1994).
25. Robert H. Gertner and Geoffrey P. Miller, Settlement Escrows (August 1994).



26. Kenneth W. Dam, Some Economic Considerations in the Intellectual Property Protection of Software (August 1994).
27. Cass R. Sunstein, Rules and Rulelessness, (October 1994).
28. David Friedman, More Justice for Less Money: A Step Beyond *Cimino* (December 1994).
29. Daniel Shaviro, Budget Deficits and the Intergenerational Distribution of Lifetime Consumption (January 1995).
30. Douglas G. Baird, The Law and Economics of Contract Damages (February 1995).
31. Daniel Kessler, Thomas Meites, and Geoffrey P. Miller, Explaining Deviations from the Fifty Percent Rule: A Multimodal Approach to the Selection of Cases for Litigation (March 1995).
32. Geoffrey P. Miller, Das Kapital: Solvency Regulation of the American Business Enterprise (April 1995).
33. Richard Craswell, Freedom of Contract (August 1995).
34. J. Mark Ramseyer, Public Choice (November 1995).
35. Kenneth W. Dam, Intellectual Property in an Age of Software and Biotechnology (November 1995).
36. Cass R. Sunstein, Social Norms and Social Roles (January 1996).
37. J. Mark Ramseyer and Eric B. Rasmusen, Judicial Independence in Civil Law Regimes: Econometrics from Japan (January 1996).
38. Richard A. Epstein, Transaction Costs and Property Rights: Or Do Good Fences Make Good Neighbors? (March 1996).
39. Cass R. Sunstein, The Cost-Benefit State (May 1996).
40. William M. Landes and Richard A. Posner, The Economics of Legal Disputes Over the Ownership of Works of Art and Other Collectibles (July 1996).
41. John R. Lott, Jr. and David B. Mustard, Crime, Deterrence, and Right-to-Carry Concealed Handguns (August 1996).
42. Cass R. Sunstein, Health-Health Tradeoffs (September 1996).
43. G. Baird, The Hidden Virtues of Chapter 11: An Overview of the Law and Economics of Financially Distressed Firms (March 1997).
44. Richard A. Posner, Community, Wealth, and Equality (March 1997).
45. William M. Landes, The Art of Law and Economics: An Autobiographical Essay (March 1997).
46. Cass R. Sunstein, Behavioral Analysis of Law (April 1997).
47. John R. Lott, Jr. and Kermit Daniel, Term Limits and Electoral Competitiveness: Evidence from California's State Legislative Races (May 1997).
48. Randal C. Picker, Simple Games in a Complex World: A Generative Approach to the Adoption of Norms (June 1997).
49. Richard A. Epstein, Contracts Small and Contracts Large: Contract Law through the Lens of Laissez-Faire (August 1997).

50. Cass R. Sunstein, Daniel Kahneman, and David Schkade, *Assessing Punitive Damages (with Notes on Cognition and Valuation in Law)* (December 1997).
51. William M. Landes, Lawrence Lessig, and Michael E. Solimine, *Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges* (January 1998).
52. John R. Lott, Jr., *A Simple Explanation for Why Campaign Expenditures are Increasing: The Government is Getting Bigger* (February 1998).
53. Richard A. Posner, *Values and Consequences: An Introduction to Economic Analysis of Law* (March 1998).
54. Denise DiPasquale and Edward L. Glaeser, *Incentives and Social Capital: Are Homeowners Better Citizens?* (April 1998).
55. Christine Jolls, Cass R. Sunstein, and Richard Thaler, *A Behavioral Approach to Law and Economics* (May 1998).
56. John R. Lott, Jr., *Does a Helping Hand Put Others At Risk?: Affirmative Action, Police Departments, and Crime* (May 1998).
57. Cass R. Sunstein and Edna Ullmann-Margalit, *Second-Order Decisions* (June 1998).
58. Jonathan M. Karpoff and John R. Lott, Jr., *Punitive Damages: Their Determinants, Effects on Firm Value, and the Impact of Supreme Court and Congressional Attempts to Limit Awards* (July 1998).
59. Kenneth W. Dam, *Self-Help in the Digital Jungle* (August 1998).
60. John R. Lott, Jr., *How Dramatically Did Women's Suffrage Change the Size and Scope of Government?* (September 1998)
61. Kevin A. Kordana and Eric A. Posner, *A Positive Theory of Chapter 11* (October 1998)
62. David A. Weisbach, *Line Drawing, Doctrine, and Efficiency in the Tax Law* (November 1998)
63. Jack L. Goldsmith and Eric A. Posner, *A Theory of Customary International Law* (November 1998)
64. John R. Lott, Jr., *Public Schooling, Indoctrination, and Totalitarianism* (December 1998)
65. Cass R. Sunstein, *Private Broadcasters and the Public Interest: Notes Toward A "Third Way"* (January 1999)
66. Richard A. Posner, *An Economic Approach to the Law of Evidence* (February 1999)
67. Yannis Bakos, Erik Brynjolfsson, Douglas Lichtman, *Shared Information Goods* (February 1999)
68. Kenneth W. Dam, *Intellectual Property and the Academic Enterprise* (February 1999)
69. Gertrud M. Fremling and Richard A. Posner, *Status Signaling and the Law, with Particular Application to Sexual Harassment* (March 1999)
70. Cass R. Sunstein, *Must Formalism Be Defended Empirically?* (March 1999)

