Expected Value Arbitration

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EXPECTED VALUE ARBITRATION

JOSHUA DAVIS*

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I. Introduction

This Article proposes a new form of dispute resolution: Expected Value Arbitration (EVA). In some ways, EVA resembles traditional forms of arbitration: disputants choose to enter into EVA, they present their legal arguments and evidence to a neutral party, and the neutral party imposes a binding resolution. What makes EVA unique is its standard for decision

* Professor, University of San Francisco School of Law. I thank Rhonda Andrews, Morton Davis, David Franklyn, Susan Freiwald, Alice Kaswan, Doug Lichtman, Josh Rosenberg, Stephen Ware and participants in the USF School of Law Faculty Workshop for helpful comments. Allison Campos, Langston Edwards, and Jon Eldredge provided excellent research assistance. All errors remain my own.

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making. The neutral decision maker is to award her estimate of the expected value of the outcome at trial — that is, the average of the possible outcomes with each weighted by its likelihood of occurring.\(^1\) The expected value of trial is already often used as a point of departure for settlement negotiations.\(^2\) By relying on expected value, EVA essentially offers the imposition by a neutral party of an objectively reasonable settlement.

EVA lies at the intersection of two trends in the law. One trend is in the practice of law — a trend toward informal dispute resolution. Recent decades have seen a much-remarked explosion of alternatives to trial.\(^3\) They include mediation,\(^4\) nonbinding arbitration,\(^5\) binding arbitration,\(^6\) and early neutral evaluation,\(^7\) to name a few.

The second trend is more academic in nature. Scholars over recent decades have discussed the potential of partial recoveries. In particular, they have challenged the prevailing assumption that a court must adopt a winner-take-all approach to dispute resolution.\(^8\) They have suggested instead that a court


\(^4\) For a practical description of mediation, see JAY E. GRENG, ALTERNATIVE DISPUTE RESOLUTION WITH FORMS §§ 2.16, 7.1-7.3 (2d ed. 1997).

\(^5\) See, e.g., MYRA WARREN ISENHART & MICHAEL SPANGLE, COLLABORATIVE APPROACHES TO RESOLVING CONFLICT 130-33 (2000).

\(^6\) Id.

\(^7\) THOMAS CROWLEY, SETTLE IT OUT OF COURT: HOW TO RESOLVE BUSINESS AND PERSONAL DISPUTES USING MEDIATION, ARBITRATION, AND NEGOTIATION 192 (1994); GRENG, supra note 4, §§ 2.59, 18.10-11.

\(^8\) See, e.g., STEVEN SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW § 5.3 [hereinafter
could award a portion of the compensation to which a wronged plaintiff would be entitled, discounted to reflect the court's uncertainty about whether the plaintiff should prevail.9

EVA improves on the existing proposals for partial recovery in at least two ways. First, although scholars have directed their proposals to courts, voluntary forms of dispute resolution provide a better setting for this kind of creativity. Parties engage in arbitration only if they select it.10 Using a novel standard for resolving disputes that all parties have chosen is far less troubling than having a court impose the new standard, regardless of the parties' preferences.11


9. Coons began with a modest proposal to split an award "fifty-fifty" when a judge was in equipoise between the competing positions of the parties. Coons, Approaches, supra note 8, at 757. Rosenberg and Shavell explored awarding a plaintiff recovery proportionate to the likelihood that the defendant caused the injury to the plaintiff. Rosenberg, supra note 8, at 881-86; Shavell, Uncertainty, supra note 8, at 589. Levmore suggested a hybrid approach that would entail using the standard for recovery recommended by Rosenberg and Shavell in certain cases involving recurring wrongs, depending on the confidence of the fact finder in the proper outcome of litigation. Levmore, supra note 8, at 721-25. Abramowicz extended the sources of potential uncertainty beyond causation to other issues of fact (and, to some extent, law) and suggested his own hybrid approach, in which the finder of fact would use a winner-take-all approach or award a partial recovery, depending on the likelihood that plaintiff should win. Abramowicz, supra note 8.


11. A creative possibility would be to have the court impose a compromise at the parties'
EVA offers a second advantage over existing scholarly proposals using the expected value of trial. Scholars have not focused on this measure of partial recovery, usually recommending instead an award proportionate to the odds that a plaintiff should win. This remedy has been called "proportionate damages" or "proportional liability." Drawing on analytic tools from the academic literature on rights theory, law and economics, and game theory, this Article argues that an outcome based on the expected value of trial has virtues absent from other proposals for partial recovery.

The central claims of this Article pertain to trial: EVA is likely to be both more attractive to many disputants and may better approximate justice than trial. However, EVA compares favorably in various ways to proportionate damages as well.

Part II explains how EVA would work and what makes it distinctive.

Part III then describes three likely virtues of EVA. First, EVA would allow parties to insist on their legal rights without the risks of winner-take-all litigation. In doing so, EVA, unlike other forms of partial recovery, does not vary from the average result at trial. This characteristic increases the likelihood of adoption of EVA by all parties to a dispute and means that EVA is true to the conception of justice embodied in current law.

request. This would not be easy to achieve, however. Parties are somewhat constrained in their ability to choose the standard in court. They decide whether to go to trial but, if they do, they must accept imposition of the law as the court interprets it. See, e.g., Stephen J. Ware, Consumer Arbitration as Exceptional Consumer Law (with a Contractualist Reply to Carrington & Haagen), 29 MCGeorge L. Rev. 195, 207-09 (1998) (noting mandatory rules in court, including strict products liability, the warranty of habitability, usury laws, and certain restrictions on insurance and employment contracts). Courts may be similarly unwilling to adjust the standard of appellate review to accommodate the desires of disputants. See Kyocera Corp. v. Prudential-Bache Trade Servs. Inc., 341 F.3d 987, 1003 (9th Cir. 2003) (refusing to allow parties to set standard for review in court); see also Lee Goldman, Contractually Expanded Review of Arbitration Awards, 8 Harv. Negotiation L. Rev. 171, 178-79 (2003); Margaret M. Maggio & Richard A. Bales, Contracting Around the FAA: The Enforceability of Private Agreements to Expand Judicial Review of Arbitration Awards, 18 Ohio St. J. Disp. Res. 151, 154-55, 187 (2002).

12. Abramowicz relies primarily on this measure, although he does so with a proposed hybrid rule that would at times take a winner-take-all approach. Abramowicz, supra note 8, at 236-37.

14. Rosenberg, supra note 8, at 859; Shavell, Uncertainty, supra note 8, at 591.
15. The juxtaposition to proportionate damages serves various purposes, including: (1) to clarify how EVA would work, (2) to emphasize its novel features, and (3) to highlight some of its distinctive virtues. Still, it should be noted at the outset that the two ideas are not mutually exclusive. If courts were to award proportionate damages, an arbitrator in EVA could take that into account in assessing the expected value of a case.
Second, EVA may be better than trial, binding arbitration, or proportionate damages at minimizing errors in adjudication. In particular, EVA should produce the same average error across a set of cases as trial (often called "expected error costs") and should avoid the largest errors that occur at trial. EVA, like trial, should also produce a lower average error across a set of cases (or lower expected error costs) than proportionate damages. In a sense, then, when it comes to minimizing errors in dispute resolution, EVA offers the best of both worlds.

Third, EVA may be more likely than trial to encourage desirable expenditures on litigation and, in particular, may provide incentive for a risk-averse party to make those investments in litigation (and only those investments) that will produce a net gain on average in dollars for that party. For this point, I rely on a line of analysis that has not yet been explored in the legal academic literature, one that could have significant implications. Specifically, I use utility functions to assess the interaction between risk aversion, the continuity or discontinuity of results from a standard for dispute resolution, and expenditures on litigation. A similar analysis would be relevant to other fields of the law, including, for example, the choice between contributory and comparative negligence.

Part IV assesses EVA from various theoretical perspectives, including law and economics, rights theory, and the "public-life conception" of trial. Part V responds to some likely concerns about EVA, including whether the results it produces can be reliable and predictable, whether biases may limit its benefits, and how expected value arbitrators are to identify the factors that should and should not inform their awards.

Part VI concludes by recommending that providers of dispute resolution services include EVA as an option for clients.

16. See, e.g., ROBERT G. BONE, CIVIL PROCEDURE: THE ECONOMICS OF CIVIL PROCEDURE 131 (2003). I am assuming that the social cost of an error at trial is the difference between the correct result and the actual result. Posner seems to make this assumption at times. See, e.g., POSNER, ECONOMIC ANALYSIS, supra note 2, at 554. Note, however, at other times he focuses more directly on the social cost caused by inefficient incentives from anticipated errors in adjudication. See, e.g., id. at 549. The latter approach measures social costs more directly, but does not lend itself to a general analysis of the harm from adjudicative errors.


18. Unfortunately, no ready label is available for this last group, as it includes various perspectives. One possibility, although it is underinclusive, is civil republicanism. See Joshua P. Davis, Toward a Jurisprudence of Trial and Settlement: Allocating Attorney's Fees by Amending Federal Rule of Civil Procedure 68, 48 ALA. L. REV. 65, 124-26 (1996) [hereinafter Davis, Toward a Jurisprudence].
II. Defining EVA and How It Would Work

At the heart of EVA is the concept of expected value, which is of great use in making decisions that involve risk. The concept has found its way into various aspects of legal practice and should be familiar to litigators and potential arbitrators.19

A. Expected Value — A Familiar Concept in the Law

Expected value is the mean of the possible outcomes in a situation with each outcome weighted by its likelihood of occurring.20 Expected value finds a natural application in the resolution of legal disputes. The expected value of a trial, for example, is the sum of each possible outcome in a case multiplied by its odds of being adopted by a court.21

The concept of expected value may once have been foreign to lawyers. If so, it no longer is. It currently has many practical uses in litigation. It can clarify important decisions, including whether to sue and, once litigation has begun, whether to settle and on what terms.22

An example will illustrate how expected value works. Imagine a car accident between Penelope and Dwayne. Penelope claims that Dwayne ran a red light; Dwayne claims that Penelope ran a red light. In either case, the parties agree that they arrived in their cars simultaneously at an intersection and Penelope swerved to avoid a collision. She struck a telephone pole and suffered significant injuries. Dwayne was unharmed. The testimony of each party is the only evidence available regarding fault. Assume Penelope stands a 50% chance of persuading a court to award her $100,000 and a 50% chance of losing. The sum of each possible result multiplied by its likelihood of occurring yields the expected value of trial: (.5 x $100,000) + (.5 x $0) = $50,000. The expected value of trial is $50,000.

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20. See Donohue, supra note 1, at 1096; Note, supra note 1, at 444.

21. Donohue, supra note 1, at 1096; Note, supra note 1, at 444.

22. See, e.g., Aaron & Hoffer, supra note 19, at 72-73 (discussing the use of expected value in settlement negotiations, mediation, and the decision whether to sue).
This expected value can be helpful in various ways. Penelope would be wise, for example, to consider it in deciding whether to sue.\textsuperscript{23} Once she calculates an expected value of $50,000, she should compare that to her cost of litigating. If she expects to expend more than $50,000 by the end of trial, it will be, on average, a losing proposition. Indeed, even if she expects her costs to be only $40,000, she will make a net gain of $60,000 half of the time, but she will suffer a net loss of $40,000 half of the time.\textsuperscript{24} In this case, another factor, her appetite for risk, will be essential in determining if trial is worthwhile. If she is averse to risk, given the modest net expected value of $10,000, she may prefer not to sue at all.\textsuperscript{25} Her decision will not be easy, and it should account for other factors, including the likelihood that Dwayne will settle before trial.\textsuperscript{26} The key point, however, is that a useful analysis of whether to sue begins with an estimate of the expected value of trial.

Expected value can play a similar role in assessing whether to make or accept a settlement offer. Penelope and Dwayne, for instance, would do well to take this into account in negotiating.\textsuperscript{27} If Penelope is risk-neutral, she should settle for no less than the expected value of trial less her costs of

\begin{trivlist}
\item\textsuperscript{23} Id. at 72.
\item\textsuperscript{24} Of course, this analysis will be altered if a lawyer accepts her case on the basis of a contingency fee. Even under those circumstances, the lawyer will then have the incentives ascribed in the text to the plaintiff and will have significant influence over the plaintiff's actions. For a discussion of a contingency lawyer's decisions in light of risk, see, for example, Peter H. Huang, A New Options Theory for Risk Multipliers of Attorney's Fees in Federal Civil Rights Litigation, 73 N.Y.U. L. Rev. 1943 (1998). Huang's analysis is quite insightful, although it suffers significantly from a failure to incorporate the limited ability of lawyers to cease litigating a case when they have decided it is no longer a good investment.
\item\textsuperscript{25} Scholars generally assume that litigants are averse to risk. See, e.g., Abramowicz, supra note 8, at 240 & n.37. As Abramowicz points out, even litigants who have a taste for risk are unlikely to indulge that taste in protracted litigation and would tend to explore other high-risk ventures, like hang gliding or poker. Id. (citing Richard Caswell, Deterrence and Damages: The Multiplier Principle and Its Alternatives, 97 Mich. L. Rev. 2185, 2230 (1999)). Anyone who has seen litigation up close knows that it rarely is the kind of process that one would expect to excite people with an appetite for risk. See also Posner, ECONOMIC ANALYSIS, supra note 2, §1.1, at 12.
\item\textsuperscript{26} Anticipation of the possibility of settlement provides an economic explanation of so-called "strike suits," in which a plaintiff brings a claim without merit to extract a settlement on favorable terms from a defendant. For a discussion of this possibility, see David Rosenberg & Steven Shavell, A Model in Which Suits Are Brought for Their Nuisance Value, 5 INT'L REV. L. & ECON. 3 (1985). For an overview of the problem, see Bone, supra note 16, at 45-50.
\end{trivlist}
litigating. If Dwayne is similarly risk-neutral, he should settle for no more than the expected value of trial plus his costs of litigating. Of course, aversion to risk may decrease the minimum amount Penelope will accept or increase the maximum amount Dwayne will pay. Further, these calculations offer only a range within which both parties will do better to settle than they would on average at trial. Various other factors will determine where in the range the parties resolve their dispute, if they do at all, including their skill at negotiations, their willingness (or apparent willingness) to endure the costs and risks of litigation, and their psychological needs and desires.

Nevertheless, what matters for present purposes is that the expected value of trial is an important point of departure in settlement negotiations.

None of this is new. Academics have long known that expected value is fundamental in taking a systematic approach to decisions involving risk. Litigation always involves risks of one sort or another. It is therefore unsurprising that many lawyers have come to recognize the use of expected value in counseling clients, in making their own decisions whether to accept or continue to prosecute cases, and in crafting settlement offers. Because of these uses, lawyers should be familiar enough with the concept behind EVA to feel comfortable recommending the process to their clients. Further, there should be no shortage of arbitrators who are experienced in both practicing in a given area of the law and assigning an expected value to a case.

B. EVA Is a Distinct Form of Dispute Resolution

EVA, then, could be a practical form of dispute resolution that draws on lawyers’ experience with expected value in various litigation contexts. Nevertheless, it is a novel proposal. This is in part because, unlike the most common forms of dispute resolution, EVA imposes compromise. To understand this claim, it is important to explore the two distinctions on which it relies: (1) distinctions between imposed and voluntary outcomes and (2) distinctions between determined and compromised outcomes.

28. For a standard analysis along these lines, see POSNER, ECONOMIC ANALYSIS, supra note 2, § 21.5, at 554-56.
29. Id.
30. Id. at 557.
31. For a discussion of the role of strategic behavior in the amount for which parties settle, see, for example, DOUGLAS G. BAIRD ET AL., GAME THEORY AND THE LAW 79-158 (1994).
33. See, e.g., supra note 19 and accompanying text.
1. Imposed Versus Voluntary Outcomes

A first useful distinction is between forms of dispute resolution in which parties have an outcome imposed on them and those in which the parties must voluntarily accept an outcome for it to bind them. In EVA, an arbitrator imposes an outcome on the parties and the parties have no choice but to accept it. In this regard, EVA resembles trial or traditional binding arbitration. In settlement or mediation, on the other hand, the parties must choose to accept an outcome before it can bind them. Note that, as used here, the terms "voluntary" and "imposed" describe how the parties reach a particular outcome for resolving their dispute, not how they choose the method of dispute resolution. Binding arbitration, for example, is a voluntary process for resolving a legal claim. Both parties must agree to arbitrate for the result to be binding. Trial, by contrast, is often imposed on a party against its will. Nevertheless, much like a court in trial, at the end of the day, the arbitrator imposes an outcome on the parties. Thus, binding arbitration, like trial, involves imposed outcomes.

2. Compromised Versus Determined Outcomes

A second distinction is between compromised and determined outcomes. EVA involves a form of compromise. The decision maker does not choose one party's version of the facts and the law or even a third, independent view. Rather the decision maker compromises among the various plausible interpretations of the facts and the law, creating an average by weighting each

34. See generally THOMAS E. CROWLEY, SETTLE IT OUT OF COURT: HOW TO RESOLVE BUSINESS AND PERSONAL DISPUTES USING MEDIATION, ARBITRATION, AND NEGOTIATION 171-73 (1994) (discussing binding arbitration); ISENHART & SPANGLE, supra note 5, at 130-33 (same).


37. Imposed outcomes should not be confused with situations where a method of dispute resolution is imposed on the parties, although an outcome is not. The parties, for example, may be required to participate in a mediation process before trial, although the process may prove unsuccessful and any result would have to be accepted by the parties voluntarily. See, e.g., Bernstein, supra note 3, at 2248-51.

Similarly, a voluntary resolution of a dispute may require enforcement by a third party. One party may have to pursue litigation to enforce the terms of a settlement agreement. The settlement agreement itself, however, would constitute a voluntary result.

Additionally, some outcomes may blur the line between voluntary and imposed. If the parties settle after resolution of a potentially dispositive motion — or, as often occurs, after the judge has threatened each side with an adverse result on, for example, a motion for summary judgment the outcome might be described as partially voluntary and partially imposed. Little turns on the existence of this grey area.
possible outcome at trial according to its likelihood of occurring. In trial and traditional binding arbitration, however, the decision maker (at least officially) adopts a particular view of the law, finds the facts, and applies the law to the facts. In other words, the decision maker is supposed to determine all legal and factual issues. Settlement and mediation, much like EVA, ordinarily involve a compromise that takes into account uncertainty about how a decision maker would resolve ambiguous issues. The following chart suggests the possible combinations of these characteristics in the most prevalent forms of dispute resolution:

38. My definition of the term "compromise" is somewhat broader than Abramowicz's focus. See Abramowicz, supra note 8, at 236 & n.24. My definition includes any decision that does not select one among the various possible understandings of the facts or the law, whether the decision relies on a single determination of the odds that the plaintiff should win or splits the difference between different views of those odds. Abramowicz focuses on the former while recognizing the latter. Id.


40. Of course, these definitions of voluntary, imposed, determined, and compromised do not follow necessarily. They are merely useful. Moreover, a chosen approach to an outcome is neither irrevocable nor absolute. Parties may receive some imposed determinations on issues that decrease the scope of disagreement and lead to settlement.

Further, whether determined or compromised, an imposed outcome will often not be the final stage in resolving a dispute. It may well leave the parties with opportunities for negotiating for their mutual benefit. Indeed, the negotiations may result in a second-stage, voluntary outcome that reflects the cost of enforcing the imposed outcome from the first stage. For purposes of clarity and simplicity, I do not attempt to capture these complexities in the chart below.
These common forms of dispute resolution pair two distinct notions. They assume that voluntary outcomes must be compromised and that imposed outcomes must be determined. However, this is not necessarily so.

To be sure, a voluntary and determined outcome is difficult to imagine. A party will likely reject a determined result that is worse than the party is likely to do on average at trial. If one party agrees to a result "determined" by someone else, strategic dynamics are likely to have caused this coincidence, rather than a willingness to accept an objective determination of the right result.41

41. Mediation, as opposed to settlement, involves a third party capable of making an independent evaluation of the likely results of trial. But if the mediator is willing to make any evaluation at all, see generally Leonard L. Riskin, Understanding Mediators' Orientations, Strategies, and Techniques: A Grid for the Perplexed, 1 HARV. NEGOTIATION L. REV. 7 (1996), she is likely to predict what different judges or juries might do, not to offer a particular perspective on the facts and the law. See, e.g., James H. Stark, The Ethics of Mediation Evaluation: Some Troublesome Questions and Tentative Proposals, from an Evaluative Lawyer Mediator, 38 S. TEX. L. REV. 769, 780-84 (1997) (providing continuum of possible evaluative statements by mediators, none of which characterize the proper outcome of the case). A party to mediation has little reason to accept a determination that is the mediator's view of the right result and that is more favorable to the other party than a prediction of how others on average would decide the case.

The form of dispute resolution that may most closely approximate a voluntary, determined outcome is Early Neutral Evaluation (ENE). In ENE, an evaluator may request an informal presentation of each party's position and ask questions to solicit additional information. Joshua D. Rosenberg & H. Jay Folberg, Alternative Dispute Resolution: An Empirical Analysis, 46 STAN. L. REV. 1487, 1490-91 (1994). The evaluator may then make an assessment of the strengths and weaknesses of the case, including a likely range of damages if the plaintiff were to prevail. Id. at 1489-91. The parties in turn may use this assessment to facilitate negotiations. Indeed, the evaluator may even reach some determinations regarding ambiguous factual or legal issues. Id. Still, little incentive exists for the party losing on an issue to accept such a determination. For this reason, any settlement in ENE is likely to use the neutral party's
The other uncommon pairing of characteristics — an imposed compromise — is more plausible. Parties could reasonably decide that they do not want a decision maker to choose one of the various possible resolutions of each contested legal and factual issue. Once they make that decision, a winner-take-all trial will not do. Instead, they could enter binding arbitration. Each party could then develop its case through the usual discovery and legal research, and present their positions through documents, witnesses, and legal argument. Some ambiguities might be cleared up, while others might endure. Nothing need be novel about this process. The only necessary variation from trial or traditional binding arbitration would be that the parties would instruct the arbitrator at the outset not to resolve ambiguities of fact or law. The arbitrator instead would award a compromise that incorporates uncertainty. EVA entails this kind of imposed compromise.

EVA, then, would provide a distinctive form of dispute resolution because it would impose a compromise.42 Some other academic proposals share these qualities, but EVA varies from those proposals in essential ways as well.

C. EVA Is Unlike Other Proposals for Partial Recovery

Over the last forty years or so, the idea of an imposed compromise has received episodic attention in academic legal circles. Professor John Coons initiated this intermittent discussion in 1964 with his germinal article, Approaches to Court Imposed Compromise — The Uses of Doubt and Reason.43 Coons suggested the possibility of “splitting the difference” in cases when the position of the plaintiff and defendant were in perfect equipoise — that is, when the decision maker had no principled basis for deciding between two equally compelling positions.44 To “split the difference,” he would award a plaintiff half the amount she would receive if...
she prevailed in winner-take-all adjudication.\textsuperscript{45} Coons returned to the subject on occasion,\textsuperscript{46} but other scholars did not engage him.\textsuperscript{47} Then, in the 1980s a burst of interest, largely among economists, led to several important articles exploring various properties of imposed compromise.\textsuperscript{48} The focus of discussion was the idea of awarding a plaintiff recovery in proportion to the likelihood that a particular defendant caused the harm that the plaintiff suffered.\textsuperscript{49} After this fit of activity, the topic again faded from the academic landscape. Then, in 1990, Professor Saul Levmore offered new insights on the topic, noting particular problems with a winner-take-all approach in certain cases involving recurring wrongs.\textsuperscript{50} He suggested a hybrid approach that would ask a fact finder to choose between a winner-take-all approach, proportionate damages, or a form of restitution, depending on the fact finder's confidence in the right outcome at trial.\textsuperscript{51} Most recently, Professor Michael Abramowicz has made a fine contribution to the literature in \textit{A Compromise Approach to Compromise Verdicts}, expanding the analysis beyond causation to other forms of factual uncertainty\textsuperscript{52} and, to a lesser extent, to uncertainty about the law.\textsuperscript{53} Professor Abramowicz recommends his own hybrid approach in which a jury would award proportionate damages if its confidence in the right result fell below a predetermined threshold, or an all-or-nothing outcome if its confidence exceeded that threshold.\textsuperscript{54}

EVA deviates from all of the past proposals for imposed compromise in at least two important respects: (1) the standard it would impose is based on the expected value of trial, a measure that has been largely overlooked in the literature; and, (2) EVA contemplates imposition of a compromise result in alternative dispute resolution, not in court.

\textsuperscript{45} Id. at 757.
\textsuperscript{46} See Coons, \textit{Compromise}, supra note 8.
\textsuperscript{47} An array of distinguished scholars responded to Coons' initial proposal as is memorialized in part in the pages of the Northwestern Law Review. See \textit{Comments on Approaches to Court Imposed Compromise — The Uses of Doubt and Reason}, 58 NW. U. L. REV. 795 (1964) [hereinafter \textit{Comments}]. The discussion is interesting and provocative but does not seem to have inspired the participants to write on the topic.
\textsuperscript{48} Notable contributions include: SHAVELL, \textit{ECONOMIC ANALYSIS}, supra note 8, § 5.3, at 115-18; Kaye, supra note 8; Nesson, supra note 8, at 1382-85; Orloff & Stedinger, supra note 8; Rosenberg, supra note 8; Shavell, \textit{Uncertainty}, supra note 8, at 589.
\textsuperscript{49} See Kaye, supra note 8, at 493; Rosenberg, supra note 8, at 859; Shavell, \textit{Uncertainty}, supra note 8, at 589.
\textsuperscript{50} Levmore, supra note 8.
\textsuperscript{51} Id. at 721-25.
\textsuperscript{52} Abramowicz, supra note 8, at 236.
\textsuperscript{53} Id. at 298-312. But note that Coons originally discussed the possibility of considering legal uncertainty in compromise outcomes. See Coons, \textit{Approaches}, supra note 8, at 764-73.
\textsuperscript{54} Abramowicz, supra note 8, at 237.
1. EVA Uses a Different Standard than the Existing Proposals

Throughout the history of proposals to impose compromise outcomes on parties, scholars have focused on the possibility of awarding the plaintiff a recovery proportionate to her likelihood of being right.\(^{55}\) This approach has been called proportional liability\(^{56}\) or proportionate damages.\(^{57}\) It is materially different from EVA, which imposes a compromise based on the likelihood of the different outcomes at trial, which I will call an “expected value” outcome or result.

The distinction between an award based on an expected value outcome and proportionate damages is significant both in theory and in practice. The theoretical difference is that EVA recognizes uncertainty in legal decision making and awards a plaintiff a recovery that reflects the different possible conclusions different decision makers might reach. One jury might find a plaintiff with the burden of proof has a 55% chance of being right and award a full recovery. Another might find the same plaintiff has a 45% chance of being right and award nothing. A decision maker who believes these outcomes are equally likely does not choose between them in EVA. Rather she takes both into account and awards half of the plaintiff’s full recovery. The award leaves intact uncertainty about the odds that the plaintiff should win.

Proportionate damages, and other common proposals for partial recovery, are less radical in this regard. They do not leave the uncertainty in a case intact. Using those methods, the decision maker is to decide the likelihood that the plaintiff is correct: the plaintiff has either a 45% chance of being right, a 55% percent chance, or a chance reflected in some other precise figure. The decision maker must choose. She may have doubts about her

\(^{55}\) See id. at 236 (recommending award in proportion to likelihood plaintiff is right in light of factual uncertainty in certain cases); Kaye, supra note 8, at 493 (suggesting award in proportion to likelihood of causation); Levmore, supra note 8, at 692; Rosenberg, supra note 8, at 859 (same); Shavell, Uncertainty, supra note 8, at 589 (same). David Kaye writes of an “expected value rule,” but his meaning in this regard is the likelihood that the plaintiff should recover, not the likelihood that the plaintiff would win at trial. Kaye, supra note 8, at 493. This is one variation on the proposal for awards in proportion to the likelihood that the plaintiff is right. Finally, while Abramowicz does briefly discuss using the expected value of trial for legal uncertainty, most of his discussion — and essentially all of his critical analysis — is directed at a standard that varies between awarding proportionate damages and the traditional winner-take-all result imposed by courts. See Abramowicz, supra note 8, at 304.

Finally, Levmore’s discussion of the possible use of restitution to deal with uncertainty appears to be distinctive. Levmore, supra note 8, at 710-21. I do not explore it in this Article.

\(^{56}\) Rosenberg, supra note 8, at 859; Shavell, Uncertainty, supra note 8, at 591.

\(^{57}\) Nesson, supra note 8, at 1382-85.
decision, but in awarding damages, she resolves these doubts. She reaches a compromise result only in the sense that the recovery she awards will reflect her view of the likelihood that the plaintiff should win. Her award will not embody the different conclusions that other decision makers might reach.58

The difference between expected value outcomes and proportionate damages also has practical significance. It can have a large impact on a plaintiff's recovery. To see this, consider a variation on the hypothetical involving Penelope and Dwayne. Assume, as we did above, a dispute between Dwayne and Penelope over a car accident. Recall that the crux of the controversy was over who ran a red light. Further assume that a finding in favor of Penelope on liability would result in an award of $100,000. The tricky question is whether Dwayne is liable.

In deciding liability, the burden of persuasion falls on Penelope, who must prove her case by a preponderance of the evidence.59 In other words, the finder of fact should decide in favor of Penelope if she is more likely than not correct about what occurred.60 Assume that Penelope and Dwayne both claim they were certain that they saw that the light was green when they entered the intersection. In addition, a disinterested witness, Wanda, who was walking

58. The difference is much like the one sometimes used to distinguish risk and uncertainty. See, e.g., DAVID P. GAUTHIER, MORALS BY AGREEMENT 24, 42 (1986). Risk means the odds are known, but the outcome is uncertain. Flipping a fair coin involves risk. We know that the odds are 50% that heads will win. We do not know on which side the coin will land. Proportionate damages incorporate risk: they assume that the decision maker knows the odds that the plaintiff should win and adjusts the recovery in light of those odds. Uncertainty means that the odds are unknown. Flipping a coin that one suspects may be weighted toward one side involves uncertainty. We do not know what the odds are that heads will win. Expected value outcomes incorporate uncertainty: they adjust a recovery to reflect different possible interpretations of the odds that the plaintiff should win. This distinction provides a useful analogy, but I do not limit my use of the terms "risk" and "uncertainty" to these technical definitions.

59. This is the usual standard in civil cases. Fleming James, Jr., Burdens of Proof, 47 VA. L. REV. 51, 53 (1961). Of course other burdens of proof or — more precisely "of persuasion" — apply in special circumstances.

60. Some scholars have questioned this straightforward approach to the preponderance-of-evidence standard. See Ronald D. Allen, A Reconceptualization of Civil Trials, 66 B.U. L. REV. 401, 426-27, 434-37 (1986) (comparing burden of proof as an assessment of certainty jurors have in plaintiff's story); Lea Brilmayer & Lewis Kornhauser, Quantitative Methods and Legal Decisions, 46 U. CHI. L. REV. 116, 135-48 (1978) (questioning the connection between probability and burden of proof); Neil B. Cohen, Confidence in Probability: Burdens of Persuasion in a World of Imperfect Knowledge, 60 N.Y.U. L. REV. 385, 409-10 (1985) (distinguishing between the probability that an event occurred, and confidence in that probability judgment). As this Article does not argue for or against proportionate damages, I need not address this issue.
nearby, says that she saw the accident and, although she is unsure, she
believes Dwayne was at fault. For this opinion, she relies on her view of the
light in her peripheral vision.

The role of self-interest in Penelope’s and Dwayne’s statements, and the
admitted lack of confidence of the only objective witness, may translate into
uncertainty on the part of the finder of fact. It would be difficult to deny that
there is some possibility that the light was green for Dwayne. On the other
hand, rare would be a jury that would find for Dwayne in light of Wanda’s
testimony as the sole witness with no stake in the case. Although the
evidence may weigh in favor of Penelope only to the extent that there is, say,
a 70% likelihood that Dwayne is at fault, nine out of ten juries might agree
that Penelope has met her burden of proof.61 The great majority of juries
might be unsure that Dwayne ran the red light but be confident that it is more
likely than not that he did so. If the case were to go to trial, then, Penelope
would have a 90% chance of winning $100,000.

This hypothetical provides a basis for distinguishing possible approaches
to imposing a compromise. Under proportionate damages, Penelope would
be entitled to recover an amount equal to the odds that she is right multiplied
by her recovery if she should win. Under the hypothetical facts she should
receive 70% of $100,000, or $70,000.

Expected value in EVA, in contrast, asks not about the odds that the
plaintiff is correct, but about the average result of trial. That is calculated by
multiplying the likelihood of each result by the amount the plaintiff would
recover and adding the products together. In this case, a 90% chance of
recovering $100,000 and a 10% chance of recovering nothing is worth: (.9
x $100,000) + (.1 x $0) = $90,000. The arbitrator in EVA should award
$90,000 to Penelope.

Thus, proportionate damages and EVA are different in principle and can
produce quite different outcomes in practice. Before working through the
full implications of the difference between the two, it is important to discuss
a second novel characteristic of EVA — it involves arbitration, not trial.

2. EVA Is a Realistic Proposal Because It Is a Form of Arbitration

EVA, unlike existing academic proposals, would not require a court to
impose a compromise. Instead, parties to a dispute would choose to have an
arbiter do so. This greatly enhances its likelihood of adoption.

61. Abramowicz suggests a relationship along these lines between the odds of a plaintiff
winning and the odds that a plaintiff should win. Abramowicz, supra note 8, at 241-42.
a) Problems with a Court’s Use of Imposed Compromise

Several obstacles confront any effort to have a court impose a compromise. One issue arises if a jury is to reach the compromise result, as Professor Abramowicz recommends. This proposal risks running afoul of the right to trial by jury. In federal court, for example, the Seventh Amendment guarantees parties the right to have a jury sit as the finder of fact in certain cases. Historical practice has at times played a central role in interpretation of the Seventh Amendment. Historically, juries have not been instructed to impose compromises, but to reach a particular conclusion. It is possible that asking a jury to impose a compromise would change its essential function and violate an opposing party’s constitutional rights.

Moreover, even if a judge finds no constitutional violation, imposing compromise would be difficult to reconcile with existing doctrine. After all, the winner-take-all approach to litigation is longstanding. In our common law system, the persistence of a practice is its own rationale against change. Thus, whether a party asks a judge or a jury to impose a compromise, tradition provides a powerful reason for judicial resistance.

This inertia is likely to be particularly difficult to overcome if judges have the intuition that imposing compromise is unjust. That is precisely the intuition they are likely to have. This is manifest in the infrequency of

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62. Id. at 250-55.
63. U.S. CONST. amend. VII.
64. A typical use of history arose in this regard in the debate over whether an exception exists to the right to trial by jury in complex cases. See, e.g., In re Japanese Elec. Prod. Antitrust Litig., 631 F.2d 1069, 1080-83 (3d Cir. 1980). Similarly, the Supreme Court took a particularly strict originalist approach in rejecting the use of additur as violating the Seventh Amendment in Dimick v. Scheidt, 293 U.S. 474 (1935). Whether this is the best way to proceed is debatable. What seems clear is that courts at times take an originalist approach to the Seventh Amendment. This could raise an issue for asking a jury to impose a compromise verdict in court.
65. FLEMING JAMES, JR. ET AL., CIVIL PROCEDURE § 7.29, at 479 & n. 32 (jury’s “compromise is theoretically improper”) (citations omitted); see also Lars Noah, Civil Jury Nullification, 86 IOWA L. REV. 1601, 1606-18 (2001) (discussing evidence of compromise verdicts in civil cases as one form of jury nullification, although acknowledging difficulties in determining whether jury compromised in any given case).
66. It is true that courts have varied the burden of persuasion that juries are to use and that in some cases the law has even varied whether the jury should adopt a winner-take-all approach to such issues as causation. See, e.g., Sindell v. Abbott Labs., 607 P.2d 924 (1980). In discussing Sindell, courts did not seem concerned about the right to trial by jury but, then again, it does not appear that any party raised the issue.
judges explicitly imposing a compromise and the chilly reception from the rest of the judiciary when a judge does so.\textsuperscript{67}

More generally, lawyers and legal scholars seem to bristle at the notion of imposing compromise. To many, it just seems wrong.\textsuperscript{68} I discuss in Parts III and IV reasons to question this resistance to compromise. That the judiciary would be reluctant to adopt compromise as a standard for dispute resolution, however, is difficult to deny.\textsuperscript{69} Indeed, this may explain the paucity of

\textsuperscript{67} Consider Sindell, likely the most renowned case involving some form of imposed compromise. It has met with limited acceptance. See, e.g., Andrew B. Nace, Market Share Liability: A Current Assessment of a Decade-Old Doctrine, 44 Vand. L. Rev. 395, 396 (1991) (noting that, as of 1991, market-share liability had been adopted by only five states other than California, and use of the doctrine had largely been confined to DES, the product at issue in Sindell). Part of the reason may be simply that it varied from the usual winner-take-all approach of trial.

A similar famous example is Aluminum Co. of America (Alcoa) v. Essex Group, 499 F. Supp. 53 (W.D. Pa. 1980). The judge there relied on the doctrine of impracticability to impose an outcome that split the difference between the parties. Id. at 79-80. Alcoa did not have much of an influence on the judiciary. Indeed, one scholar reports that judges within the same circuit have treated Alcoa as having no more precedential value than “a law review article,” which, it is to be inferred, isn’t very much. John D. Wladis, Impracticability as Risk Allocation: The Effect of Changed Circumstances upon Contract Obligations for the Sale of Goods, 22 Ga. L. Rev. 503, 586 n.333 (1988). This was no doubt in part because the parties settled while the appeal was pending and moved successfully to have the trial court’s opinion vacated. Id.

Perhaps it was also in part because of its use of a compromise result.

\textsuperscript{68} This was in part the response of no less a scholar than Lon Fuller in a conference that addressed John Coons’ paper, Approaches to Court Imposed Compromise. Fuller stated a concern that compromise results based on factual uncertainty might be particularly appealing to a dishonest witness, who could muddy the waters sufficiently to enjoy some success under a “split-the-difference” rule without committing to such a strong statement that it would be possible to prove that the perjurer lied. Comments, supra note 47, at 798-99. This view does not seem to have much logical force. There is little reason to think that the average marginal gain enjoyed by a perjurer as the result of being vague and deceptive should be greater in litigation leading to a compromised, as opposed to a winner-take-all, result. Such deception might make a marginal difference on the recovery of the plaintiff if the outcome is an imposed compromise. The odds of it having a similar effect on winner-take-all litigation may be smaller, but when it does nudge the plaintiff past the threshold of the burden of persuasion, its effect on a case will be far more dramatic. It is not clear that either system would give a systematically greater advantage to those willing to resort to strategic mendacity. Fuller’s reaction is perhaps better understood as reflecting intuitive doubts about compromise results, which seem to be quite common.

\textsuperscript{69} In addition to these difficulties, there is the problem that courts may not be well-suited to conducting experiments. This may be true in part because it is difficult for a judge to test application of a new approach in a single case or group of cases. Courts usually seek to declare a rule that will apply generally. See, e.g., Lawrence v. Texas, 539 U.S. 558, 604 (2003) (Scalia, J., dissenting) (noting voters are “unlike judges [in that they] need not carry things to their logical conclusion.”). As a result, for a court to impose compromise in a particular instance
doctrines that award partial recovery, notwithstanding the strong arguments in their favor, at least in some circumstances.70

b) Advantages to Imposing Compromise in Arbitration

In every regard arbitration provides a more hospitable environment than trial for experimenting with imposed compromise.

i. The Enforceability of EVA in Court

One of the clearest contrasts between use of imposed compromise at trial and in arbitration is the enforceability of the outcome. Whereas the very real prospect of a de novo appeal confronts a judge who has imposed a compromise,71 the standard for review of an arbitral award is extraordinarily deferential.72 In general, the U.S. Supreme Court has recognized a "'liberal federal policy favoring arbitration agreements.'"73 This deference has meant that the great majority of arbitration decisions survive judicial review.74 As a result, if the parties choose to enter into EVA, whoever prevails is very likely to have the full force of the judiciary behind the result.

The limited grounds for upsetting arbitration decisions should not be an obstacle to EVA, except in rare cases where an arbitrator's failure to perform her duties is egregious. To see this, consider the analysis if the Federal Arbitration Act (FAA)75 applies. Courts have recognized two sources for vacating arbitration decisions under the FAA. First, the FAA provides four express bases for overruling an arbitration award, which might be labeled procedural. Under these express, statutory grounds an award will be overturned when: (1) the award was procured by corruption, fraud, or undue

suggests its application in other cases as well. This is a step that even judges otherwise inclined to innovate may be unwilling to take.

70. The fact is that despite the strong arguments in favor of imposed compromise by such respected scholars as Coons, Rosenberg, Shavell, Levmore, Abramowicz, and others, the standard has not been widely adopted by courts.


72. See generally Stephen L. Hayford, Law in Disarray: Judicial Standards for Vacatur of Commercial Arbitration Awards, 30 GA. L. REV. 731, 763 (1996) (recognizing the great deference courts show to arbitration awards); Ware, supra note 39, at 720-21 (arguing that courts allow parties and arbitrators to create new legal standards through arbitration).


74. See generally Hayford, supra note 72; Ware, supra note 39.

means; (2) the arbitrator's conduct exhibited evidence of partiality or corruption of the arbitrator; (3) the arbitrator was guilty of misconduct or misbehavior prejudicing the rights of a party; or (4) an arbitrator exceeded her powers or so imperfectly executed them as to fail to make a final determination. None of these grounds should prevent enforcement of EVA in general. As long as an arbitrator is impartial and follows the instructions of the parties, the award should stand.

A second set of grounds for invalidating arbitration awards has no express statutory basis. Courts have developed these additional grounds. These grounds pose a greater obstacle for EVA, as they provide a basis for challenging an award based on the substantive standard an arbitrator uses.

A first nonstatutory basis for challenging an EVA award would be by claiming that EVA entails a "manifest disregard" for the law. It typically requires showing both that the arbitrator has made an error that is so obvious it would be readily and instantly perceived by a typical arbitrator and that the arbitrator was subjectively aware of the proper legal standard and disregarded it in fashioning an award.

The argument that EVA results in a manifest disregard for the law is not difficult to understand. EVA asks an arbitrator not to try to determine the single correct legal result or the single best view of the evidence, but rather a hybrid of the possible results, even if the outcome of EVA could not occur at trial. The very candor of EVA about the form of compromise it entails may make it vulnerable in a way that arbitration awards based on implicit compromises are not.

80. Cf. Ware, supra note 39, at 724 & nn. 94-97 (arguing that arbitral awards will be
Still, it is hard to imagine that awards from EVA would not be enforced in practice. First, the deference that courts show to arbitrators has meant, according to Professor Stephen Hayford, that as of 1996 no commercial arbitration award had been vacated based on a manifest disregard for the law.81 Other scholars have noted that between 1991 and 2001 fewer than six employment cases have set aside arbitration awards based on an arbitrator's manifest disregard for the law.82 EVA would be unlikely to upset this trend.

A second reason that EVA does not manifestly disregard the law is that parties may choose a standard for decision making in arbitration that a court might be unable to apply.83 For example, a federal district court has held that parties were bound by an award based on biblical principles because they asked the arbitrator to look to the Bible for guidance in rendering a decision.84 Given the constitutional commitment to the separation of church and state, if a court is willing to enforce an arbitration award based on the Bible, it should be willing to enforce an arbitration award that is based on the various possible interpretations of the law and the evidence.85

vacated only if they involve egregious errors by an arbitrator who consciously disregards the law.