71. Jonathan M. Karpoff, John R. Lott, Jr., and Graeme Rankine, Environmental Violations, Legal Penalties, and Reputation Costs (March 1999)
72. Matthew D. Adler and Eric A. Posner, Rethinking Cost-Benefit Analysis (April 1999)
73. John R. Lott, Jr. and William M. Landes, Multiple Victim Public Shooting, Bombings, and Right-to-Carry Concealed Handgun Laws: Contrasting Private and Public Law Enforcement (April 1999)
74. Lisa Bernstein, The Questionable Empirical Basis of Article 2's Incorporation Strategy: A Preliminary Study (May 1999)
75. Richard A. Epstein, Deconstructing Privacy: and Putting It Back Together Again (May 1999)
76. William M. Landes, Winning the Art Lottery: The Economic Returns to the Ganz Collection (May 1999)
77. Cass R. Sunstein, David Schkade, and Daniel Kahneman, Do People Want Optimal Deterrence? (June 1999)
78. Tomas J. Philipson and Richard A. Posner, The Long-Run Growth in Obesity as a Function of Technological Change (June 1999)
79. David A. Weisbach, Ironing Out the Flat Tax (August 1999)
80. Eric A. Posner, A Theory of Contract Law under Conditions of Radical Judicial Error (August 1999)
81. David Schkade, Cass R. Sunstein, and Daniel Kahneman, Are Juries Less Erratic than Individuals? Deliberation, Polarization, and Punitive Damages (September 1999)
82. Cass R. Sunstein, Nondelegation Canons (September 1999)
83. Richard A. Posner, The Theory and Practice of Citations Analysis, with Special Reference to Law and Economics (September 1999)
84. Randal C. Picker, Regulating Network Industries: A Look at *Intel* (October 1999)
85. Cass R. Sunstein, Cognition and Cost-Benefit Analysis (October 1999)
86. Douglas G. Baird and Edward R. Morrison, Optimal Timing and Legal Decisionmaking: The Case of the Liquidation Decision in Bankruptcy (October 1999)
87. Gertrud M. Fremling and Richard A. Posner, Market Signaling of Personal Characteristics (November 1999)
88. Matthew D. Adler and Eric A. Posner, Implementing Cost-Benefit Analysis When Preferences Are Distorted (November 1999)
89. Richard A. Posner, Orwell versus Huxley: Economics, Technology, Privacy, and Satire (November 1999)
90. David A. Weisbach, Should the Tax Law Require Current Accrual of Interest on Derivative Financial Instruments? (December 1999)
91. Cass R. Sunstein, The Law of Group Polarization (December 1999)
92. Eric A. Posner, Agency Models in Law and Economics (January 2000)

93. Karen Eggleston, Eric A. Posner, and Richard Zeckhauser, Simplicity and Complexity in Contracts (January 2000)
94. Douglas G. Baird and Robert K. Rasmussen, Boyd's Legacy and Blackstone's Ghost (February 2000)
95. David Schkade, Cass R. Sunstein, Daniel Kahneman, Deliberating about Dollars: The Severity Shift (February 2000)
96. Richard A. Posner and Eric B. Rasmusen, Creating and Enforcing Norms, with Special Reference to Sanctions (March 2000)
97. Douglas Lichtman, Property Rights in Emerging Platform Technologies (April 2000)
98. Cass R. Sunstein and Edna Ullmann-Margalit, Solidarity in Consumption (May 2000)
99. David A. Weisbach, An Economic Analysis of Anti-Tax Avoidance Laws (May 2000)
100. Cass R. Sunstein, Human Behavior and the Law of Work (June 2000)
101. William M. Landes and Richard A. Posner, Harmless Error (June 2000)
102. Robert H. Frank and Cass R. Sunstein, Cost-Benefit Analysis and Relative Position (August 2000)
103. Eric A. Posner, Law and the Emotions (September 2000)
104. Cass R. Sunstein, Cost-Benefit Default Principles (October 2000)
105. Jack Goldsmith and Alan Sykes, The Dormant Commerce Clause and the Internet (November 2000)
106. Richard A. Posner, Antitrust in the New Economy (November 2000)
107. Douglas Lichtman, Scott Baker, and Kate Kraus, Strategic Disclosure in the Patent System (November 2000)
108. Jack L. Goldsmith and Eric A. Posner, Moral and Legal Rhetoric in International Relations: A Rational Choice Perspective (November 2000)
109. William Meadow and Cass R. Sunstein, Statistics, Not Experts (December 2000)
110. Saul Levmore, Conjunction and Aggregation (December 2000)
111. Saul Levmore, Puzzling Stock Options and Compensation Norms (December 2000)
112. Richard A. Epstein and Alan O. Sykes, The Assault on Managed Care: Vicarious Liability, Class Actions and the Patient's Bill of Rights (December 2000)
113. William M. Landes, Copyright, Borrowed Images and Appropriation Art: An Economic Approach (December 2000)
114. Cass R. Sunstein, Switching the Default Rule (January 2001)
115. George G. Triantis, Financial Contract Design in the World of Venture Capital (January 2001)
116. Jack Goldsmith, Statutory Foreign Affairs Preemption (February 2001)
117. Richard Hynes and Eric A. Posner, The Law and Economics of Consumer Finance (February 2001)