81. Hayford, supra note 72, at 776 & nn.197-98 (citing Brad A. Galbraith, Vacatur of Commercial Arbitration Awards in Federal Court: Contemplating the Use and Utility of the "Manifest Disregard" of the Law Standard, 27 IND. L. REV. 241, 252 (1993); THOMAS OEHMKE, COMMERCIAL ARBITRATION § 4.28, at 103 (1987)). The very scarcity of decisions vacating arbitration awards both supports the conclusion that EVA would be enforced, and has the ironic effect of leaving somewhat of a void about what precisely qualifies as a manifest disregard of the law.


83. See Ware, supra note 39, at 720-21 (arguing that courts allow parties an arbitrators to create new legal standards through arbitration). As I discuss in the text, this practical reality may be somewhat at odds with formal policy. See, e.g., Mitsubishi Motors Corp., Inc. v. Soler Chrysler-Plymouth Inc., 473 U.S. 614, 628 (1985) (claiming arbitration alters only procedural, not substantive, rights).

84. Prescott v. Northlake Christian Sch., 244 F. Supp. 2d 659, 667 (E.D. La. 2002). The court did this under the Montana Uniform Arbitration Act (MUAA), holding that the MUAA was not preempted by the Federal Arbitration Act, which also applied. Id. at 663-64.

85. It is possible that courts would reach a different conclusion in cases involving statutory or public law. Some recent cases have suggested heightened review, for example, of whether an arbitrator manifestly disregarded the law in employment discrimination cases. See Halligan v. Piper Jaffray, Inc., 148 F.3d 197, 204 (2d Cir. 1998) (vacating an award for an employer in a discrimination case based on manifest disregard for the law); Cole v. Burns Int'l Sec. Servs., 105 F.3d 1465, 1487 (D.C. Cir. 1997) (suggesting heightened standard of review of arbitral decisions in public law cases). Ware suggests that these cases may mark an incremental change in the standard of review of arbitration decisions in some areas of the law. Ware, supra note 39, at 742-44 & nn.163-69.
Third, EVA does not show a manifest disregard for the law, but merely renders a result consistent with its competing plausible interpretations. Its key departure from winner-take-all litigation is in how to respond to uncertainty about what the law means, not to change the legal standard. 86

Finally, if courts refused to enforce EVA, common forms of binding arbitration would be in jeopardy. In final-offer arbitration, for example, the arbitrator must choose between the final offers made by each party. These offers likely reflect the value of a case based on competing interpretations of the law. The arbitrator's choice between offers, then, is unlikely to be consistent with any one view of the law. If EVA requires vacatur, so should final-offer arbitration under these circumstances. The same is true for interest arbitration, which provides a binding resolution of a dispute based on the parties' interests, not based on their legal rights. A general refusal to enforce awards in EVA would seem to require upsetting a significant portion of the prevailing practice in alternative dispute resolution. 87

A second possible nonstatutory obstacle to enforcement of EVA might be to claim that it is "against public policy." 88 This doctrine, however, has not been used to reject creative forms of arbitration, but rather to reverse rare decisions that sharply conflict with the purposes of the law. For example, the Eleventh Circuit Court of Appeals refused to enforce an arbitrator's decision that there was no "just cause" for terminating a pilot who flew while intoxicated. 89 The court noted that it would generally uphold an arbitrator's decision even if it appeared to be "wrong," "unsupported," "poorly

86. It is worth noting that the same may not be true of awarding proportionate damages. Doing so in a sense changes the substantive standard that applies to dispute resolution and not just the approach the arbitrator is to take in interpreting competing views of that standard. See infra notes 135-37 and accompanying text. Nevertheless, for the reasons set forth in the text, even an arbitration award based on proportionate damages should be enforceable in court.

87. To some extent, enforceability in court could vary by context. Interest arbitration — which at times takes the form of final-offer arbitration — often has express statutory authorization for labor disputes. See generally Elissa M. Meth, Final Offer Arbitration: A Model for Dispute Resolution in Domestic and International Disputes, 10 AM. REV. INT'L ARB. 383, 385 (1999). Nonetheless, final-offer arbitration has uses far beyond that context. Id. at 384-86.

88. This grounds has been recognized by at least the Second, Eighth, Ninth, Tenth, Eleventh, and the District of Columbia Circuit Courts of Appeals. See Ariz. Elec. Power Coop., Inc. v. Berkeley, 59 F.3d 988 (9th Cir. 1995); PaineWebber, Inc. v. Agron, 49 F.3d 347 (8th Cir. 1995); Brown v. Rauscher Pierce Refsnes, Inc., 994 F.2d 775 (11th Cir. 1993); Seymour v. Blue Cross/Blue Shield, 988 F.2d 1020 (10th Cir. 1993); Revere Copper & Brass, Inc. v. Overseas Private Inv. Corp., 628 F.2d 81 (D.C. Cir. 1980); Diapulse Corp. of Am. v. Carba, Ltd., 626 F.2d 1108 (2d Cir. 1980).

89. Delta Airlines, Inc. v. Air Line Pilots Ass'n Int'l, 861 F.2d 665 (11th Cir. 1988).
reasoned,” or “foolish.” The court would vacate the award only if there was an explicit, well-defined, and dominant public policy established in the law against allowing an arbitrator to rule that a pilot is authorized to operate an aircraft while drunk. It found that there was. EVA would not seem to violate any similarly explicit, well-defined, and dominant public policy.

Similarly, some courts refuse to enforce arbitrators’ awards if they are “arbitrary and capricious.” EVA, however, uses a clear logic to determine a recovery. As long as an arbitrator does not obviously fail to follow this logic, the award would not be “arbitrary and capricious” and should be enforceable. A similar analysis applies to the refusal of some courts to enforce arbitrators’ awards that are “completely irrational.” EVA is rational.

In sum, courts have shown great deference to arbitration. It is therefore unlikely that they would generally refuse to enforce awards in EVA. This conclusion also finds support in the rule that parties generally may (and should be encouraged to) settle a legal dispute for any amount they choose. It would seem to follow that they may ask a neutral decision maker to impose a result consistent with the expected value of trial, a plausible candidate for a just settlement.

90. Id. at 670.
91. Id. at 671, 674.
92. Id. at 674.
93. See, e.g., Lifecare Int’l, Inc. v. CD Medical, Inc., 68 F.3d 429, 435 (11th Cir. 1995).
94. See, e.g., French v. Merrill Lynch, Pierce, Fenner & Smith, Inc., 784 F.2d 902, 906 (9th Cir. 1986); Swift Indus. v. Botany Indus., 466 F.2d 1125, 1131 (3d Cir. 1972). It is questionable whether this is actually a distinct basis for vacating an arbitration award. It has been invoked so infrequently that it may be best understood as an alternative phrasing of other grounds. See Hayford, supra note 72, at 788-93.
95. Finally, on rare occasions courts have sometimes refused to enforce awards based on interpretation of a contract at odds with the “essence” of an agreement between the parties. See, e.g., Anderman/Smith Operating Co. v. Tenn. Gas Pipeline Co., 918 F.2d 1215 (5th Cir. 1990). This ensures that an arbitrator honors the terms of the contract giving rise to a dispute. Id. at 1218. Courts have stated that this standard should be invoked to vacate an arbitration award only if the award directly conflicts with the clear agreement of the parties. See, e.g., Employers Ins. v. Nat’l Union Fire Ins. Co., 933 F.2d 1481, 1486 (9th Cir. 1991); John T. Brady & Co. v. Form-Eze Sys., Inc., 623 F.2d 261, 264 (2d Cir. 1980). No problem would seem to arise from an arbitrator basing an award on various plausible interpretations of a contract, as would be required by EVA.
ii. The Willingness of Providers of ADR Services to be Creative

Another reason imposed compromise will work better in arbitration than in court is that providers of arbitration services, unlike courts, have a strong incentive to experiment with proposals like EVA. EVA can help them to secure business that might otherwise go to competitors.97 Further, being the first arbitrator to bring EVA to market has its advantages. After all, experience in EVA is likely to make a particular arbitrator attractive to potential participants. Whoever offers EVA first will have a head start in accumulating experience.

Indeed, the most likely route to judicial acceptance of imposed compromise may be an established record of its success in arbitration. If and when arbitrators gain familiarity with EVA and acquire the experience to assess its utility, perhaps courts will adopt expected value or some other standard for imposed compromise, at least in limited circumstances.98 Arbitration can allow for the kind of practical testing that judges may require before they are willing to consider imposing a compromise in their courtrooms.

For these reasons, EVA is a more practical proposal than past academic suggestions regarding imposed compromise by courts. It is therefore worth exploring the potential advantages EVA offers over existing and proposed forms of dispute resolution.

III. The Benefits of EVA

EVA has potential advantages over trial and traditional binding arbitration, as well as over other forms of imposed compromise. In particular, these benefits include: (1) allowing parties to insist on their legal rights without the risks of winner-take-all litigation, (2) minimizing the size of errors in adjudication, and (3) encouraging desirable expenditures on litigation. Part III explains why EVA is likely to have these effects.

97. Indeed, courts may have an interest in deflecting, not attracting, business. This is consistent with the judicial embrace of arbitration in the 1980s, which arguably was based at least in part on a desire to ease the caseload of the federal judiciary. See Reuben, supra note 3, at 978.

98. Note, however, that courts may not be able to impose an expected value outcome, at least not on a regular basis. To do so would result in a form of circularity — a court imposing its prediction of what courts would do, based on their predictions of what courts would do, ad infinitum. This is reminiscent of the problem of circularity that afflicts certain forms of legal positivism. See Joshua P. Davis, Taking Uncertainty Seriously: Revising Injunction Doctrine, 34 Rutgers L.J. 363, 406 n.137 (2003) [hereinafter Davis, Taking Uncertainty].
A. Vindicating Legal Rights Without the Risks of Trial

EVA allows parties to avoid the risks of trial while still obtaining a result consistent with an objective assessment of their legal rights.99 The outcome for the parties under EVA should be the same as if they tried their case repeatedly in court and took the average result.100 Thus, EVA should be attractive to parties and honor the values embodied in the law.

1. Risk-Averse Parties Should Choose EVA over Trial

Litigants should prefer EVA to trial if they are averse to risk. Parties are averse to risk if they have concerns that extend beyond the average financial payoff of a venture.101 Risk-averse parties also care how speculative a payoff is and have a preference for certainty.102 All else being equal, many people prefer to avoid the risks of litigation.103 EVA allows parties to do so, while

99. By "objective," I mean an unbiased decision maker's assessment of the strength of each litigant's legal position based on the law and the evidence.

100. This claim assumes, as I do throughout this Article, that the outcome of EVA will be accurate — that is, it will be the same as or closely approximate the average result of trial.


102. Economists tend to assume that litigants are averse to risk, see, e.g., POSNER, Economic Analysis, supra note 2, at 12; Abramowicz, supra note 8, at 247 & n.57, as do proponents of expected utility theory. See generally Chris Guthrie, Better Settle than Sorry: The Regret Aversion Theory, 1999 U. Ill. L. Rev. 43, 50 & n.37.

103. Relaxing the assumption of risk aversion would give rise to quite a complex analysis. This is because empirical work has shown that attitudes toward risk vary by context. Empirical work has shown some general trends. People tend to be averse to risk in a couple of situations. They will not risk a small but certain sum for a moderate to good chance at a somewhat larger sum, even if the risk has a higher average pay-off. They also prefer to pay a small but certain sum to avoid the unlikely chance at a catastrophic loss, even if the risk on average would cost less. In addition, people tend to be risk-prone (also termed risk-seeking) in a couple of scenarios. They will risk a small but certain amount for a very small chance at a large recovery, even if the risk averages a worse result. This explains lotteries. Similarly, they prefer to risk a large and fairly likely loss rather than incur a certain but somewhat smaller loss, even if the average result of the risk is worse than the certain loss. See generally Daniel Kahneman & Amos Tversky, Advances in Prospect Theory: Cumulative Representation of Uncertainty, 5 J. Risk & Uncertainty 297 (1992); Daniel Kahneman & Amos Tversky, Choices, Value, and Frames, 39 Am. Psychol. 341 (1984); Daniel Kahneman & Amos Tversky, Prospect Theory: An Analysis of Decision Under Risk, 47 Econometrica 263 (1979); see also Guthrie, supra note 102, at 57 nn.63-64.

These findings are not easy to apply to litigation. Scholars often assume that plaintiffs will generally perceive trial as involving the prospect of large or small gains and defendants as large and small losses. Id. This will not necessarily be true, however. Whether a result counts as a gain or a loss is not self-evident. A plaintiff, for example, may feel entitled to a large measure of relief and may perceive any recovery less than that amount to be a loss. The choice between these perspectives may have a profound effect on her assessment of risk.
still providing a result that, on average, matches what they would get at trial.

The benefits of EVA for the risk-averse can be illustrated by a simple example. Consider how most people would respond to a choice between a guaranteed $6 million or a 50% chance at $20 million. The expected value of a 50% chance at $20 million is calculated by multiplying the odds of winning by the amount if the person wins: \(0.50 \times 20,000,000 = 10,000,000\). Yet $6 million would so fundamentally change the life of most people that the extra $4 million in average-expected income is of relatively little consequence, and not worth the risk of receiving nothing at all. To put the same point more generally, as a person becomes wealthier, each additional dollar tends to have a smaller marginal effect on her quality of life. For this reason, and perhaps others, people often prefer certain gains of smaller amounts to speculative gains of greater amounts.\(^{104}\)

The same logic can apply to potential losses. In many situations, people prefer to pay a small but certain amount to the risk of losing a far greater amount.\(^{105}\) Indeed, the insurance industry capitalizes on this preference. Insurance companies must charge more than the average expected loss of the risks they cover. Otherwise, they could not pay their administrative costs, much less make a profit. Yet many people buy insurance because they would rather incur small, regular expenses than risk owing a great deal all at once.

Moreover, litigants are particularly likely to be averse to risk. People are unlikely to satisfy whatever appetite they have for risky ventures by taking

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These complexities for the most part are not relevant to this Article because parties who choose EVA generally will be averse to risk. That characteristic is more pertinent than the reasons for their risk aversion.

\(^{104}\) Judge Posner's view is consistent with this analysis. He relies on diminishing marginal utility as an explanation for risk aversion. \textit{POSNER, ECONOMIC ANALYSIS, supra} note 2, at 12. I do not mean to say this is the only possible explanation for risk aversion, and I recognize the potential role of psychological considerations. \textit{See generally} Guthrie, \textit{supra} note 102, at 50 n.37, 57 & nn.63-64 (discussing diminishing marginal utility and prospect theories of risk aversion). Guthrie has offered a new, intriguing take on risk aversion, which he calls regret aversion. He suggests that aversion to risk may be motivated in part by aversion to regret and may cause people to choose paths that will help them avoid discovering if they have selected poorly. \textit{Id.} at 45-46.

\(^{105}\) Subscribers to expected utility theory and prospect theory agree that plaintiffs should generally be averse to risk. \textit{See Guthrie, supra} note 102, at 50 n.37, 57 & nn.63-64. According to expected utility theory, the reason is that each additional dollar a plaintiff wins is worth decreasing marginal utility. \textit{Id.} at 50 n.37. According to prospect theory, the reason is that most people prefer a small, certain gain to the possibility of a large gain, speculative gain, even if on average they would do better with the large gain. \textit{Id.} at 55 & n.54. Prospect theory tends to predict that defendants will frame the outcomes at trial in terms of potential losses and, therefore, will tend to be risk-seeking because many people prefer to risk a large, speculative loss rather than to accept a small, certain loss. \textit{Id.}
chances in litigation. As scholars have suggested, other risky options — like hang gliding, mountain climbing, and poker — are more attractive than trial.  

In any case, some disputants will be averse to the risks of trial and should find EVA attractive. The winner-take-all approach of trial leads to a greater range of possible results and means that more rides on chance than in EVA. Risk-averse litigants seek to avoid this role of chance. EVA, on the other hand, averages out the possible results. It should lead to greater predictability and less variation in outcome. At the same time, by definition, EVA and trial aim to produce the same average result. As a result, EVA should be attractive to risk-averse litigants.

2. EVA Offers a Viable Alternative to Settlement

EVA offers many of the benefits of settlement. Once the parties reach a settlement, they eliminate the risks and costs of litigation. Still, for various reasons, even those parties who wish to settle are sometimes unable to do so. Divergent predictions about the outcome of trial, strategic behavior, and the psychological dynamic between disputants may frustrate settlement efforts. Negotiations are particularly likely to fail if each party believes that the other is unwilling to agree to a fair settlement. Parties who cannot settle for any of these reasons should find EVA attractive.

a) Divergent Predictions

A common reason parties cannot settle is that they disagree about the likely outcome of trial. The parties' predictions about trial may differ by more than the anticipated benefits of settlement. If so, settlement would require one or both parties to accept a result that is less attractive than taking a chance at trial.

Our theoretical dispute between Penelope and Dwayne illustrates this point. Assume that Penelope and Dwayne are the only witnesses to the

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106 Scholars have noted that even those litigants who have a "taste" for risk are likely to be able to satisfy it in other contexts. See Abramowicz, supra note 8, at 240 n.37.

107 Of course, the negotiation process is not cost-free. If it fails, it may simply add to the overall cost of litigation.

108 For a discussion of these considerations see Davis, Toward a Jurisprudence, supra note 18, at 128-32.


110 This is perhaps the most common explanation among economists for why cases do not settle. See, e.g., Baird et al., supra note 31, at 245-47; Posner, Economic Analysis, supra note 2, at 555.
accident between them and that the parties are certain Penelope will recover $100,000 if she wins. Penelope may believe her chances of winning are 80%, for she perceives herself as a far more credible witness than Dwayne. Dwayne may have precisely the opposite view. He may believe that he has an 80% chance of winning. Finally, assume that each party expects litigation costs of $25,000.

If each party is indifferent to risk, these divergent predictions preclude the possibility of settlement. Penelope believes she has an 80% chance of recovering $100,000 and a 20% chance of recovering nothing, and in either case she will lose her costs of $25,000. The expected value to her of litigating through trial is as follows: (.8 x $100,000) + (.2 x $0) - $25,000 = $55,000. Thus, she will settle for no less than $55,000. Dwayne, on the other hand, believes that he has a 20% chance of paying $100,000 and an 80% chance of paying nothing. His costs are also $25,000. His expected value of trial is: (.20 x -$100,000) + (.80 x $0) - $25,000 = -$45,000. Thus, Dwayne will pay no more than $45,000 to settle. Given that Penelope will settle for no less than $55,000 and Dwayne for no more than $45,000, settlement is not an option. Of course, if either party is averse to risk, the numbers may move closer together. Still, divergent predictions may prevent settlement.

b) Strategic Behavior

Even if some overlap would allow the parties to settle, if the range of mutually acceptable resolutions is small, settlement is unlikely. This is in part because of a second potential impediment to settlement: strategic behavior. Under our hypothetical circumstances, Penelope might just barely prefer settlement for $50,000 over trial if she is averse to risk. However, if she is confident in her assessment of the odds at trial, she may believe that Dwayne will not force her to accept that result. After all, from her perspective, if Dwayne pays only $50,000, he is capturing the lion’s share of the benefit to both parties from settlement. She may refuse to settle unless she is paid a larger amount than the smallest sum she would in fact prefer to trial. If Dwayne says he would prefer trial to paying what she demands, she may not believe him. A similar set of strategic concerns may motivate Dwayne. In this way, strategic behavior may undermine a possible settlement.

Of course, the likelihood of strategic behavior precluding settlement would decrease if the parties were to reform their predictions about trial. This could emerge from settlement discussions, as the negotiations may

111. POSNER, ECONOMIC ANALYSIS, supra note 2, at 555.
encourage a party who has assessed the likely result of trial inaccurately to correct her error. But this will not always occur. Here, too, strategic considerations pose a problem.

Strategic behavior is particularly likely to prevent a change in predictions if, as often occurs, one party has information that the other does not, and the party with the information refuses to share it.\textsuperscript{112} For example, perhaps Dwayne has testified at deposition that the traffic light at issue was the third of three lights in a row that he was able to cross without stopping. Each, he claimed, was green when he arrived. Penelope may research the matter and discover that Dwayne’s story is inconsistent with the timing of the lights. Armed with this information she determines that either Dwayne’s recollection is faulty, or he was driving at more than twice the speed limit. Penelope may be optimistic about trial based in part on this information. Thus, Penelope is faced with a strategic choice. If she wants to settle on favorable terms, she should inform Dwayne of the flaw in his position, thereby improving her position in negotiations. Disclosure, however, would provide Dwayne an opportunity to mitigate the damage from his testimony, which would likely lessen the impact of her evidence before the trier of fact. A decision not to disclose to Dwayne would of course make settlement difficult.

c) \textit{Psychological Impediments to Settlement}

Further confounding efforts at settlement are various psychological considerations. One such phenomenon is called ‘\textit{reactive devaluation}.’\textsuperscript{113} It reflects the tendency of disputants to be suspicious of any offer made by an opposing party. For example, if Dwayne makes an offer that Penelope would have considered fair or even desirable before negotiations, Penelope might nevertheless respond by concluding that she had underestimated the strength of her case and reject the offer. This is just one form of suspicion that may undermine settlement efforts. More generally, parties may be hampered by apprehensions about an unfair settlement. They may in principle desire to settle for a reasonable amount, but fear being duped.\textsuperscript{114}

The three impediments to settlement discussed in this Part are mutually reinforcing. Disparate predictions about trial increase the odds that strategic

\textsuperscript{112} Asymmetric information is also generally recognized in the literature as a reason parties may fail to settle. See BAIRD ET AL., \textit{supra} note 31, at 247-48.


\textsuperscript{114} See Korobkin & Guthrie, \textit{supra} note 109, at 109-10, 142-50 (moral indignation about issues internal to settlement negotiations can prevent settlement).
behavior will impede negotiations and that negotiations will sow doubts in each party about the other’s good faith.

Further, intervention by a third party without authority to bind the disputants may not suffice to reach a resolution. Although a mediator may help to overcome the barriers to settlement, a party concerned about a fair result may not trust a mediator. Mediators are at times deceptive, valuing the successful resolution of a dispute over candor with the parties. For example, they may at times skew their appraisals of a case in an attempt to lower the expectations of one or more parties. Participants in mediation are justified in suspecting that they cannot always rely on a mediator to be candid about the likely result at trial. Indeed, even if a neutral party attempts in good faith to provide an objective assessment of the expected value of a case, a party who does not agree may simply reject the result.

3. EVA as a Solution

EVA offers relief from the challenges to compromise created by divergent expectations, strategic behavior, and psychological barriers to settlement. It does so by offering an objectively reasonable settlement, one that reflects the average strength of a case in court.

EVA eliminates the problem of divergent predictions. The arbitrator makes an objective assessment of the likely results at trial. That assessment is the only one that counts.

EVA also allows the parties to avoid some strategic behavior. The arbitrator will award the expected value at trial. No wrangling is necessary to determine how to allocate the common benefit from avoiding trial. Further, because the result of EVA is final, the parties will have every incentive to disclose all information they possess that is favorable to their case.

Finally, parties unable to agree on a reasonable settlement may accept that resolving the dispute based on an objective assessment of the expected value of trial is fair. Each party will do as well as an objective party believes it would have done on average at trial. Agreement on this standard may help parties move beyond psychological barriers to compromise.117

116. See, e.g., Patrick E. Longan, Ethics in Settlement Negotiations: Foreword, 52 MERCER L. REV. 807, 835 (2001) (acknowledging the potential temptation for a mediator to mislead a party about the likely outcome of trial to secure a settlement).
117. True, a party may conclude after-the-fact that the arbitrator was incorrect. Overly optimistic parties may think they will do better in EVA than is realistic, just as they may have inaccurate expectations about trial. But at some point disputants must cede control — a third
a) EVA Allows Parties to Insist on Their Legal Rights Without Facing the Risks of Trial

EVA, then, is a way for litigants who cannot settle to avoid the risks of trial. Of course, this is true of other forms of imposed compromise. However, EVA holds an advantage over the alternatives because it is respectful of legal rights in ways that other forms of imposed compromise are not. In particular, EVA allows parties to secure an objective assessment of their rights under the law.

b) EVA Honors Legal Rights in a Way that Other Forms of Imposed Compromise Do Not

When compared to other forms of compromise, EVA shows particular deference to legal rights. This is so in part because it allows parties to insist on receiving the benefit of their legal rights, while candidly recognizing that errors are possible in determining those rights. Other forms of compromise do not honor legal rights in this way.

Consider the stark choice litigants currently face. They may resolve their disputes through trial or binding arbitration. These forms of dispute resolution permit litigants to insist on their legal rights. They can put their case before a decision maker, who applies her best understanding of the law to her best understanding of the facts. But, as noted above, these winner-take-all approaches to dispute resolution are risky and many litigants are averse to risk. Alternatively, litigants may choose some other form of dispute resolution, including, for example, mediation, Early Neutral Evaluation, or settlement negotiations. These choices are generally less risky than trial or binding arbitration because they involve some form of compromise. Unlike EVA, however, they allow influences to creep into the dispute resolution process that have little to do with the evidence or the law. Depending on the form of dispute resolution at issue, these influences are likely to include the strategic behavior of the parties, their interests, their values, and their psychological needs and desires.

I do not mean to claim that formal legal rights are the only source of legitimacy in dispute resolution. Indeed, we may find some other influences are more suspect than others. In a perfectly just world, skill as a negotiator, for example, might not affect the resolution of a dispute.118 In contrast, we

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may be more hesitant to conclude that the values embodied in the law are necessarily preferable to the private values of the parties as a basis for resolving their disagreement.119 Still, trial enables parties to insist that a neutral decision maker assess the law and the evidence and impose a result accordingly. EVA allows litigants to retain this right, and yet at the same time to obtain the benefits of compromise.120

In this sense, EVA, like trial, is objective. It provides an outcome that embodies a neutral assessment of the law and the evidence in a case. In EVA, as at trial, disputants get the full benefit of the law, to the extent it can be discerned and applied by fallible human reckoning. EVA and trial differ only in their approaches to the possibility of error: EVA reflects all of the possible conclusions that a court might reach, accepting the inevitability of enduring uncertainty; at trial, by contrast, a court chooses a single outcome that it believes is correct, although the court must recognize that it may be mistaken. Both EVA and trial, however, rely exclusively on the law and the evidence in rendering judgment. The same is not true of the existing forms of imposed compromise.

Interest Arbitration. Perhaps the most common form of imposed compromise is interest arbitration.121 It is used frequently in labor disputes, particularly those involving public employees who are forbidden to strike by law.122 When a disagreement arises over the terms of employment of police, for example, rather than risk an impasse that could result in a dangerous strike, an arbitrator may be used to impose a fair result on management and employees.123 Interest arbitration, unlike EVA, imposes an outcome that compromises between the interests of the disputing parties rather than imposing an outcome dictated by their legal rights. The parties get some of

119. For a sympathetic discussion of individuals who organize their conduct consistently with private norms but inconsistently with formal legal rules, see ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (1991).
120. I do not mean to assert that relative resources will not affect the outcome in EVA. They will, just as they have a tendency to distort the outcome at trial. My point is that other forms of dispute resolution may further compound the influence of relative resources, causing a party who would fare poorly in trial because of limited resources to cede most of the benefits in, for example, settlement. In this way, that result may be, in a sense, doubly distorted. The expected result of trial, which is often the point of departure for negotiations, may be skewed by a power imbalance between the parties, and negotiations may further skew settlement in favor of the more powerful party.
122. Id. at 614.
123. Id.
what they want rather than what the law entitles them to have.\textsuperscript{124} Interest arbitration does not reflect application of the law to the evidence, and it may produce a result at odds with the parties' legal rights.\textsuperscript{125} Interest arbitration, therefore, does not necessarily reflect an objective view of the parties' legal rights in the same way as trial or EVA.\textsuperscript{126}

\textit{Final-Offer Arbitration.} Another form of dispute resolution that involves an imposed compromise is final-offer arbitration. It is also sometimes called "baseball arbitration" because of its use in resolving disputes over salaries between baseball player and owners.\textsuperscript{127} In final-offer arbitration each party submits its preferred resolution to an arbitrator, who must then choose between the two offers.\textsuperscript{128} The arbitrator is not permitted to devise her own preferred outcome.\textsuperscript{129} Each party has incentive to make concessions, for the arbitrator must adopt whichever proposal she finds more reasonable.\textsuperscript{130} Thus, in final-offer arbitration, like EVA, the outcome will reflect, but not resolve, legal and factual uncertainty.

A definite statement of how the arbitrator actually chooses between the offers would be necessary to determine which possible ingredients of compromise will be reflected in the outcome. Even when a statute prescribes decision making criteria, however, arbitrators report that they generally do not feel obligated to adhere to them.\textsuperscript{131} As a result, there is no reason to assume that the arbitrator will adopt any objective measure of the parties' legal rights in choosing between the parties' offers.

\textsuperscript{124} Id. at 613.

\textsuperscript{125} Of course, not all disputes can be properly resolved by courts. Interest arbitration most often takes place in a context that would not otherwise result in litigation. When interest arbitration is used, for example, to resolve labor disputes, a collective bargaining agreement may limit the choices for the parties to settling, continuing to negotiate, or resorting to interest arbitration. Id. at 614. Trial is not an option.

\textsuperscript{126} Id. at 614-15.

\textsuperscript{127} Use of final-offer arbitration is most common in the resolution of labor disputes involving baseball players or unionized public employees, although its potential is far greater. See Meth, supra note 87, at 384.

\textsuperscript{128} See generally GOLDBERG ET AL., supra note 35, at 288-89. Note that final-offer arbitration is often used in conjunction with interest arbitration: the arbitrator does not necessarily base a decision on the parties' legal rights, if there are any pertinent legal rights at issue. Id.

\textsuperscript{129} Id. at 289.

\textsuperscript{130} Id.

\textsuperscript{131} See, e.g., Meth, supra note 87, at 402 & n.130 (noting study in which fifteen of twenty-two arbitrators stated that statutory criteria had no effect on their decision). But see id. at 404 & n.141 (suggesting arbitrators have an incentive to adhere to criteria for decision outlined by the parties).
In addition, the arbitrator must choose between the parties' proposals. She cannot render her own independent judgment of the right compromise, whatever her standard for identifying that result. Further, many influences will affect the parties' offers other than their assessments of their respective legal rights. Strategic considerations may inform their offers, as may their psychological needs and desires. In particular, a party without information or resources may cede too much and may fare poorly if her proposal is selected. On the other hand, an aggressive party may cede too little to have her proposal chosen, causing the arbitrator to choose the opposing party's proposal — surely a worse result than might follow from an objective measure of a fair compromise.\textsuperscript{132} Because of these and other possibilities, final-offer arbitration does not result solely in an objective assessment of the parties' legal rights.

\textit{A Wink and a Nod.} An imposed compromise also may occur although it is not contemplated by the formal rules of the proceeding. Many lawyers believe, for example, that arbitrators have more of a tendency than judges to "split the difference," a phenomenon perhaps facilitated by the absence of an obligation on the part of arbitrators to provide an explanation of their reasoning.\textsuperscript{133} Many observers also believe that juries will at times produce compromise verdicts.\textsuperscript{134} None of this is supposed to occur. When it does, however, imposed compromise comes with "a wink and nod."

Because this type of imposed compromise is not officially acknowledged, it is difficult to characterize and prompts many questions. If arbitrators seek a compromise, will they average what each party is seeking, give an award based on how much they like each party, compromise in light of the strength of each party's case, or attempt to satisfy the interests of each party or their

\textsuperscript{132} See Steven J. Brams et al., \textit{Arbitration Procedures, in Negotiation Analysis} 47, 55-56 (H. Peyton Young ed., 1991) (discussing strategy in formulating offers).


\textsuperscript{134} See generally Noah, supra note 65, at 1606-18 (discussing evidence of compromise verdicts in civil cases as one form of jury nullification, although acknowledging difficulties in determining whether jury compromised in any given case).
perceived psychological needs and desires? What will shape a jury’s compromise verdict, if that is the course it chooses? In a given case, it will not be possible to answer these questions with confidence. These vagaries mean that any implicit compromise that occurs in trial or arbitration is unlikely to be based exclusively on an objective view of the parties’ legal rights.

The following chart reflects the distinctive nature of EVA as imposing compromise based on an objective assessment of the parties’ legal rights:

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<thead>
<tr>
<th></th>
<th>Imposed</th>
<th>Voluntary</th>
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<tbody>
<tr>
<td><strong>Compromised</strong></td>
<td>EVA (objective view of rights)</td>
<td>Mediation</td>
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<tr>
<td></td>
<td>Interest Arbitration (interests)</td>
<td>Settlement</td>
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<td></td>
<td>Baseball Arbitration (various ingredients)</td>
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<td>A Wink and a Nod (mysterious ingredients)</td>
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<tr>
<td><strong>Determined</strong></td>
<td>Trial</td>
<td>?</td>
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<td></td>
<td>Traditional Binding Arbitration</td>
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Unlike existing forms of imposed compromise, EVA provides a compromise based exclusively on an objective assessment of the law and the evidence. EVA simply avoids choosing one — possibly erroneous — view of ambiguities in the law and the evidence. In this way, EVA is a form of compromise that honors the parties’ legal rights.

Finally, it is important to note that use of proportionate damages in arbitration does not allow parties to insist on their legal rights in the same way as EVA. Instead, such a method changes the parties’ legal rights. Whereas EVA embodies all of the possible outcomes in court, proportionate damages impose a compromise that varies from both how any court would likely resolve a case and
how courts would do so on average. As a result, some parties may resist arbitration that would award proportionate damages. This is true in particular of litigants who feel they would do better on average under the ordinary rules of trial. Further, awarding proportionate damages changes the principles the law serves. Its proponents take a particular view of the aims of the law, and make an argument that proportionate damages would serve those aims differently and more effectively than a winner-take-all trial.135 They may well be correct. Still, awarding proportionate damages does not honor the prevailing legal regime in the same way as EVA.

These points can be made more concrete through an analogy. Imagine a tennis tournament consisting of a series of matches between individuals. In each match, the first player to win two sets is the victor. The winner advances and the loser is eliminated. Each time a player wins a match, she is entitled to a larger prize. The champion is the player who wins the most matches.

Each match in this tournament is like a trial because it is winner-take-all. Whether a player wins in straight sets or loses a single set makes no difference. All that matters is which player ultimately wins the match. Trial takes a similar approach. If the court determines that the plaintiff probably should win, she gets her full remedy. If the court thinks the best view is that she should lose, she gets nothing. Any lack of confidence the court has about whether it has decided correctly (that is, how close the match is) has no influence on the amount of the plaintiff’s recovery.

EVA is like offering each participant the expected value of her prize money from the tournament as predicted by an expert. The expert calculates the odds of a player winning each match in light of the different opponents the player will face. Her recovery would reflect how she would fare on average. As part of this process, the expert might ask to see some players play a few games against each other or to observe how a player is serving. The expert recognizes, however, that having two players complete a match would produce only one possible outcome, not the result that would happen every time those two players compete.

If players are averse to risk and have confidence in the expert, they might well choose to accept this average recovery. This would be particularly likely if, say, the field were reduced to two finalists who would benefit greatly from an average payoff and do not care much for the marginal benefit of winning the greatest possible amount. After all, only two players need to agree to accept an expected value outcome and the players should do as well on average as they would by playing.

135. For an effort to provide a systematic analysis of these aims, see Abramowicz, supra note 8, at 264-86.

https://digitalcommons.law.ou.edu/olr/vol57/iss1/6
Note that awarding prizes based on the expected value of playing retains the same notion of what it means to be the best tennis player—that is, the one most skilled at winning matches. The expected value analysis just eliminates the risk intrinsic in tournament play.

Awarding proportionate damages, by contrast, would be like changing the rules so that the prizes in a tournament are based on the ratio of sets won to sets lost. This is because proportionate damages calibrate a recovery to the likelihood that a plaintiff should win. Doing so is similar to giving some credit to a player who wins a set but loses a match, but taking some credit away from a player who wins a match but loses a set. After all, in a sense, a player’s loss of a set casts some doubt on whether she should have won the match. Maybe she just got lucky. Thus, focusing on sets, rather than on matches, might well make for a better tennis tournament. More importantly, however, focusing on sets would change what it means to be the best player: the best player is now the one who wins the highest percentage of sets.

As should be clear, the difference between proportionate damages and expected value can be significant. This is true in at least two ways. First, one of the parties is likely to fare worse on average under proportionate damages than a winner-take-all approach. This is a powerful reason for even a risk-averse party to resist proportionate damages, especially if an expected-value result is available as an alternative. Second, proportionate damages change the nature of legal rights in a way that awarding the expected value of trial does not. Proportionate damages alter what it means to be a prevailing party and, in some instances, who should prevail. For example, under proportionate damages, a plaintiff may win a recovery commensurate with the odds a defendant caused her injury, even though she would have won nothing in a winner-take-all system. This is akin to modifying what it means to be the best tennis player in a tournament. It does not defer to the prevailing legal regime in the same way as EVA.

c) EVA Should Assist Vulnerable Litigants in Pursuing Their Legal Rights

The power of EVA to allow parties to secure their legal rights may have its greatest impact on vulnerable litigants. Vulnerable members of society lack the

136. Abramowicz acknowledges this issue. Id. at 241-43. He also points out in response that the benefits of compromise verdicts in the form of risk reduction may be enough to compensate whichever party will fare worse under proportionate damages than they would on average at trial. Id. at 244-46. This logic works if the only comparison is with trial, but not once one takes into account the possibility of EVA.

137. None of this is to say that awarding proportionate damages would not be preferable to the current law in some circumstances. See id. at 237; Levmore, supra note 8, at 721-25. Indeed, if proportionate damages best serve justice on some or all occasions, the law should change and an arbitrator using EVA should adjust her predictions accordingly.
resources — money, connections, or knowledge — necessary to protect their interests. They are apt to suffer frequent violations of their legal rights precisely because no repercussions will likely follow.\textsuperscript{138} When vulnerable members of society are victims, they may not know what their rights are or may lack the means to vindicate them.\textsuperscript{139} Alternatively, when they are accused, they are often unable to defend themselves properly.\textsuperscript{140}

Notable among the challenges vulnerable litigants face is risk aversion.\textsuperscript{141} EVA should ameliorate their plight because it decreases the risks of litigation. A vulnerable plaintiff who considers filing a lawsuit may dread even a remote possibility of losing outright and owing attorney’s fees and costs. For this reason, a potential plaintiff may not prosecute a case that would lead to a winner-take-all result or may settle for an amount significantly less than the expected value of trial.\textsuperscript{142} EVA, however, may remove any meaningful chance of a net loss, enabling the plaintiff to pursue litigation. Alternatively, a vulnerable defendant may be so averse to an extreme loss that he will agree to pay more than he would lose on average at trial. By eliminating any meaningful possibility of an anomalously unfavorable result, EVA may allow this defendant to seek an imposed result if a plaintiff is overreaching in settlement negotiations. Because EVA tends to produce more certain recoveries for plaintiffs and less extreme losses for defendants, it should increase the ability of vulnerable members of society to pursue their legal rights.

A tricky issue for this argument is whether powerful parties will even be willing to enter into EVA. Litigants, however, with ample resources are also apt to be risk-averse, though perhaps less so than litigants with fewer resources. Nevertheless, even large capital markets do not like uncertainty. As a result, powerful parties are likely to prefer expected value outcomes to winner-take-all trial. For this reason, they are likely to prefer EVA to trial, if those are their only choices.

This qualification, however, is important because EVA and trial are not the only options. Powerful parties may reject EVA precisely because they can use the threat of trial to extract a settlement on favorable terms from vulnerable litigants. The greater tolerance powerful litigants have for the risks and costs of


\textsuperscript{139} See generally id.


\textsuperscript{142} See id. at 446-47.
litigation, the greater their strategic advantage in negotiations. Because most cases settle,\textsuperscript{143} powerful parties may refuse to enter EVA because it would deprive them of bargaining power.

A second reason powerful parties may insist on trial is to deter future litigation. This is a likely strategy for an entity frequently involved in legal disputes. Common examples include employers of large numbers of workers, manufacturers of consumer goods, and insurance companies. Agreeing to EVA in, for example, a dispute over the alleged wrongful termination of an employee may encourage future litigation. Other employees may file suit in the hope that the employer will again agree to enter EVA. Thus, precisely because employees may prefer EVA to trial, employers may reject it.

On the other hand, where small disparities exist between the parties in terms of their tolerance to the risks and costs of litigation, they are particularly likely to agree on EVA. Moreover, even where those disparities are large, evidence suggests EVA will be attractive in some instances. Dynamics somewhat similar to those in EVA occur in traditional binding arbitration. It, too, is perceived as yielding less extreme results than trial.\textsuperscript{144} As a result, binding arbitration should deprive powerful parties of bargaining power in negotiations and of a deterrent to potential litigation. Despite this, many powerful parties choose to resolve disputes through binding arbitration.\textsuperscript{145} Arbitration clauses are common, for example, in employment and insurance contracts.\textsuperscript{146} Perhaps when powerful parties tally up the advantages and disadvantages, they will also be amenable to EVA in some cases. Powerful parties in particular may choose EVA in predispute, mandatory arbitration clauses. They may be willing to agree to arbitration in general and thereby protect themselves from exposure to great losses in a few cases, even if that means empowering a large number of individual litigants with relatively small claims. Thus, EVA can help vulnerable litigants insist on their legal rights, while remaining attractive to powerful litigants.

\textit{B. EVA Minimizes Errors}

In addition to vindicating legal rights without the risks of trial, EVA is attractive because it would result in relatively small errors. This claim is easiest

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143. The great majority of cases settle, perhaps as high as 90%, although a debate surrounds the proper figure. \textit{See} Marc Galanter & Mia Cahill, \textit{"Most Cases Settle": Judicial Promotion and Regulation of Settlements}, 46 STAN. L. REV. 1339, 1339-40 (1994) (discussing competing views).

144. \textit{See supra} note 133.


146. \textit{See id.}
to see when examining possible errors in interpreting evidence. Academics and judges have focused on two goals when discussing minimizing evidentiary errors: (1) minimizing expected error costs,147 and (2) avoiding the largest errors that a rule for resolving disputes tends to produce in individual cases.148

EVA performs well in achieving both goals. It should generally produce the same expected error costs as trial and lower expected error costs than proportionate damages.149 Additionally, EVA should prevent the largest errors that would occur at trial.

Commentators have focused less on errors of law than on evidentiary errors.150 This is true, I believe, for at least two reasons, which are probably related. First, philosophical issues complicate the notion of a correct interpretation of the law.151 Second, courts do not generally incorporate any consideration of the likelihood of error into their interpretation of the law.152 Nevertheless, if one posits plausible measures of legal error, EVA performs similarly well.

1. EVA Should Result in Relatively Small Errors in Assessing the Evidence

a) Minimizing Expected Error Costs in Assessing the Evidence

Scholars attempting to quantify accuracy in adjudication have taken recourse to expected error costs. Expected error costs may be defined as the average difference between the actual result and the correct result in a case.153 Scholars have generally assumed, and rightly so, that accuracy is desirable and small expected error costs are preferable to large expected error costs.

The dispute between Penelope and Dwayne provides a useful illustration of an analysis of expected error costs. Assume the version of the hypothetical involving Penelope and Dwayne in which Wanda will testify that she believes that Dwayne was at fault. Recall that the best view of the evidence is that the odds are 70% that Dwayne ran a red light and 30% that Penelope ran a red light.

147. Expected error costs are the average difference between the actual and the correct result in litigation. See Bone, supra note 16, at 131.
148. For a discussion of this issue see Orloff & Stedinger, supra note 8, at 1163-68.
149. To the extent that Abramowicz and Levmore rely on hybrid approaches that include the use of proportionate damages, their approaches should produce higher expected error costs in the ordinary run of cases, although, as Levmore points out, this may not be true in situations that involve recurring wrongs. Levmore, supra note 8, at 699-704.
150. Notable exceptions include Coons, Approaches, supra note 8, at 764-73, and Abramowicz, supra note 8, at 298-312.
151. For a discussion of legal uncertainty see Davis, Taking Uncertainty, supra note 98, at 424-26.
152. Id. at 424.
153. See supra note 147. I am assuming that the social cost of an error at trial is the difference between the correct result and the actual result. For a similar approach see Posner, Economic Approach, supra note 2.
We assumed that this would translate into a 90% chance that Penelope would win $100,000 at trial.