118. Cass R. Sunstein, Academic Fads and Fashions (with Special Reference to Law) (March 2001)
119. Eric A. Posner, Controlling Agencies with Cost-Benefit Analysis: A Positive Political Theory Perspective (April 2001)
120. Douglas G. Baird, Does Bogart Still Get Scale? Rights of Publicity in the Digital Age (April 2001)
121. Douglas G. Baird and Robert K. Rasmussen, Control Rights, Priority Rights and the Conceptual Foundations of Corporate Reorganization (April 2001)
122. David A. Weisbach, Ten Truths about Tax Shelters (May 2001)
123. William M. Landes, What Has the Visual Arts Rights Act of 1990 Accomplished? (May 2001)
124. Cass R. Sunstein, Social and Economic Rights? Lessons from South Africa (May 2001)
125. Christopher Avery, Christine Jolls, Richard A. Posner, and Alvin E. Roth, The Market for Federal Judicial Law Clerks (June 2001)
126. Douglas G. Baird and Edward R. Morrison, Bankruptcy Decision Making (June 2001)
127. Cass R. Sunstein, Regulating Risks after ATA (June 2001)
128. Cass R. Sunstein, The Laws of Fear (June 2001)
129. Richard A. Epstein, In and Out of Public Solution: The Hidden Perils of Property Transfer (July 2001)
130. Randal C. Picker, Pursuing a Remedy in *Microsoft*: The Declining Need for Centralized Coordination in a Networked World (July 2001)
131. Cass R. Sunstein, Daniel Kahneman, David Schkade, and Ilana Ritov, Predictably Incoherent Judgments (July 2001)
132. Eric A. Posner, Courts Should Not Enforce Government Contracts (August 2001)
133. Lisa Bernstein, Private Commercial Law in the Cotton Industry: Creating Cooperation through Rules, Norms, and Institutions (August 2001)
134. Richard A. Epstein, The Allocation of the Commons: Parking and Stopping on the Commons (August 2001)
135. Cass R. Sunstein, The Arithmetic of Arsenic (September 2001)
136. Eric A. Posner, Richard Hynes, and Anup Malani, The Political Economy of Property Exemption Laws (September 2001)
137. Eric A. Posner and George G. Triantis, Covenants Not to Compete from an Incomplete Contracts Perspective (September 2001)
138. Cass R. Sunstein, Probability Neglect: Emptions, Worst Cases, and Law (November 2001)
139. Randall S. Kroszner and Philip E. Strahan, Throwing Good Money after Bad? Board Connections and Conflicts in Bank Lending (December 2001)
140. Alan O. Sykes, TRIPs, Pharmaceuticals, Developing Countries, and the Doha "Solution" (February 2002)

141. Edna Ullmann-Margalit and Cass R. Sunstein, Inequality and Indignation (February 2002)
142. Daniel N. Shaviro and David A. Weisbach, The Fifth Circuit Gets It Wrong in *Compaq v. Commissioner* (February 2002) (Published in *Tax Notes*, January 28, 2002)
143. Warren F. Schwartz and Alan O. Sykes, The Economic Structure of Renegotiation and Dispute Resolution in the WTO/GATT System (March 2002, forthcoming *Journal of Legal Studies* 2002)
144. Richard A. Epstein, HIPAA on Privacy: Its Unintended and Intended Consequences (March 2002, forthcoming *Cato Journal*, summer 2002)
145. David A. Weisbach, Thinking Outside the Little Boxes (March 2002, forthcoming *Texas Law Review*)
146. Eric A. Posner, Economic Analysis of Contract Law after Three Decades: Success or Failure (March 2002)