This information suffices to calculate the expected error costs of trial. First, there is a 70% chance that Penelope should prevail. If that is the right outcome at trial, there is a 90% chance that the jury will correctly decide in her favor. No error will occur when she wins. There is also a 10% chance that the jury will err by denying her a recovery. The size of that error would be $100,000 because Penelope should win that amount but instead recovers nothing. Second, there is a 30% chance that Penelope should lose. If so, there is a 90% chance of the jury erring by awarding her $100,000 when she should not recover at all. There is also a 10% chance that the jury will correctly decide against her. This combination of odds and errors can be expressed in the following formula for the expected error costs from trial: 

\[ \text{.70}((.90 \times x) + (.10 \times \$100,000)) + .30((.90 \times \$100,000) + (.10 \times x)) = \$34,000. \]

Thus, the expected error costs of trial are $34,000.

The expected error costs would be the same if Penelope and Dwayne choose EVA. An arbitrator in EVA should award the expected value of the case. The expected value of the outcome at trial is calculated by multiplying the odds that Penelope will prevail by the amount she will recover if she does: 

\[ .90 \times \$100,000 = \$90,000. \]

The expected error costs can then be calculated. First, there is a 70% chance that Penelope should win. If so, Penelope should recover $100,000 but will recover only $90,000. This will lead to an error of $10,000. Second, there is a 30% chance that Penelope will lose. If so, Penelope should recover nothing, but she will receive $90,000. The error costs, then, are $90,000. The formula for the expected error costs is:

\[ .70((100,000 - 90,000)) + .30(90,000 - 0) = \$34,000. \]

The expected error costs from a trial and EVA will always be the same if the arbitrator accurately predicts the expected outcome of trial.\textsuperscript{154} This is because EVA entails an award that on average will be the same as trial. On average, the award at trial and in EVA will vary by the same amount from the correct result.

The standard proposal for imposed compromise — proportionate damages — yields higher expected error costs than trial and EVA. To see this, recall that under proportionate damages the award is the product of the likelihood that the plaintiff is correct and the amount she should recover if she is. In this case, Penelope would receive 70% of $100,000, or $70,000.

\textsuperscript{154} See Appendix I for a formal proof of this proposition. As in the text, my analysis assumes that EVA predicts the average result at trial accurately. I rely on that argument throughout this Article with limited exceptions in Part V.
The expected error costs for proportionate damages are calculated in much the same way as for trial or EVA. First, there is a 70% chance that Penelope should win. If so, Penelope should recover $100,000, but she will recover only $70,000. Second, there is a 30% chance that Penelope will lose. If so, Penelope should recover nothing, but she will receive $70,000. The formula for the expected error costs is: .70($100,000 - $70,000) + .30($70,000 - $0) = $42,000. This is higher than for trial or EVA. David Kaye has shown that this will be true generally: trial (and I would add EVA) will produce lower expected error costs than proportionate damages.\(^{155}\) EVA, then, performs as well as trial, and better than proportionate damages, at minimizing the expected error costs from dispute resolution.

\(^{155}\) Kaye, supra note 8. Saul Levmore has pointed out that this will not necessarily be true for certain cases involving recurring wrongs. Levmore, supra note 8, at 704-05. He provides good reason to adopt a proportionate damages approach in some circumstances.

\(^{156}\) See, e.g., Orloff & Stedinger, supra note 8, at 1163-68.

\(^{157}\) See, e.g., Levmore, supra note 8; Orloff & Stedinger, supra note 8, at 1163-68.

\(^{158}\) See, e.g., Orloff & Stedinger, supra note 8, at 1163-68.

\(b\) Avoiding Large Errors in Assessing the Evidence

Expected error costs are not the only way to measure the harm from errors caused by a standard for resolving disputes. Another consideration is the size of errors that occur. Further, scholars have suggested that a large error is more significant than numerous small errors, even if they result in the same average error.\(^{156}\)

Analyzing the aversion most people have for risk in litigation supports this view. If, for example, Penelope will suffer a disproportionately larger harm from losing when she should win than she would from winning a small amount when she should win a large amount, then the average size of the errors does not capture the harm from errors. The same is true for Dwayne if he would prefer a certain but relatively small loss to taking a chance on winning but at a risk of suffering a very large loss. In both instances, a relatively small average error may mask the true extent of harm when the possibility exists for a very large error.

Scholars promoting imposed compromise have made this point. They have contended that imposing proportionate damages may be better than the winner-take-all outcomes of trial, even if proportionate damages produce larger expected error costs.\(^{157}\) This is partly because the errors from proportionate damages tend to be smaller than the most extreme errors at trial.\(^{158}\)

From this perspective, EVA offers an attractive combination of characteristics. As noted, EVA produces the same expected error costs as trial and lower expected error costs than proportionate damages. Further, EVA, like

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proportionate damages, tends to eliminate the largest of errors. It produces errors in more situations than trial, but the errors tend to be smaller. For example, assume Penelope should recover $100,000 if Dwayne was at fault and nothing if he was not at fault. Also assume that her odds of winning are 90%. EVA will award her $90,000. This means that the largest error will be $90,000. Trial, by contrast, will sometimes award Penelope nothing when she should win and at other times will award her $100,000 when she should lose. The largest possible error is $100,000. Thus, EVA, like proportionate damages, errs more often than trial, but not by as large a margin as trial in particular cases. EVA, then, performs better than trial and similarly to proportionate damages at avoiding the most extreme errors in particular cases.

159. A possible qualification of this point is that proportionate damages may tend to yield even smaller errors than EVA in particular cases. Whether this is so depends on the relationship between the likelihood that the plaintiff should win and the likelihood that the plaintiff will win. A plausible intuition is that in close cases, the two probabilities will be about the same. If the likelihood that a party should win hovers around 50%, then the odds that a court will find in favor of the party may also be approximately 50%. As the balance of evidence tips in one party’s favor, however, the odds of that party prevailing may shift even more quickly. Thus, we said above that if Penelope has a 70% chance of being right, it may be that 90% of juries would find in her favor. For a view along these lines see Abramowicz, supra note 8, at 241-42. If this relationship generally holds true, which is an empirical question, then the errors may diverge and tend to be smaller in awarding proportionate damages than in awarding the expected value of trial. Indeed, one can make a more formal statement by relying on a measure of error that weighs large errors more heavily than small errors. One such approach seeks to minimize the square of the error in each case. See Abramowicz, supra note 8, at 247; Levmore, supra note 8, at 704-05; Orloff & Stedinger, supra note 8, at 1165-68. Using this approach, awarding proportionate damages minimizes the harm from errors in litigation. See infra Appendix III for a proof of this claim. If assessed accurately by an arbitrator, proportionate damages will produce smaller errors by this measure than EVA.

160. This analysis does not exhaust the possible usages of the goal of minimizing legal errors. Abramowicz points out, as have others before him, that the goal of minimizing errors is merely instrumental, serving as a means to minimize social losses. See Abramowicz, supra note 8, at 248 (citing V.C. Ball, The Moment of Truth: Probability Theory and Standards of Proof, 14 Vand. L. Rev. 807, 815-16 (1961); Rosenberg, supra note 8, at 874 n.98; Shavell, Economic Analysis, supra note 8, at 117 n.12). Abramowicz notes that a rule that minimizes average errors could result, for example, in a single manufacturer being held liable for all harm from its own and its competitors’ products in market-share liability. Id. at 249. Saul Levmore has similarly identified various classes of cases in which social losses may result from attempting to minimize errors based on the evidence that the parties present. See Levmore, supra note 8, at 691. These include cases in which one of the parties had the opportunity to create evidence that would have prevented factual ambiguity, id. at 694-95, cases in which the same parties are participants in a series of disputes, id. at 697-98, and cases in which plaintiffs or defendants will always lose under a rule that minimizes errors, id. at 715-21. The situations Abramowicz and Levmore discuss, however, are exceptional. In general, it would seem that minimizing the average error in cases and the size of errors when they occur will tend to minimize social costs. I therefore focus on these two general measures of error. Moreover, note
2. EVA May Minimize Errors in Assessing the Law

Scholars have spent less time discussing imposing compromise based on potential legal errors than on potential factual errors.\textsuperscript{161} This may be because courts acknowledge the possibility of error in finding facts, but are more reluctant to acknowledge legal errors. The burden of persuasion is premised on the notion that stochastic reckoning is necessary in addressing conflicting evidence. A jury is not supposed to find the facts it knows to be right, but rather the facts that satisfy a specified likelihood of being right. The same is not true for the law. Judges do not acknowledge uncertainty about the law in the same way.

The absence of an acknowledgment of legal uncertainty in decision making may reflect, in part, philosophical doubts about whether there are right answers to contested legal questions. Facts — at least certain kinds of facts — seem to be objectively right or wrong. Either the light was red for Dwayne or it was red for Penelope.\textsuperscript{162} When it comes to the law — or any determinations that involve value judgments — there is no physical reality to provide an obvious independent grounding for the notions of correct and incorrect.\textsuperscript{163}

Nevertheless, we ask judges to do their best to decide legal questions properly. To do that, they exercise their best judgment in interpreting the law, using whatever method of interpretation they believe most defensible. The same faculty that allows for a choice among competing interpretations of the law should allow for an assessment of the odds that an interpretation may be incorrect.\textsuperscript{164}

Assuming we accept this understanding of errors in interpreting the law for the purpose of comparing different standards for resolving disputes, the issue then becomes how to measure the likelihood of legal errors. One straightforward way would be to employ the same approach generally used to assess factual errors. We might distinguish the odds that a party should win on a legal issue from the odds that a party will win. A form of proportionate damages would award a recovery to the plaintiff according to the chances she should win, whereas EVA

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that proportionate damages and EVA are not mutually exclusive. Proportionate damages, much like any other standard, is susceptible to application in EVA.

\textsuperscript{161} But see Warren F. Schwartz & C. Frederick Beckner III, Toward a Theory of the "Meritorious Case": Legal Uncertainty as a Social Choice Problem, 6 GEO. MASON L. REV. 801, 804-05 n.10 (1998).

\textsuperscript{162} See Brian Leiter, Objectivity and the Problems of Jurisprudence, 72 TEX. L. REV. 187, 195 (1993) (reviewing KENT GREENAWALT, LAW AND OBJECTIVITY (1992)).

\textsuperscript{163} Id. at 195 & n.31.

\textsuperscript{164} For an elaboration of this argument see Davis, Taking Uncertainty, supra note 98, at 424-26.
would award a recovery in proportion to the odds that she will win at trial. The analysis of legal errors would then be much the same as for errors in finding the facts. Trial and EVA would result in the same expected error costs in interpreting the law, which would be lower than the expected error costs for proportionate damages. EVA and proportionate damages would tend to avoid the largest errors at trial. Thus, EVA fares quite well.

An alternative approach would treat the likelihood that a plaintiff will win on a legal issue as the same as the likelihood that the plaintiff should win on that legal issue. A possible justification for this approach would claim that contested legal issues are best decided by consensus. In other words, the stronger the consensus behind a result, the greater its likelihood of being correct.

Whatever the rationale, this approach suggests a somewhat different analysis of legal error. The distinction between EVA and proportionate damages collapses; thus, the only contrast is with trial. The results would be that EVA and trial would have the same expected error costs, while EVA and proportionate damages would tend to avoid the most extreme errors of trial in individual cases.

Again, an illustration is useful. In the case of Penelope and Dwayne, a knotty legal issue might determine liability. For example, Penelope’s only significant injury may be the increased probability of suffering some disease in the future—perhaps she crashed into a toxic container and was exposed to a substance that may cause her to develop cancer. Assume the legal controversy involves whether she may recover now for the pain and suffering she experiences from her fear of contracting cancer in the future. Assume that the odds are 60% that she will, and therefore should, win on this legal issue and recover $100,000. In other words, we assume a 60% chance of a ruling in the plaintiff’s favor translates into a 60% chance that she is correct.

One issue is which standard for decision making produces lower expected error costs. The expected error costs that follow from imposing expected value and all-or-nothing outcomes are the same. To see this, consider the example of Penelope and Dwayne. At trial, Penelope will win $100,000 60% of the time and nothing 40% of the time. There is a 60% chance that Penelope winning is the right result and a 40% chance that it is the wrong result. The expected error costs

165. See infra Appendix I for the formal proof.
166. See Kaye, supra note 8, at 487.
167. See supra Part III.B.1.b.
168. This is consistent with Abramowicz’ working definition of the right result on a legal issue in Michael Abramowicz, En Banc Revisited, 100 COLUM. L. REV. 1600, 1602 (2000).
169. See Leiter, supra note 162, at 192 (discussing minimal objectivism).
170. For a proof of this claim see infra Appendix II.
are captured in the following formula: 
\[0.60(0.40 \times $100,000) + 0.40(0.60 \times $100,000) = $48,000.\]

Under EVA, Penelope will recover $60,000. If the right result is for Penelope to win, she should recover the full $100,000. There is a 60% chance, then, that her recovery will be too little by $40,000. If the right result is for her to lose, on the other hand, she should receive nothing. There is a 40% chance, then, that her recovery will be too much by $60,000. The overall error is ($40,000 \times 0.60) + ($60,000 \times 0.40), or $48,000. Thus, the expected error is the same in EVA as at trial.

This relationship holds true in all cases. EVA and trial produce the same expected error costs if the odds of a plaintiff winning on a legal question are the same as the odds of the plaintiff being correct.

A second issue is whether EVA or trial will produce the largest errors. As noted above, EVA tends to split the difference, so that neither party gains the full benefit of a favorable interpretation of the law; however, when errors occur, they are only a portion of the full measure of the plaintiff's potential recovery. As with errors regarding the facts, legal errors will not be as large in EVA as the most extreme errors at trial.

3. Minimizing Adjudicative Errors Should Promote Efficiency

One way to understand the goal of minimizing errors is through the prism of law and economics. Economists recognize that any form of dispute resolution will at times be inaccurate. Inaccuracies can result in inefficiencies. In particular, if the rules in a legal system are designed to encourage efficient conduct when applied properly, then some parties who predict possible errors in adjudication will have an incentive to engage in inefficient conduct or, at least, no incentive to engage in efficient conduct. Of course, legal rules can be developed with the prospect of errors in mind. This sometimes occurs. An example is the standard for a preliminary injunction, which requires courts to weigh the risk of an error. However, an economic analysis of the law becomes impractical without the use of simplifying assumptions. One very common simplifying assumption is that, if courts interpret the law properly and apply it to the actual facts of a case, properly designed legal rules will encourage efficient conduct. Procedural rules then

172. See infra Appendix II for the proof.
173. See, e.g., RICHARD POSNER, ECONOMIC ANALYSIS, supra note 2, §21.1, at 549.
174. See, e.g., id. (noting predicted errors in adjudication may undermine otherwise efficient incentives created by laws).
175. See Davis, Taking Uncertainty, supra note 98, at 365-67 (discussing role of uncertainty about right result in preliminary injunction doctrine).
176. Judge Richard Posner's work is typical, identifying accuracy in adjudication as one of
can be formulated with an eye to minimizing the distortion created by errors in the adjudicatory process. Economists generally follow this approach.\textsuperscript{177} Indeed, if legal rules were perfectly formulated, taking into account the possibility of errors, any proposals for improving accuracy in adjudication would have to be rejected as disruptive of the perfectly efficient incentives in place. Economists have not generally adopted this odd position.\textsuperscript{178}

This law-and-economics understanding of the rationale for minimizing errors suggests how those errors should be defined. A goal of the law is to encourage efficient behavior when it is applied to the actual behavior of the parties.\textsuperscript{179} A mischaracterization of the parties' behavior — or, to be more precise, the anticipated possibility of a mischaracterization of that behavior — will create undesirable incentives.\textsuperscript{180} Errors of fact occur, then, when the court's findings are inconsistent with what actually occurred. Similarly, an interpretation of the law is correct if it creates incentives for efficient conduct. Errors of law occur when judges deviate from this goal. Finally, mixed questions of fact and law, or factual issues that entail value judgments — like whether a person acted negligently\textsuperscript{181} — hold the potential for both kinds of error.

With these definitions in place, it makes sense that a primary focus of economists has been to minimize the average size of the errors produced by adjudication.\textsuperscript{182} In this regard, EVA performs quite well. As noted above, EVA


177. Again, Richard Posner's work is typical in this regard. See Posner, Economic Analysis, supra note 2, § 21.2, at 549-52; Posner, Economic Approach, supra note 2, at 1480-87. The same is true, for example, of the work of Saul Levmore, who explains:

I do not mean to imply that error minimization is the ultimate goal of the legal system. As pointed out by Shavell, error minimization is at best a proxy for a more useful social goal such as the minimization of undesirable consequences like injuries. Nevertheless, it is sensible to proceed with the idea that legal rules might be designed to minimize errors because error minimization may be a powerful proxy for other, more concrete goals or with the notion that legal rules may change over time precisely when traditional rules seem not to minimize errors in particular circumstances.

Levmore, supra note 8, at 696 n.8 (citation omitted) (citing Shavell, Uncertainty, supra note 8, at 606-07).


180. Id.


should produce the same average errors as trial and smaller errors on average than proportionate damages, the most prevalent proposal from imposing compromise.\textsuperscript{183}

Economists have also been concerned with the largest errors that adjudication will produce. The size of errors may matter because large errors are particularly likely to influence the behavior of risk-averse disputants. Large potential errors are likely to have a particularly significant distorting effect on the behavior of risk-averse disputants.\textsuperscript{184} Consequently, an economist is likely to prefer the relatively small errors that EVA produces to the larger, if less frequent, errors that occur at trial.

\textit{C. Encouraging Desirable Expenditures on Litigation}

Another potentially attractive feature of EVA is that it creates desirable incentives to invest in litigation. Of course, this tends to be true of all arbitration. Parties commonly choose arbitration to reduce litigation costs.\textsuperscript{185} EVA, like other forms of arbitration, is less formal than litigation leading up to trial and, therefore, will generally be less expensive than trial.

Additionally, the incentives EVA creates for expenditures on litigation are attractive in another way. In contrast to trial and winner-take-all arbitration, EVA will encourage risk-averse parties to invest in litigation\textsuperscript{186} if and only if doing so will provide them a net gain on average.\textsuperscript{187} One would expect these incentives generally to obtain in EVA because EVA should be attractive primarily to risk-averse litigants. Disputants who seek risk should prefer trial or winner-take-all arbitration to EVA.\textsuperscript{188}

Assuming disputants are averse to risk, EVA should have two different effects, depending on the circumstances of the litigants. First, at trial, some parties will have an incentive to make expenditures that will yield a net loss on average in dollars. They will do so to avoid the risk of an extremely unfavorable result. They will not have an incentive to make these expenditures in EVA. Thus, for these disputants, EVA should be less costly than trial.

\textsuperscript{183} See supra Part III.B.

\textsuperscript{184} This is consistent with Steven Shavell's point that the concern of economists should not be minimizing errors as an end in itself, but as a means to avoid discouraging efficient behavior or encouraging efficient behavior. See Shavell, \textit{Uncertainty}, supra note 8, at 605-06 & n.28.

\textsuperscript{185} See, e.g., GOLDBERGETAL., supra note 35, at 210 (noting relatively low cost arbitration as one of its attractions).

\textsuperscript{186} I use the term litigation here to include the process leading up to a decision in EVA and other forms of arbitration.

\textsuperscript{187} For a formal proof of this claim, with some limiting assumptions, see Appendix IV.

\textsuperscript{188} A possible exception would be parties who agree to EVA through a predispute mandatory arbitration clause. I do not explore the incentives to invest in litigation if a party in EVA is risk-seeking.
At other times, parties will be unwilling to make investments in litigation leading to trial, even though doing so would benefit them on average, because they are particularly averse to adding to the harm they will suffer from an exceptionally bad result at trial. EVA spares parties with reasonably strong legal positions from the daunting risk that the costs they incur will exacerbate an extremely unfavorable result. By minimizing this risk, EVA creates incentives for parties to make investments that produce a net gain on average in dollars. EVA will also encourage plaintiffs to file meritorious cases that risk aversion would discourage them from bringing if their only options were trial or winner-take-all arbitration.

1. Some Parties Will Spend Less in EVA than Trial

The rationale behind the proposition that some parties should spend less on EVA than trial is simple: parties who are averse to risk tend to avoid the possibility of an exceptionally bad result. At times, they will invest to protect against that risk, even if doing so will produce a net loss on average. This is similar to the reason people purchase insurance.189

Trial tends to produce polar results: a party is likely to win everything or nothing.190 Any marginal expenditure may cause a swing from one extreme result to another. Under these circumstances, a party may expend money to protect against an unfavorable swing, even if the expenditure results in a net loss on average.

EVA, in contrast, produces a continuum of results. With EVA, litigation expenditures will have only an incremental effect on the plaintiff’s recovery.191

189. The analogy to insurance is not perfect. A standard model for insurance involves a relatively small but certain loss, and protects against a large loss that is unlikely. Investing in litigation, in contrast, does not guarantee that a large loss will not occur, but rather decreases its likelihood. Moreover, unlike insurance, an investment in litigation will increase the size of the large loss if it transpires, even if only by a relatively small amount. As a result, in some circumstances, risk aversion could provide a defendant a reason not to invest in litigation.

For example, Bill Gates might have $100,005,000,000,000 in assets. In litigation, he might be exposed to a loss of up to $100,000,000,000. Of course, litigation of this magnitude could easily cost millions of dollars. Despite this huge potential for loss, Mr. Gates might be reluctant to spend a lot on litigation, for, if trial yields a loss of $100,000,000,000, every remaining dollar will be dear to him. This example supports the general idea that, under some circumstances, risk aversion could lead a defendant to spend less in litigation leading to trial than in EVA. I am grateful to Morton Davis for this example.

190. Of course, this is not always so. Comparative negligence, as opposed to contributory negligence, is apt to produce results along a continuum in a manner similar to EVA. The argument in the text about EVA therefore has important implications for choosing between the rules of comparative and contributory negligence in tort.

191. Note that the variation in incentives to spend should not be the result of any difference in the plaintiff’s average recovery. By definition, EVA seeks to award the average recovery at
To a risk-averse party, a small improvement in the prospect of avoiding an extremely unfavorable result may be worth more than a great likelihood of improving the outcome by a small amount, even if both alternatives correlate to precisely the same change in expected value in dollars. As a result, some risk-averse parties will spend less in EVA than trial.192

a) An Example of a Party Spending Less in EVA than Trial

Once again, the dispute between Penelope and Dwayne provides a useful example. Assume Dwayne acknowledges that he ran the red light. Fault is not at issue; the source of contention is damages. Assume Penelope’s only significant injury after the accident is a debilitating balance disorder. Penelope claims that there is a causal link between the collision and her disorder. Further assume that Penelope has a 20% chance of proving causation and, if she does, of recovering $400,000 — an expected value of $80,000. If Dwayne is risk-neutral, he will be indifferent between an expected value award of $80,000 and taking a chance on resolution of the issue at trial. This means that Dwayne would be willing to spend the same amount on either trial or EVA. To illustrate, assume that the parties are fully prepared to go to trial when a new study is released that bears on the crucial issue of causation. The study may shed light on the etiology of balance disorders, allowing for an assessment of whether the car accident caused Penelope’s condition. Each party must decide whether to pay for expert analysis of the new study.

To keep the example simple, assume that Dwayne has only two viable options: (1) ignore the new study and pay litigation expenses of $25,000 through trial; or (2) secure an expert analysis of the study for an additional $25,000, bringing his total expenses to $50,000. These choices correlate to different likelihoods of prevailing. Dwayne may conclude, for example, that spending $25,000 on the analysis decreases the likelihood of Penelope recovering by 5%. In other words, Dwayne must choose whether to pay for the additional report and decrease the odds of Penelope’s success from 20% to 15%. Further assume that

192. A winner-take-all trial will not necessarily involve polar results. In this sense, the term may at times be a misnomer. It is winner-take-all because the decision maker resolves uncertainty. In some instances, however, the results of trial may fall along a continuum. A notable example is comparative liability. Under that doctrine, the finder of fact is supposed to decide how much fault should be assigned to the plaintiff and the defendant. See BLACK’S LAW DICTIONARY 276 (7th ed. 1999). Fault is treated as a matter of degree. Much like in EVA, a little more evidence or a slightly more compelling closing argument is likely to have only an incremental effect on the plaintiff’s recovery. Whenever the outcomes of trial are continuous in this way, a risk-averse litigant’s expenses will be different from when the results are polar. Courts and scholars have not explored this justification for the shift from contributory negligence to comparative negligence.
Dwayne's decision is unaffected by whether Penelope will invest in a similar expert analysis.\(^{193}\)

If Dwayne is risk-neutral, he will not pay for the expert analysis whether preparing for trial or EVA. The benefit of the expert analysis would be to decrease by 5% the chance that Penelope will recover $400,000. The expected value of the investment is worth 5% of $400,000, which is $20,000 — an amount that is less than the cost of the analysis. Thus, at trial, Dwayne would be paying $25,000 for a decrease in his liability worth $20,000 on average. In EVA, Dwayne would be paying $25,000 for a loss that is $20,000 less than would otherwise result. The investment is not worthwhile.

The analysis is different if Dwayne is averse to risk. If so, he may be highly motivated to minimize the risk of losing a large sum. Dwayne may, for example, be uninsured. His assets and income may permit him to pay up to $160,000, but a loss beyond that amount would significantly affect him. For this reason, he might well pay $25,000 for the expert analysis in preparation for trial, for he cannot afford to take the chance of losing $400,000. In a sense, the expert analysis is like insurance. Dwayne is willing to spend more than his expected return for even a small sum decrease in the odds of a catastrophic loss.

Under EVA, by contrast, Dwayne might conclude that the difference in the outcome would vary along a continuum. Given the odds, he would anticipate an award around $80,000. He might not suffer terribly if it increased by $10,000 or $20,000. Moreover, paying for the expert analysis should result in a net loss on average and may not make the outcome of EVA any more predictable. In this case, Dwayne should refrain from spending money on the expert analysis if, on average, it would cost more than it is worth.

\(b)\) Utility Curves and a More Formal Analysis

The utility curve is useful for a more formal analysis of why parties will sometimes spend less in EVA than trial. Utility curves are a way of describing a person's preferences in light of her attitude toward risk.\(^{194}\) They allow a more systematic expression of why risk-averse defendants may spend less in litigating to continuous results than to discontinuous results.

\(\^{193}\) This is an important limitation. Interactions between how the parties spend can have profound effects and are not easy to model. Dwayne should, of course, consider Penelope's likely investment strategy in formulating his own. Doing so would require him to evaluate whether the marginal gain from his own investment will vary depending on how much she invests. Thus, whether Dwayne's predictions and assessments of Penelope's investment in litigation should affect his own will depend in part on the circumstances. Exploring this issue is beyond this scope of this Article.

\(\^{194}\) Davis, Game Theory, supra note 101, at 57-61.
For the purposes of the Article, this point is important because it reveals a potential virtue of EVA. However, it also has broader implications, providing what may be an unexplored benefit of adopting legal rules that produce continuous results rather than discontinuous and polar results: if all else remains constant, legal rules that produce continuous results may discourage investments in litigation that yield a net loss on average in dollars. This could help to support the shift, for example, to comparative liability from contributory negligence, which many jurisdictions have now undertaken. 195

Utility is a mythical creature. It relies on a few basic assumptions about people’s preferences, assumptions that are quite plausible and yet, as empirical work has shown, untrue in many circumstances. 196 Nevertheless, used with caution the concept of utility can cast some light on how people are likely to behave.

Utility is a way of defining a person’s relative preferences in numerical terms. Each state of affairs can be assigned a certain number of “utils,” which can be understood as representing that a state of affairs brings that person a degree of satisfaction or pleasure. Assigning two different states of affairs the same number of utils is a way of saying that a person is indifferent between them. Moreover, one may assume that a person’s preferences are transitive; that is, if the person prefers state of affairs A to B, and state of affairs B to C, the person should prefer state of affairs A to C. Finally, Von Neumann has shown, given these and a few other plausible assumptions, that a person will value equally a chance of benefitting by a certain number of utils and the guarantee of receiving the expected value of that chance measured in utils. 197 In other words, the person will be indifferent between a 50% chance of benefitting by fifty utils and a guarantee of benefitting by twenty-five utils. 198

One way to depict utility is through a graph of a utility function. A utility function is a formula that compares the utility of different states of affairs. A useful function correlates a party’s utils to having various sums of money.

For the risk-neutral party, who values every dollar equally, a simple utility curve can be constructed. This party’s utility can be expressed by setting one
dollar equal to a certain number of utils. Each additional dollar that the party either expects to receive or expects the other party to pay will change the first party's well-being equally. The resulting utility curve linear. It is expressed in the following graph, which depicts the preferences of a risk-neutral defendant.

The utility curve of Dwayne, for our most recent hypothetical involving the choice whether to employ an expert in the late stages of litigation, allows for further illustration of utility. Consider a plausible description of Dwayne's preferences. His utility for the different possible outcomes might be as follows: losses up to $160,000 are worth one util per dollar; losses between $160,000 and $250,000 are worth two utils per dollar; and, losses over $250,000 are worth three utils per dollar. These preferences are captured by the following graph:
This description permits a more precise analysis of Dwayne’s options. At trial, without an expert analysis, he has an 80% chance of winning. He expects to pay $25,000 to complete the trial. If he wins, he will have expended $25,000, but he will owe Penelope nothing. By hypothesis, this correlates to negative 25,000 utils. If he loses, he will be liable for $400,000, plus he will have paid litigation costs of $25,000, for a net loss of $425,000. This would correlate to a loss of one util per dollar for the first $160,000, two utils per dollar between $160,000 and $250,000, and three utils per dollar over $250,000, or: (1 x -160,000 utils) + (2 x -90,000 utils) + (3 x -175,000 utils) = -865,000 utils. The value in utils of these odds and outcomes is (.80 x -25,000 utils) + (.20 x -865,000 utils) = -193,000 utils.

In contrast, if Dwayne pays for the expert analysis, he has an 85% chance of winning. If he wins, the litigation will cost him $50,000, leaving him with a loss of negative 50,000 utils. If he loses, he will pay $400,000, plus $50,000, for a total of $450,000. The loss will be: (1 x -160,000 utils) + (2 x -90,000 utils) + (3 x -200,000 utils) = -940,000 utils. These possibilities yield him utils of (.85 x -50,000 utils) + (.15 x -940,000 utils) = -183,500 utils. Dwayne will expect to lose 193,000 utils without the expert’s analysis and 183,500 utils with the analysis. This shows that Dwayne will pay for the analysis, even though it costs more than it is worth in terms of its average return in dollars.

The result is different in EVA. Without the analysis, Dwayne expects to pay $25,000 litigating. He anticipates that the arbitrator will award approximately $80,000, based on a 20% chance that Penelope will win an expected award of $400,000. This makes his expected loss $105,000, which translates to a loss of 105,000 utils. With the expert analysis, Dwayne expects to pay $50,000 litigating. He expects the arbitrator to award approximately $60,000, based on a 15% chance that Penelope would have won $400,000 at trial. His expected loss is $110,000, or 110,000 utils. Thus, he will prefer not to pay for the report.199

The key point about Dwayne’s preferences is that they vary over a range, where dollars become of marginally greater value to Dwayne the more he loses. EVA converts litigation that would produce discontinuous and polar results into litigation that will produce continuous results, so that marginal changes in expected value, and therefore outcome, are of the same value in utils as marginal investments in litigation. A finder of fact at trial, as in the example of Penelope and Dwayne, may have to decide an issue that permits only one of two outcomes: either the plaintiff will recover nothing or a large sum. Additional expenditures

199. Note also that Dwayne fares better in EVA than at trial whether he pays for the expert report or not. As measured in the example, in EVA he will lose, respectively, 110,000 or 105,000 utils rather than 183,500 or 193,00 utils.
in traditional litigation may have incremental effects on the likelihood of a recovery, but the outcome will remain binary.

In contrast, incremental changes in the odds of a plaintiff winning in court correlate to incremental changes in the amount of the award to the plaintiff in EVA. A discontinuous function that describes the possible outcomes at trial becomes a continuous function that describes the possible outcomes in EVA. Each marginal dollar gained or lost falls in the same range of a party’s utility curve as dollars spent on litigation. As a result, risk-averse parties will not make investments in EVA that yield a net loss on average in dollars and that they would make in trial. Thus, the transformation from discontinuous to continuous results will, in some circumstances, reduce the costs of litigation.²⁰⁰

2. EVA Encourages Risk-Averse Litigants to Make Investments in Litigation that Will Yield a Net Benefit on Average.

In trial, as opposed to EVA, risk-averse parties will sometimes fail to make investments in litigation that would on average produce a net gain in dollars. This is because they wish to avoid compounding the worst possible result at trial by incurring additional costs.²⁰¹ By eliminating this risk, EVA will encourage parties to make these investments.

Parties will sometimes have to decide whether to make expenditures that, although they may increase the likelihood of victory, will exacerbate the worst possible result at trial. Risk-averse parties will often prefer not to take this chance. Plaintiffs or defendants may forego expenditures on litigation that would on average yield a net gain in dollars, and plaintiffs may choose not to sue even if, on average, they would benefit by suing. Poker provides an apt analogy. Risk-averse parties are like players who will bet only when they are all but certain to win a hand. Indeed some players, like some plaintiffs, will refuse to play at all. By contrast, EVA removes the worst possible result of trial from the realm of possibilities. An improvement in the strength of a party’s case will have an incremental effect on the outcome, just as will litigation costs. One will be traded against the other. Given that expenditures and improved prospects at trial have the same kind of marginal effect on the ultimate result, parties will make expenditures that they expect to produce a net gain in dollars.

²⁰⁰ For a proof that risk-averse parties will invest in litigation in EVA if and only if doing so yields a net benefit on average in dollars, see Appendix IV. It makes some plausible simplifying assumptions.

²⁰¹ See supra notes 141-42 and accompanying text.
a) An Example of a Party Making an Investment in EVA that It Would Not Risk Making at Trial

To illustrate, imagine that Penelope has a 20% chance of recovering $400,000 from Dwayne if she does not hire an expert witness to explain how the car accident caused her loss of balance. On the other hand, she has a 25% chance of recovering $400,000 if she hires the expert. Assume that the expert would cost $10,000, in addition to the $40,000 she will otherwise spend on litigation. Without the expert, the expected value of trial is 20% of $400,000 minus $40,000, which is $40,000.

The $10,000 investment on average is worthwhile. It would increase her average return from 20% of $400,000 to 25% of $400,000 — that is, from $80,000 to $100,000. Her expected net gain is $100,000 minus $80,000, or $20,000, which is larger than the cost of $10,000.

Penelope, however, may be in a financially difficult position. Assuming she cannot find a lawyer to take her case on a contingency fee basis, she probably cannot afford to sue. If she has just enough money to litigate, she may not be able to afford an expert witness. She may simply lack the capital to make an investment in litigation, even though it is likely to be profitable on average.

Under these circumstances, EVA may improve her ability to invest in litigation. She may be confident that the expected value of the case is sufficient to pay her costs and attorney’s fees, even if she would stand some chance of losing at trial. EVA would allow her either to bring an action that she otherwise could not bring or to expend an amount in support of her case that she otherwise could not afford.

b) Utility Curves and a More Formal Analysis

Again, a utility curve allows a more formal statement of this proposition. Assume that for Penelope each dollar of loss greater than $30,000 is worth four util, each dollar of loss up to $30,000 is worth two util, and each dollar of gain is worth one util.

With this set of assumptions in place, Penelope will not pay for the expert if she expects to go to trial. With the expert she has a 25% chance of winning $350,000 (that is, $400,000 less her costs of $50,000) and a 75% chance of losing her costs of $50,000. Converting these odds and outcomes into utils looks

202. This possibility is quite real. Lewis Maltby reports, for example, that a survey of plaintiffs’ attorneys conducted in 1995 revealed that they would not take a case on behalf of an employee with less than $60,000 in provable damages, exclusive of pain and suffering and punitive damages. See Lewis Maltby, Private Justice: Employment Arbitration and Civil Rights, 30 Colum. Hum. Rts. L. Rev. 29, 57 (1998).

203. See Note, supra note 1, at 448-49.

https://digitalcommons.law.ou.edu/olr/vol57/iss1/6
like this: \(0.25(350,000 \text{ utils}) - 0.75(30,000 \text{ utils} \times 2) + (20,000 \text{ utils} \times 4) = 87,500 \text{ utils} - 105,000 \text{ utils}, \) which is a negative 17,500 utils. Without the expert she has a 20% chance of winning $360,000 and an 80% chance of losing $40,000. This equates to: \(0.20(360,000 \text{ utils}) - 0.80(30,000 \text{ utils} \times 2) + (10,000 \text{ utils} \times 4) = 72,000 - 80,000, \) which is a negative 8,000 utils. Thus, she does better not to invest in the expert.

Moreover, note that she should not initiate litigation at all if she expects to go to trial. After all, in that scenario, even without the expert report Penelope will lose 8,000 utils by going to trial. This result is worse than if she did not sue, where she would neither gain nor lose utils. In other words, she would decline to invest in litigation that would yield a net gain on average in dollars.204

By contrast, Penelope will pay for the expert in EVA. She also will have incentive to protect her legal rights through litigation. Her recovery in EVA without the expert will be 20% of $400,000 minus $40,000, which totals $40,000. This equals 40,000 utils. With the expert her recovery will be 25% of $400,000, or $100,000, less her costs of $50,000, which totals $50,000. This equals 50,000 utils. In other words, she will do better by $10,000, or 10,000 utils, by retaining the expert. In addition, with or without the expert, the litigation is worthwhile.

To be sure, the possible recoveries in a case, their odds of occurring, the costs of litigating, and their effect on the outcome of litigation can take various forms. That Penelope will make different choices in the hypothetical situation is an artifact in part of the values I have assigned to each of these considerations. At times, risk-averse plaintiffs will make the same expenditures in EVA and trial. The point, however, is that in EVA, as opposed to trial, risk-averse parties generally have an incentive to make any investments that would yield a net benefit on average in dollars.205 It is also worth noting that we would not expect risk-averse plaintiffs to make investments that would produce a net loss. They have no desire to take unprofitable risks just for the sake of gambling.206

204. I recognize that she might bring a lawsuit in the hope that Dwayne will settle. See BONE, supra note 16, at 45-50; Rosenberg & Shavell, supra note 26. Still, all else being equal, she is less likely to sue where trial would be a losing proposition than where it would be a winning proposition. In any case, this layer of strategic complexity is beyond the scope of this Article.

205. This follows, with some simplifying assumptions, from the proof in Appendix IV.

206. Admittedly, the analysis will sometimes be more complex than this argument suggests. For example, outcomes in litigation often are not binary. Moreover, the preferences of litigants may not conform to the models of a utility curves suggested above, if indeed they are consistent with any utility curves at all. Examples abound of preferences different than those we have assumed for Penelope and Dwayne. One likely possibility is a plaintiff who retains an attorney on a contingency basis. The attorney may be willing to pay the costs of litigation and to seek reimbursement for those costs and recovery of attorneys’ fees only if the plaintiff wins. Under
3. EVA May Promote Efficient Expenditures in Litigation

EVA will promote efficient litigation expenditures in litigation if one accepts two premises: (1) that the substantive laws and procedural rules are designed to be efficient and (2) that courts generally craft rules to promote efficiency relying on the simplifying assumption that parties are risk-neutral.

The idea that the substantive laws and the rules governing litigation tend to be efficient is not novel. Economists have long argued that these rules tend to approximate efficiency, if only under the guidance of something akin to Adam Smith’s invisible hand. This does not mean that law and economics has no room to criticize existing doctrine or to suggest reforms. It is simply that the law on the whole can be explained reasonably well as promoting efficiency.

At the same time, the bulk of economic analysis — descriptive and prescriptive — tends to assume that litigants are indifferent to risk. To be sure, economists recognize that parties tend to be averse to risk. As a practical matter, however, preferences about risk are too variable and too complicated for economists to take them into account routinely. Aversion to risk often confounds general predictions about how people will behave. As a result, most economic arguments, in practice if not in theory, assume risk neutrality. With this assumption in place, economists support the creation of incentives so that such circumstances, a different set of incentives in litigation may result. Of course, the incentives may not be that different. The concern about risk may simply shift from the client to the attorney, who may bring about decisions that are similar to the ones the plaintiff would make if her own money were at risk. Similarly, Dwayne may be insured, as most motorists are. The insurance company would likely be far less concerned than an individual about a loss of several hundred thousands of dollars at trial for any one case.

Still, the analysis in the text should be typical for those risk-averse litigants for whom EVA is an attractive choice.


208. See Frank I. Michelman, A Comment on Some Uses and Abuses of Economics in Law, 46 U. CHI. L. REV. 307, 308 (1979) (acknowledging that the law, taken as a whole, appears as it would if judges sought to maximize social wealth).

209. Typical in this regard is Posner, who both asserts that most people are averse to risk most of the time, see, e.g., POSNER, ECONOMIC ANALYSIS, supra note 2, § 1.2, at 12, but also discounts the importance of risk aversion, in part because of risk-spreading devices like insurance and the corporation, id. As a result, he discusses various topics without placing much emphasis on the notion of risk, including, for example, the so-called Hand Formula for determining liability for negligence. Id. § 6.1, at 163-65.

210. See, e.g., POSNER, ECONOMIC ANALYSIS, supra note 2, § 1.2, at 12.
individual parties pursuing their own self-interest will act to maximize wealth in society as a whole.

Within this framework, the incentives EVA creates to invest in litigation are preferable to those created by trial. The rules governing litigation, it is assumed, generally encourage parties to make efficient investments. Aversion to — or a taste for — risk will distort these incentives. EVA serves as a corrective to that distortion by diminishing the role that risk plays in litigation. As a result, parties are more likely to respond as if they are indifferent to risk. They will not make investments in litigation that produce a net loss on average in dollars. They will invest if and only if doing so produces a net gain on average in dollars. The parties' behavior will approximate risk neutrality, which is precisely the kind of behavior that courts (and economists) usually assume when crafting legal rules.\(^\text{211}\)

4. EVA May Enable Vulnerable Parties to Invest in Litigation to Protect Their Legal Rights

EVA may be of particular assistance to vulnerable members of society, who will be able to invest in EVA as if they were risk-neutral. As noted, vulnerable members of society tend to be particularly risk-averse.\(^\text{212}\) Aversion to risk is likely to keep such parties at times from investing in litigation that would benefit them on average. Perhaps even worse, risk-averse parties may be encouraged on other occasions to make investments that will yield a net loss on average in dollars. EVA should correct these tendencies.

Moreover, for similar reasons, EVA may improve the prospects for vulnerable parties in settlement. Vulnerable parties negotiating in the shadow of trial will be hindered by the prospect of an investment strategy that would not pay off on average in dollars. For example, a plaintiff might feel compelled to accept a low settlement because she is unable to fund litigation adequately. Alternatively, a defendant who cannot afford to defend a lawsuit may pay more in settlement than

\(^{211}\) This is true, for example, of the theory of efficient breach of contract. Efficiency can explain the rule that a breaching party should restore the nonbreaching party to the same position she would have occupied but for the breach. Doing so will deter breaches that do not add to social wealth. See id. § 4.8, at 119. This simple explanation, however, fails to take into account risk aversion or the cost of resolving a dispute. Considering risk aversion makes the analysis much more complicated. It is not clear that giving a prevailing party an efficient remedy following trial will encourage efficient conduct. The same is true of the rule that allows plaintiffs to receive compensatory damages in tort. See id. § 6.10, at 191-92. Indeed, economists often assume that incremental steps toward efficiency will help promote efficiency, even though this may not be true in our highly inefficient world. See generally John J. Donohue III, Some Thoughts on Law and Economics and the General Theory of Second Best, 73 CHI.-KENT L. REV. 257 (1998) (providing an overview of a theory that questions this way of proceeding — the so-called "Theory of Second Best").

\(^{212}\) Note, supra note 1, at 448-49.
the odds at trial justify. By encouraging vulnerable parties to make those investments — and only those investments — that pay off on average in dollars, EVA should help vulnerable litigants to insist on settlement terms that more closely reflect the average outcome at trial than if they were litigating to a winner-take-all result.\footnote{213}

IV. Assessing EVA from Various Theoretical Perspectives

Thus far, I have focused on analyzing three qualities of EVA: (1) EVA allows litigants to insist on their legal rights without the risk of trial; (2) EVA tends to produce relatively small errors, whether measured as expected error costs or as the size of errors in particular cases; and, (3) EVA encourages risk-averse litigants to make those investments — and only those investments — in litigation that will yield a net gain on average in dollars. The next issue is whether, in light of these characteristics, EVA should be made available as an option to disputants. Three perspectives are of particular use in addressing this issue: law and economics, rights theory, and a public-life conception of trial.\footnote{214} Part IV argues that parties should be permitted to choose EVA no matter which of these perspectives one adopts.

A. Law and Economics

Perhaps the most sympathetic view of EVA will come from economists. Economists generally seek to structure the law to encourage efficient behavior. For present purposes, it is useful to define behavior as efficient if it distributes goods and services to the person who would be willing to pay the most for them.\footnote{215} To use an equivalent formulation, behavior is efficient if it allocates goods and services in the same way as would a market with no barriers to transactions.\footnote{216}

\footnote{213. As noted above, powerful litigants may resist EVA for this reason, but they may not. \textit{See supra} Part III.A.3.b.}

\footnote{214. A fourth possible perspective is libertarianism. Libertarianism champions informed choice as an end in itself. It holds that people should be allowed to make decisions for themselves to the greatest extent possible. \textit{See}, e.g., \textsc{Robert Nozick}, \textit{Anarchy, State, and Utopia} 57-87 (1974). Making EVA available to disputants finds strong support in libertarianism, for EVA should both expand and clarify disputants’ options. Because no party would be forced to participate in EVA against its will, allowing parties to choose EVA does not appear to infringe on anyone’s rights. Still, this argument is not peculiar to EVA — it holds true for any alternative to trial. For that reason, it does not warrant extended discussion.}

\footnote{215. \textit{See} \textsc{Posner}, \textit{Economic Analysis}, \textit{supra} note 2, § 1.2, at 13.}

\footnote{216. \textit{See id.} § 1.2, at 12-16. I mean here to adopt the Kaldor-Hicks conception of efficiency. Judge Posner also adopts this conception and further claims that this is the method economists generally use in practice. \textit{Id.} § 1.2, at 14.}
1. Deferring to the Choice of the Parties

One would expect that economists' initial reaction to EVA would be positive. After all, parties will engage in EVA only if they choose to do so and economists generally defer to the private choices of parties.\textsuperscript{217} This should mean that, for disputants, EVA is wealth-maximizing.

Economists may nevertheless have some qualms about EVA. In particular, one concern might be that making EVA available as a choice will have undesirable effects on the incentives created for a party deciding whether to take action that may violate someone's legal rights. However, as Professor Hylton has pointed out in a related context, the parties should take into account the benefit of the incentives created by legal rights in deciding whether to agree to alternatives to trial.\textsuperscript{218} That decision will reflect (1) the cost of avoiding a rights violation, (2) the harm from failing to do so, and (3) the cost of the competing dispute resolution options.\textsuperscript{219} As a result, the parties should enter into EVA only if, all things considered, it is the best choice for them.\textsuperscript{220}

Economists may also focus on externalities in raising concerns about EVA. In particular, they may worry about the effect of incentives EVA would create on the rights of third parties. There are two responses to this concern. First, as Professor Hylton contends, the choice of some litigants (or prospective litigants) to enter into EVA should not affect third parties adversely: third parties can pursue their own claims if their legal rights are violated and can choose their own preferred method of dispute resolution.\textsuperscript{221}

Second, even if one does not accept Professor Hylton's argument regarding externalities — perhaps because not all harms give rise to legal rights — EVA would seem as likely to be efficient as trial. Assuming, for purposes of argument, that the law is efficient, EVA should not compromise that efficiency. After all, EVA does not change the average liability of defendants or the average

\textsuperscript{217} Economists are apt to treat dispute resolution as a private good. See, e.g., William M. Landes & Richard A. Posner, \textit{Adjudication as a Private Good}, 8 J. LEGAL STUD. 235 (1979). For a criticism of this approach, see, for example, Paul D. Carrington, \textit{Adjudication as a Private Good: A Comment}, 8 J. LEGAL STUD. 303 (1979). Indeed, if the private choices of parties were generally viewed as undesirable because they distort the incentives created by the legal system, settlement should be viewed as undesirable as well. However, the opposite is true. Economists generally approve of settlement. They should therefore approve of EVA as well.

\textsuperscript{218} See generally Keith N. Hylton, \textit{Agreements to Waive or to Arbitrate Legal Claims: An Economic Analysis}, 8 SUP. CT. ECON. REV. 209 (2000). Professor Hylton addresses the issue initially in the context of waiver of legal rights, but his analysis extends to alternatives to trial, as he notes. See id. at 213.

\textsuperscript{219} Id. at 218-22.

\textsuperscript{220} This conclusion follows naturally from the Coase Theorem, as Professor Hylton points out. Id. at 222.

\textsuperscript{221} See id. at 238-39.
recovery of plaintiffs. Those remain the same, as long as they are measured in average dollars. In this sense, EVA leaves the prevailing legal standard intact. As a result, when measured in expected dollars, EVA should not change the incentives the law creates.

One might counter this last point by arguing that EVA eliminates risk and, thereby, does to some extent change incentives. This change could lead to inefficiencies. However, this contention assumes a precision to economic analysis that probably does not exist in the real world. Economists, and courts to the extent they adopt economic analysis, infrequently take into account risk aversion in analyzing efficiency. They tend to work in average dollars. As a result, EVA’s tendency to decrease risk is just as likely to improve the efficiency of incentives as it is to render the legal system less efficient.222

2. Minimizing Errors

Economists should also approve of EVA because it tends to minimize errors. As discussed above, unlike proportionate damages, EVA produces the same expected error costs as trial.223 Moreover, like proportionate damages, EVA avoids the largest errors in particular cases.224 These characteristics of EVA should mean that actors will anticipate relatively small errors in EVA. Economists generally approve accuracy in adjudication and believe that accurate results should promote efficiency.225 Thus, EVA fares well by this criterion.

Of course, as scholars have noted, accuracy in adjudication is not always measured most effectively by the average size of errors or the size of errors in particular cases. Professor Levmore has made a strong argument, for example, that the preponderance-of-evidence standard will not minimize expected error costs in cases involving recurring wrongs and that in these circumstances it may be better to award proportionate damages in some cases.226 EVA produces the

222. Indeed, as I have noted, EVA may better promote efficiency to the extent it encourages parties to act as if they are risk-neutral. See supra Part III.C.
223. See supra notes 154-55 and accompanying text.
224. See supra Part III.B.1.b.
225. This is one of the premises of Judge Posner’s analysis of efficient rules of civil procedure and evidence. See POSNER, ECONOMIC ANALYSIS, supra note 2, § 21.2, at 549-50 (analyzing efficient rules of civil procedure); Posner, Economic Approach, supra note 2, at 1480-87 (analyzing efficient rules of evidence).
226. See Levmore, supra note 8, at 697-98. Levmore uses the term the “probabilistic rule” for what I have labeled proportionate damages. See id. at 697. Also, his proposal is not limited to proportionate damages. He suggests a hybrid of three approaches, depending on the confidence of the finder of fact in the proper result of a case, that would use either (1) a winner-take-all approach, (2) proportionate damages, or (3) a form of restitution. Id. at 721-25. This greater level of subtlety does not affect the point in the text.
same expected error costs as trial, so it too will not perform as well as proportionate damages in these circumstances.

Two responses are appropriate. A first, minor point is that recurring wrongs may be exceptional, which can explain in part why proportionate damages are not common in our legal system. If so, Levmore's criticism of the preponderance-of-evidence rule is valuable, but only in limited circumstances, as he recognizes.227

The second, more important point is that EVA and proportionate damages are not mutually exclusive. If courts would do better at times to award proportionate damages, and if they are able to identify the cases in which that is true, they may do well to adopt Professor Levmore's proposal.228 His approach would then become part of the calculation of EVA. The arbitrator would make a prediction about the average award in court, taking into account the possibility that trial would result in proportionate damages. Nothing about this or any other legal standard is incompatible with EVA.

3. Encouraging Efficient Expenditures in Litigation

Economists may further find EVA attractive because of the incentives it creates for investment in litigation. Evaluating this claim is tricky because economists have had difficulty settling on a compelling standard for when litigation costs are efficient. They have at times addressed this issue, most notably in the context of discovery and the rules of evidence,229 but no consensus has emerged.230

One plausible model for efficient investment in litigation is presented by Judge Richard Posner.231 He sets it forth in the context of assessing the rules of evidence, but his analysis can be extended to questions of law, depending on one's philosophical view.232 According to Judge Posner, two competing values are at stake in gathering evidence (and, I would add, in presenting it to the court).233 First, there are the costs of gathering evidence.234 These may be borne

227. See id. at 695-96.
228. See id. at 721-25.
230. As Robert Bone notes, one difficulty is that no ready measure of the social benefits from accuracy in litigation currently exists. See Bone, supra note 16, at 218.
232. Acceptance of this view may be implicit in Judge Posner's discussion of the impact of cases as precedent in addressing the social value of adjudicative accuracy. See id. at 1483.
233. Id. at 1481-87.
234. Id. at 1483.
by one or both parties, by the court in resolving discovery disputes, by third parties or by society at large. Additional evidence can enhance the prospects that the court will decide a case accurately, but, generally, with a trade-off in higher costs.

Balancing these costs and benefits, Judge Posner's plausible view is that an investment in litigation is efficient if it costs less than its predicted improvement in accuracy at trial. An improvement in accuracy, in turn, is measured by the product of the increased odds that the court will decide a case properly and the stakes of the litigation.

One could argue based on this model that EVA creates more efficient incentives to invest in litigation than trial. After all, EVA should tend to encourage investments in litigation if and only if they will result in a net improvement to a party's position. In other words, the amount of the investment must be less than the change in accuracy in the predicted outcome multiplied by the stakes.

Some problems arise with this justification for EVA, some of which apply more generally to Judge Posner's model. First, in deciding whether an investment will enhance its prospects in litigation, a party has little incentive to consider the costs and benefits to others. The party may ignore the costs it imposes on other participants in litigation, including the opposing party (who may have to respond, for example, to a discovery request), the court (which may have to resolve a discovery dispute), or third parties (who may have to respond to a subpoena). Indeed, a party may use potential harms from discovery strategically to extract a settlement on favorable terms from an adversary. Alternatively, the party may fail to conduct discovery that it perceives as too costly, even if it would benefit others, perhaps by improving the quality of a decision that will become binding precedent. Second, a party's prospects may improve by misleading, not just enlightening, the court. Additional evidence may lead the court astray; one cannot assume it will always enhance the accuracy of the court's decision. Third, the parties' competing investments may cancel out,

235. These costs can include not only time and money, but other harms that come from discovery including, as in Judge Posner's example, discouraging repairs after an accident if the repairs may be used as evidence of past liability. See id. at 1485.
236. See id. at 1483.
237. See id.
238. Id. at 1480-87.
239. Id. at 1483.
241. This point is reminiscent of David Luban's criticism of the adversary system: rather than the misleading claims by each party canceling out, they may be cumulative and yield an
and yet they may not be able to cooperate sufficiently to refrain from making those investments. Finally, the benefit to society from the accurate resolution of a case may not in fact correlate to the stakes for the parties. As Judge Posner notes, for example, high-stakes litigation may depend in part on interpretation of a law that has subsequently been revised. The value of accurate interpretation of the law will not necessarily correspond to the amount that is in controversy.

The difficulties of arriving at a compelling standard for efficient investment in litigation may support a relatively modest claim in favor of EVA, for EVA encourages litigants to make those investments and only those investments in litigation that will yield a net gain to a party on average in dollars. Approving of this effect is not inconsistent with adopting some other standard, like Judge Posner's, as a guide to formulating the rules of evidence or procedure. It simply adds another, useful criterion: all else being equal, a standard for dispute resolution is efficient if it encourages litigants to invest in litigation as if they were risk-neutral. Indeed, EVA does just that.

This conclusion follows, as discussed above, from assuming that the substantive and procedural rules are likely to be efficient, but only under the simplifying assumption that litigants are risk-neutral. EVA simply encourages litigants to conform to this model of behavior. Thus, EVA should promote efficiency.

4. Reducing Public Costs of Dispute Resolution

A final consideration in assessing EVA from an economic perspective is the effect it would have on the public cost of administering litigation. This issue tends to be of particular importance to economists. They see one of the main harms of litigation as the costs that it entails and are particularly concerned that litigants lack incentive to take into account the costs they impose on others. The salaries of judges and courtroom staff, the time of jurors who are conscripted

outcome that is doubly distorted. DAVID LUBAN, LAWYERS AND JUSTICE: AN ETHICAL STUDY 69-71 (1988).

242. The inability of the parties to cooperate means that they may face the much-discussed "prisoner's dilemma." For a discussion of this concept see R. DUNCAN LUCE & HOWARD RAIFFA, GAMES AND DECISIONS: INTRODUCTION AND CRITICAL SURVEY 95 (1957).


244. Judge Posner's economic analysis of the rules of evidence is typical in this regard — it offers no systematic account of the effects of aversion to risk. See generally Posner, Economic Approach, supra note 2, at 1477-87.

245. Judge Posner, for example, has identified minimizing the costs of adjudication and minimizing errors in adjudication as the twin aims of the rules of civil litigation. See POSNER, ECONOMIC ANALYSIS, supra note 2, § 21.2, at 549-52. It is worth noting, however, that he would define costs broadly, as including more than just the time and money invested in litigation. Posner, Economic Approach, supra note 2, at 1480-87.
to service, the maintenance of buildings that house trials — these are all externalities that litigants have little reason to consider in deciding how to resolve their disputes.246

Much like other alternatives to trial, EVA should ease the burden on the public of resolving disputes. This is another of its potential benefits, although it is not unique to EVA. All forms of alternative dispute resolution that lure disputants away from trial should, on the whole, ease the burden on state and federal judicatures. In EVA, as with other private means of dispute resolution, the parties pay for the dispute resolution process, which otherwise would be borne by the public.247

B. Rights Theorists

A second view from which to assess EVA is that of rights theorists. By rights theorists, I mean those who view legal rights as being intrinsically worthy of respect. A common justification for this view is that the law has a “moral authority.”248 Professor Ronald Dworkin has developed perhaps the most complete argument of any contemporary scholar as to why the law should be read as having a moral force that warrants our allegiance.249

246. For a similar point, see Hylton, supra note 218, at 213.
247. A possible argument to the contrary is that EVA may increase the overall rate with which parties initiate litigation. After all, if the possibility of EVA is attractive, plaintiffs who otherwise might not bring a claim may do so in the hope that the opposing party will ultimately agree on EVA. Further, predispute arbitration clauses opting for EVA could increase the total number of disagreements resolved by arbitrators’ decisions. Some of those decisions, in turn, may end up in the judiciary, if only through actions seeking to challenge or enforce the results of EVA.

Despite these arguments, it would be surprising if EVA would not produce net savings for the public. One would expect that EVA would have to be extraordinarily popular — and a common choice in situations where otherwise trials would occur — before people would take it into account in deciding whether to pursue litigation. The costs from the change in the marginal incentive to litigate because of EVA should be much smaller than the savings from cases in which a dispute does go to EVA but would otherwise have proceeded to trial. Moreover, only a small percentage of arbitrated cases end up in the judicial system at all. One would expect enforcement to be much less costly for the judiciary in any particular case, and in cases in general, than the trials that would occur without EVA. On the whole, then, EVA should reduce the public cost of dispute resolution.

Finally, it is true that the extent of the cost reductions from EVA will not be easy to detect, for not every case resolved by EVA would otherwise have gone to trial. Disputants may choose EVA over other means of private dispute resolution, including negotiation, mediation, and traditional binding arbitration. However, if EVA is the only viable alternative to trial for some parties, it should lower the costs to the public of dispute resolution as a whole.

248. I borrow the phrase from David Luban. See Luban, supra note 241, at 31-49.
249. See, e.g., RONALD DWORIN, LAW’S EMPIRE 211-16 (1986).
Rights theorists should find much about EVA attractive. As discussed above, EVA honors the prevailing legal regime in a way that other forms of imposed compromise do not. Moreover, as discussed above, EVA should empower the most vulnerable members of society by allowing them to pursue their legal rights without facing the risks of trial and by enabling them to invest in litigation as though they were risk-neutral.\footnote{Rights theorists have often been concerned about the legal rights of the most vulnerable members of society. \textit{See, e.g.}, Fiss, \textit{supra} note 118, at 1076-78.}

Rights theorists, however, might be less favorably impressed than economists with the approach EVA takes to errors in adjudication. After all, it could be argued that EVA abandons the effort to decide cases exactly correctly.\footnote{\textit{But see} Coons, \textit{Approaches, supra} note 8 (discussing the possibility that apportionment may offer precise justice).} A rights theorist might criticize EVA because parties’ rights should be vindicated, meaning that decision makers should try to get a case precisely right.

However, this view is unsatisfying. Although adjudicatory errors are undesirable, they are also inevitable. Further, trying to get a case precisely right comes at a cost. In particular, a winner-take-all approach does not mean that the decision maker will err by less on average than would EVA. To the contrary, if EVA is executed properly, it will produce the same errors on average as trial and, in any given case, any error it produces will tend to be relatively small.

Moreover, EVA is highly respectful of legal rights, once one acknowledges that litigation necessarily entails uncertainty. The compromises it produces are, in a sense, pure. As I have argued, they reflect only the law and the evidence, as they would be interpreted by potential decision makers. The only difference between trial and EVA in this regard is that trial reflects a single decision-maker’s assessment of the parties’ legal rights while EVA reflects a blend of how an expert believes different decision makers might resolve a dispute. None of this is to deny that a rights theorist might place some value on the potential trial holds to give full vindication to the legal rights of an aggrieved party. Rather, it simply recognizes that we cannot count on trial to be accurate in assessing the parties’ legal rights.

EVA, then, has both strengths and weaknesses. On one hand, EVA honors rights in a way that other forms of imposed compromise do not. Further, EVA may help the most vulnerable members of society pursue their legal rights. Even when it comes to errors in adjudication, EVA will produce the same errors on average as trial and avoid the largest errors that trial may produce. Once one accepts that errors are inevitable, this is a pretty attractive combination of characteristics.

On the other hand, EVA does not hold the potential for unqualified vindication of a party’s legal rights. Some parties may value this highly,
particularly when litigants are not so much concerned about practical relief as they are about a declaration of who is right and who is wrong. Although I would argue that the balance tips in favor of EVA, there may be no clearly preferable method for resolving disputes in light of these competing considerations.

Nevertheless, one firm conclusion may be possible: the choice should be left to the parties. After all, if the concern in civil litigation is to protect the legal rights of the individual to seek redress, in our system that right is alienable. This elucidates the clearly established rule that a party may choose not to seek legal vindication through a civil case at all. Further, a litigant may cede the right to sue for money or trade it for some other form of compensation.

Indeed, this holds true even when the underlying right a party possesses is not itself alienable. In this regard, it is important to distinguish between those rights that the substantive law protects and the right to seek redress in court. Some substantive rights are not permissible objects of exchange. For example, both suicide and consent to euthanasia are generally illegal.\textsuperscript{252} The right to live, then, is often not alienable. A person cannot accept a payment and in return agree to be the target of a killing. But a person who has been the victim of attempted murder may settle any civil claims she has against the attacker, choosing financial compensation, an admission of guilt, an apology, or some other form of compensation for an agreement not to pursue litigation. The underlying right, in other words, is \textit{not} alienable, but the right to seek redress in civil litigation \textit{is} alienable.

If the right to seek redress in court is individual and if it is alienable, EVA should be permissible. Perhaps for a \textit{court} to impose compromise against an aggrieved person's will would violate that person's right to legal redress. The aggrieved person may have a right to insist on taking a chance on full vindication, which EVA generally will not provide. This is a potential argument against imposing a compromise in court. However, we generally permit disputants to settle their civil claims on whatever terms they desire and do not require them to prosecute their civil claims at all. Given this deference to individual choice, making EVA available as an option is consistent with the individual right to vindication in court.

\textbf{C. The Public-Life Conception of Trial}

The perspective most likely to provide a basis for rejecting EVA is one that focuses on the message that court decisions communicate to society. This message can take many forms: it may be as pragmatic as providing precedent that

\textsuperscript{252} For an argument in support of the inalienable right to life and its implication for assisted suicide, see Daniel Avila, \textit{Assisted Suicide and the Inalienable Right to Life}, 16 ISSUES L. & MED. 111 (2000).
clarifies how courts are likely to resolve particular cases in the future,253 or as lofty as expressing the values that the law instantiates, and thereby inculcates in citizens.254 EVA would deprive society of these benefits.

From this perspective, looking at the size of errors in particular cases does not capture the gains and losses associated with EVA. As a private form of dispute resolution, EVA does not permit the government to use resolution of a disagreement as a means of communication. EVA does not entail a public proclamation of who was right and who was wrong, nor will resolution of a legal issue in EVA be binding on future litigants.

Indeed, even if a court, as opposed to an arbitrator, were to impose a compromised outcome, the gains and losses might not be reflected fully by an assessment of the size of errors. Communicating a legal rule, or the values that a rule embodies, probably cannot be achieved in half measures. A result that balances possible legal rules could leave the law ill-defined and, indeed, may contribute to its ambiguity. Even if a court were to make a determination of the law, and to compromise based only on its doubts about the facts, the message the court communicated might be garbled. At the least, a new standard would have to be developed to distinguish holdings from dicta, potentially confusing the import of a court’s ruling on the law. Indeed, the failure of a court to take a clear stand on what did and did not occur in a case might undermine confidence in the court’s judgment in a particular case,255 perhaps even in the legal system as a whole.256 These concerns about the message litigation communicates have some force in court. That the parties want a court to impose a compromise may not be a sufficient justification for it to do so. After all, parties do not have unfettered power to formulate the standard a court will use to resolve their disputes. They can choose to settle, but if they ask a court to impose a result, there are limitations on the willingness of courts to apply the law as the parties wish.257 Giving up this control may be a fair exchange for the burden that the parties are imposing on the legal system.

Nevertheless, two reasons support allowing parties to choose EVA. First, our system does not generally conscript parties into participating in civil litigation in order to send a message to society. Generally, if the parties to litigation agree on

253. POSNER, ECONOMIC ANALYSIS, supra note 2, § 20.3, at 543-44.
254. This is the concern, for example, of Charles Nesson. Nesson, supra note 8, at 1360.
255. See id. at 1360-63.
256. See id. at 1368-77.
257. Along these lines is the current controversy over whether courts should honor the decision of the parties to expand judicial review of the award in arbitration. See, e.g., Lee Goldman, Contractually Expanded Review of Arbitration Awards, 8 HARV. NEGOT. L. REV. 171 (2003); Margaret M. Maggio & Richard A. Bales, Contracting Around the FAA: The Enforceability of Private Agreements to Expand Judicial Review of Arbitration Awards, 18 OHIO ST. J. ON DISP. RESOL. 151 (2002).
the terms of settlement, they may deprive society of the benefits that trial (and appeal) would provide. Consistent with this general approach, parties should be allowed to choose EVA. Second, to the extent that EVA would benefit vulnerable members of society, we should hesitate to foreclose it as an option. Courts should not force the least well-off in society to bear the burden of providing our legal system with precedent and declaring the values that our legal system honors.

V. Practical Concerns about EVA

Finally, several practical concerns arise in analyzing EVA. These include: (1) whether EVA will be able to achieve predictability and reliability, (2) whether biases will affect arbitrators in EVA, and (3) which factors an arbitrator should consider in assigning an expected value to a case.

A. Predictability and Reliability in EVA

In time, EVA may progress beyond relying on the informed judgment of a seasoned lawyer or judge. Empirical evidence may be amassed to support EVA, which could lend accuracy and predictability to the awards imposed by expected value arbitrators. Institutions dedicated to providing arbitration services will have an incentive to collect data on the outcomes of litigation in various fields and to make that data available to disputants contemplating EVA. Litigants entering EVA with such service providers thus would retain their right to argue their case before a neutral party, while gaining confidence about the likely outcome of adjudication without fear of an aberrantly unfavorable result.

Indeed, use of empirical evidence to assign expected value may be the next natural step in an ongoing progression. Consider the decision of Judge Weinstein in Geressy v. Digital Equipment Corporation. New York law required the federal court in a diversity action to assess whether the amount of the jury award "deviate[d] materially from what would be reasonable

258. Indeed, even in areas where a court must approve a settlement, the concern is with ensuring only that its terms are fair. This is true for example of the requirement in class actions, designed to protect absent class members, that a settlement must be "fair, reasonable, and adequate" to meet the approval of a court under Federal Rule of Civil Procedure 23(e). See, e.g., Officers for Justice v. Civil Serv. Comm'n, 688 F.2d 615, 625 (9th Cir. 1982). Courts generally will not take into account the benefit to society of trial or appeal. In class actions, for example, the concern of the court is that the settlement is fair to the parties involved, especially absent class members, id. at 625, not that it will benefit society as a whole.

259. For a similar point in regard to the allocation of attorney's fees, see Davis, Toward a Jurisprudence, supra note 18, at 138.

compensation.\textsuperscript{261} In undertaking this effort, Judge Weinstein focused in particular on a large award for pain and suffering.\textsuperscript{262} He used as a guide a statistical analysis of awards in past cases: first, he grouped together similar cases; second, he assessed the statistical variation within the group; and third, he defined in statistical terms the materiality of the deviation.\textsuperscript{263}

A similar sort of analysis could add rigor and predictability to EVA. Providers of dispute resolution services could identify the characteristics of disputes that appear to have the most significant influence on whether the plaintiff will win and the amount of any recovery. This information could then be provided to litigants, for it is the litigants who best know the considerations that will inform resolution of the dispute and the plaintiff's likely recovery. Of course, some crucial information may have to await an assessment by the arbitrator. The credibility of a key witness, for example, may figure prominently in assessing the probable result in a case, a determination which cannot be made authoritatively until the witness actually testifies. In general, however, transparency about the methodology for calculating awards in EVA and the data on which the arbitrator will rely should clarify the choices available to litigants, giving litigants a greater ability to anticipate the outcome of EVA.

None of this is to say that EVA would at first be perfectly accurate or predictable. Judge Weinstein himself recognized in \textit{Geressy} the imprecision of his effort.\textsuperscript{264} He hoped for improvement as "[i]n time, a sophisticated literature and precedents may develop."\textsuperscript{265} EVA will be similarly imprecise at first. With experience, however, EVA might benefit from — and contribute to — the development of a literature and data regarding court awards under various circumstances. The result could well be a relatively predictable form of dispute resolution — indeed, one that may be more predictable than trial.

\textbf{B. Biases that May Affect Arbitrators}

Given the novelty of EVA, it is also important to consider how arbitrators might stray from their task. In particular, they may be influenced by various biases. Two are likely. The first will occur if the arbitrator is unable to separate her view of the facts and the law from the views others might hold. In other words, she may have a tendency to impose a winner-take-all approach rather than

\textsuperscript{261} N.Y. CIVIL PRACTICE LAW § 5501(c) (McKinney 1995). The U.S. Supreme Court had previously held that application by a federal court of this New York standard in a diversity action did not violate the Seventh Amendment to the U.S. Constitution. See Gasperini v. Ctr. for Humanities, Inc., 518 U.S. 415 (1996).

\textsuperscript{262} \textit{Id.} at 653-57.

\textsuperscript{263} \textit{Id.}

\textsuperscript{264} \textit{Geressy}, 980 F. Supp. at 655-63.

\textsuperscript{265} \textit{Id.} at 659.
the average of predicted results. A second possibility is that arbitrators may be apt to "split the difference" too often. Rather than ruling in a way that may reflect the chances of success of a litigant with a strong case, the arbitrator will choose an outcome that strikes a balance between the positions of each party.

Both of these tendencies seem possible, and a few general points should be made in response. First, these tendencies may be off-setting. An arbitrator's inclination to "split the difference" may run directly contrary to her view of how the case should be decided. When both tendencies motivate a single arbitrator, they may cancel one another out. Of course, this reasoning will not apply when the two biases skew the results in the same direction or when an arbitrator is motivated by one tendency and not the other.

A second general point about possible bias is that any condemnation of EVA should await its actual practice. Only with experience can we assess whether the outcomes approximate the averages at trial and gain the confidence of practicing attorneys.

A third, related point is that arbitrators may become progressively more disciplined about imposing expected value outcomes over time. This may be aided by an institution's experience with using data to make determinations more reliable and predictable.\footnote{266}{See discussion supra Part IV.A.}

Aside from these general responses, brief attention to each type of bias is appropriate. The first concern is that arbitrators will have a tendency to decide issues on the merits. This may occur because of a conscious decision not to follow the rules of EVA. More likely, however, an arbitrator will be unaware that she is overly optimistic in assuming that others will agree with her. This tendency will result in expected value outcomes that approximate winner-take-all outcomes more than they should. While this result will not honor the choice of the parties, it should not keep EVA from being a viable alternative to trial. Such a bias would merely make EVA a hybrid between the standard it is supposed to impose and trial.\footnote{267}{Indeed, many suspect that this hybrid already exists in winner-take-all litigation, where decision makers, including arbitrators and juries, may cheat toward an average result in difficult cases. In regard to arbitrators, see, for example, Ware, supra note 39, which discusses evidence that arbitrators often do not follow a strict interpretation of the law. In regard to juries, see, for example, Noah, supra note 65, at 1612-18, which discusses evidence that juries nullify legal standards by reaching compromise verdicts that split the difference between parties.} This hybrid may be attractive to some litigants, even if they would prefer a purer form of EVA.

The second concern is that arbitrators may avoid difficult decisions. They may be tempted to cheat toward an inappropriate compromise. This problem, however, extends beyond expected-value arbitrators. In fact, this temptation may be stronger at trial, given the harsh results it tends to produce, than in EVA,
where the arbitrator is permitted to compromise based on uncertainty. Given that trial suffers from this possibility in much the same way as EVA, it is not a reason to rule out EVA as an option for litigants who prefer EVA to trial.

Indeed, in dispute resolution generally, perhaps the most effective check on both of the biases discussed above would be to have as many clearly defined options available to litigants as possible. Decision makers who feel that litigants have made an informed choice may be less reluctant to impose the requested standard rigorously. For example, many lawyers believe that some decision makers already “split the difference,” even though they are supposed to apply the law to the facts just as a court would.268 This is troubling because litigants rarely know whether, for example, their arbitrator will choose to impose a compromised outcome and, if so, what the arbitrator will consider in reaching a compromise. Traditional arbitrators may be more rigorous in undertaking their assigned task, however, if they know litigants could have chosen EVA and declined to do so. Making EVA available, therefore, would not only allow litigants to have a compromise imposed on them but, ironically, it might also increase the ability of litigants to pursue a winner-take-all result in arbitration.269

C. Factors in Assigning the Expected Value of Trial

EVA depends in part on the law and the evidence. Various other factors, however, affect the average result of trial, some of which the arbitrator should take into account and others the arbitrator should not.

Perhaps the most troubling issue in this regard is whether the EVA arbitrator should take each party’s relative financial (and therefore legal) resources into account. Couched in terms of our now familiar example, the question is, should the fact that Penelope could have afforded more effective attorneys than Dwayne affect her recovery in EVA? If so, Penelope might argue that the arbitrator should award more than the evidence and the law suggest.

This argument has some force. It is true that the relative resources of the parties are likely to skew the results of trial. Otherwise, the substantial investments that parties make in litigation are difficult to explain.

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268. See also Goldberg et al., supra note 35, at 210 (noting popular perception that arbitrators tend to reach compromise results and pointing out that they may do so to avoid antagonizing parties who may choose to hire them in the future). See generally Ware, supra note 39.

269. A difficulty arises in this analysis because a party may be forced into winner-take-all trial or arbitration, when in fact, she would prefer EVA. This is because, at present, courts impose trial, with its winner-take-all approach, if parties do not agree on an alternative. This may provide some justification for a judge or jury’s implicit imposition of a compromise. It can even justify similar conduct by an arbitrator because, after all, a party may choose winner-take-all arbitration as the only alternative to winner-take-all trial the other side will accept, and not in preference to EVA or some other form of imposed compromise.
Nevertheless, there are several available responses. First, Dwayne may complain of double counting. Penelope’s greater resources are likely to affect the presentation to the arbitrator; thus, to take into account the disparity in resources a second time may fail to predict accurately how an actual court would be likely to rule.270

A second and more fundamental objection to Penelope’s argument is that disparities in resources should not affect the outcome of dispute resolution at all. That they do is a necessary evil in our adversarial system.271 Courts are supposed to judge the merits of a lawsuit, not the parties before them. A natural corollary to this axiom is that a party’s wealth should not benefit it at trial. Accordingly, courts should attempt to compensate for disparities in resources, not deliberately exacerbate them.272 For this reason, EVA — like trial — should be designed to minimize the effect of disparities in resources on dispute resolution.

Nevertheless, Penelope might agree to EVA only if the arbitrator is instructed to award an amount that reflects her greater wealth. Even subject to this condition, Dwayne may prefer EVA to trial. And because the parties have control over the standard the arbitrator is to use, the arbitrator would seem bound to honor this agreement. However, sufficient protection for a vulnerable party may come from the opposing party’s lack of interest in defining EVA with this degree of precision.273 The default rule should be that disparities in resources will have whatever effect on the arbitration as is inevitable based on the quality of each party’s presentation to the arbitrator and no more.

In any case, arbitrators should be able to address these and other considerations over time.274 About some of the relevant factors arbitrators will

270. This objection, however, does not undermine Penelope’s argument completely. Relative resources may have a more profound effect at trial than in Expected Value Arbitration, as I have argued above. See supra Parts III.A and III.C.
271. Cooper, supra note 118, at 1269-74.
272. For a similar concern, see, for example, Fiss, supra note 118, at 1077.
273. Courts also may refuse to enforce agreements to enter EVA if they are framed in a one-sided manner. See, e.g., Ting v. AT&T, 319 F.3d 1126, 1149-50 (9th Cir. 2003) (affirming in part a refusal to enforce arbitration agreement under California law because of its “onesidedness”).
274. Similar issues arise around other possible factors affecting the outcome in EVA. For instance, the presiding judge may have an impact on the outcome at trial. If the parties know that a particular judge is assigned to their case, they could well make arguments about how that judge is likely to rule. This problem may arise with great infrequency, however: parties may generally agree to enter EVA before either side files a lawsuit and the case is assigned to a judge. Moreover, to the extent a judge has been assigned but judge-shopping remains a possibility — for example, if one of the parties might file additional cases and then attempt to coordinate or consolidate the cases in a different court — the odds of the success of this strategy, too, might be taken into account. Nevertheless, in some instances the identity of the judge in a case may be known.
no doubt be explicit at the outset. About others the parties may simply not require clarification. Determining which considerations count in EVA should not pose an insurmountable obstacle to its adoption.

VI. Conclusion

EVA has several attractive features. First and foremost, it would allow parties to have an objective expert impose a fair compromise based on a prediction of what would happen in court. This option should attract two, overlapping groups: (1) disputants who wish to compromise but cannot agree on the terms of a settlement, and (2) parties who are averse to risk but want the benefit of a neutral assessment of their legal rights. EVA will meet the needs of some of these disputants better than any existing form of dispute resolution. Further, EVA will minimize errors in resolving disputes and encourage more desirable expenditures on litigation than trial. For these reasons, EVA is an idea whose time has come. The next important step is to make EVA available to litigants, providing an opportunity to see how well it works in practice.

Taking this factor into account in calculating the expected value of a case runs counter to the fiction that judges are neutral and merely apply the law to the facts before them. Ours is supposed to be a system of the rule of law, not of men (or women). See Antonin Scalia, The Rule of Law as a Law of Rules, 56 U. CHI. L. REV. 1175 (1989). No experienced litigator believes this to be true. Indeed, many litigators believe that the judge is one of the most important factors in one’s chances for success in litigation. Nevertheless, it is unfortunate that so much depends on which judge presides. Perhaps the best answer, much like with disparities in resources, is that in the interests of justice, the expected-value arbitrator should not predict the outcome before a particular judge, unless the parties so specify.

Another factor is the location of the litigation. The judges in a jurisdiction may tend to share a view of the law, and juries from a particular locale may have common sympathies and biases. Again, at the least, the possibility of successful forum shopping by either party must be considered. Furthermore, if the litigation has yet to commence, the parties might fairly debate where it should legitimately be filed.

Allowing the inclinations of judges and juries in a particular locale to inform the decision of the expected value arbitrator is somewhat less troubling than considering the propensities of a particular judge, if only because a greater cross-section of decision makers is involved. It also may lend greater precision in predicting what a court would be likely to do. For these reasons, arbitrators should be somewhat less resistant to taking this factor into account, whether or not the parties provide explicit instructions.
APPENDIX 1

The expected error costs under EVA and trial are the same, assuming the following definitions:

\[ P = \text{the odds that the plaintiff should win.} \]
\[ J = \text{the odds that the plaintiff will win.} \]
\[ O = \text{the outcome if the plaintiff wins.} \]

Assume that there are two possible outcomes: the plaintiff loses or recovers \( O \).

Assume that the expected error costs are measured by the difference between the right result at trial and the actual award to the plaintiff.

In expected value arbitration, the plaintiff will recover the outcome \( O \) multiplied by the likelihood the jury will decide in \( P \)'s favor \( J \). The odds are \( P \) that the plaintiff should win, in which case the error is the difference between \( O \) and the amount awarded \( (O 	imes J) \), and the odds are \( 1 - P \) that the plaintiff should lose, in which case the error is the amount awarded \( (O 	imes J) \).

So the expected error costs are \( P \times (O - OJ) + (1 - P) \times O \times J = P \times O + J \times O - 2P \times J \times O = O \times (P + J - 2PJ) \).

In trial, two possibilities should be considered. First, with a likelihood of \( J \times (1 - P) \), the plaintiff will win but should lose, producing an error of \( O \). The resulting expected error costs are \( J \times (1 - P) \times O \). Second, with a likelihood of \( (1 - J) \times P \), the plaintiff will lose but should win, producing an error of \( O \). The resulting expected error costs are \( (1 - J) \times P \times O \).

So the expected error costs are \( J \times (1 - P) \times O + (1 - J) \times P \times O = O \times (J - JP + P - JP) = O \times (P + J - 2PJ) \).

The expected error costs are the same for EVA and trial.
APPENDIX 2

The proof assumes the following definitions:

\[ P = \text{the odds the plaintiff will win and, by assumption, that the plaintiff should win.} \]
\[ O = \text{the outcome if the plaintiff should win.} \]

Assume that there are two possible outcomes: the plaintiff loses or recovers O.

Assume that the expected error costs are measured by the difference between the right result at trial and the actual award to the plaintiff.

The expected error costs are as follows:

In EVA, the plaintiff will receive P x O.

The odds are P that the plaintiff should win, but will receive only P x O, for expected error costs of P x (O - (P x O)).

The odds are (1 - P) that the plaintiff should lose, but will receive P x O, for expected error costs of (1 - P) x (P x O).

The expected error costs, then, are P x (O - (P x O)) + (1 - P) x (P x O) = P x O - \(P^2 \times O\) + P x O - P x O = 2 x P x O - 2 x (P^2 x O).

The expected error costs in winner-take-all adjudication are:

The odds are P x (1 - P) that the plaintiff should win but will not win, in which case the expected error costs are P x (1 - P) x (O),

The odds are (1 - P) x (P) the plaintiff should lose but will win, in which case the expected error costs are (1 - P) x P x (O).

The expected error costs, then, are P x (1 - P) x O + (1 - P) x P x O = 2 x P x O - 2 x (P^2 x O).

The expected error costs are the same for EVA and trial. Note that this result follows from the proof in Appendix I, if one substitutes P for J.
APPENDIX 3

For purposes of this proof, the following definitions apply:

\[ E = \text{the error as measured by the square of the difference between the right result and the amount awarded in a case.} \]
\[ N = \text{the number of different right outcomes that may occur in a case.} \]
\[ P_i = \text{the likelihood that a given outcome } X_i \text{ is correct.} \]
\[ X_i = \text{a possible right outcome in a case.} \]
\[ A = \text{the award in the case.} \]

The error for a given correct result in a case is measured as \[ E = P_i(A - X_i)^2. \]

For all of the possible correct outcomes in a case, \[ E = \sum_{i=1}^{N} P_i(A - X_i)^2. \]

Setting the first derivative equal to zero to minimize errors, \[ \frac{dE}{dA} = \sum_{i=1}^{N} (P_i)(2A - X_i) = 0. \]

This is the same as stating \[ \sum_{i=1}^{N} P_iA = \sum_{i=1}^{N} P_iX_i. \]

\[ \sum_{i=1}^{N} P_iA = A, \text{ so } A = \sum_{i=1}^{N} P_iX_i. \]

This expression is the same as the mean of the possible right results in litigation, with each weighted by its likelihood of being right. It is the same as proportionate damages. In other words, proportionate damages will minimize errors measured as the square of the difference between the right result and the actual award in litigation.
APPENDIX 4

Assume litigation with two possible outcomes, O1 and O2. O2 > O1.

An investment of $c will correlate to a probability of p(c) of O2 and a probability of [1 – p(c)] of O1.

A utility of U(x) is associated with a recovery of $x, which is the judgment less litigation costs.

Assume 0 < p(c) < 1, that is, the likelihood of O2 is between 0% and 100%.

Assume 0 < c < O2 – O1, that is, an investment in litigation is greater than $0 but less than the difference in outcomes.

Assume U’(x) > 0, that is, additional marginal dollars bring additional utility.

Assume U”(x) < 0, that is, marginal utility diminishes with each additional dollar.

Assume p’(x) > 0, that is, larger investments in litigation will increase a party’s prospects at trial.

Assume p”(x) < 0, that is, marginal investments in litigation produce progressively less benefit. (This should be true on the whole, although there will be instances in which a discontinuous benefit will accrue to party from a larger investment.)

The utility to a plaintiff who in EVA who spends $c is:

\[ H(c) = U\{p(c)(O2 - c) + [1 - p(c)](O1 - c)\} = U\{p(c)(O2 - O1) + (O1 - c)\} \]

The first derivative is . . .

\[ H'(c) = U'\{p(c)(O2 - O1) + (O1 - c)\} [p'(c)(O2 - O1) - 1] \]

The second derivative is . . .

\[ H''(c) = U''\{p(c)(O2 - O1) + (O1 - c)\} [p'(c)(O2 - O1) - 1]^2 + U'\{p(c)(O2 - O1) + (O1 - c)\}p''(c)(O2 - O1). \]

The optimal c, which is C, follows from setting H'(c) = 0. The first factor—U’—is, by assumption, greater than 0. So p'(C)(O2 – O1) – 1 = 0. In other words, p'(C) = 1/(O2 – O1).

Note also that the second factor in H”(c) = 0, U’ > 0, O2 > O1, and p”(c) < 0, so c = C is an optimal investment, as measured in utils in EVA (as well as in dollars).

Analogous reasoning applies to investments by risk-averse defendants.