

2010

Toward a General Theory of Standards of Proof

Frederick E. Vars

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Recommended Citation

Frederick E. Vars, *Toward a General Theory of Standards of Proof*, 60 Cath. U. L. Rev. 1 (2011).
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TOWARD A GENERAL THEORY OF STANDARDS OF PROOF

Fredrick E. Vars⁺

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Did O.J. Simpson kill his ex-wife Nicole Brown Simpson and her friend Ronald Goldman? A criminal jury said no; a civil jury said

⁺ Assistant Professor, University of Alabama School of Law. Thanks to Ian Ayres, Bill Brewbaker, Adam Cox, Shahar Dillbary, Heather Elliot, Caroline Harada, Paul Horwitz, Dan Joyner, Ron Krotoszynski, Grace Lee, Beth Milnikel, Mike Pardo, David Patton, Roger Perlstadt, Meredith Render, Alex Stein, and Norman Stein, each of whom contributed at various points in this Article's development. The Article also benefited from the comments of participants at the American Law and Economics Association, where it was presented. Thanks also to Dean Ken Randall and the University of Alabama Law School Foundation for generous research support.

yes.¹ These seemingly inconsistent verdicts can be reconciled because the juries actually answered different questions. The issue before the criminal jury was whether O.J. was proved guilty beyond a reasonable doubt.² The issue before the civil jury was whether it was more likely than not that O.J. killed Nicole and Ronald.³ Taken together, the juries indicated that they believed O.J. probably did it, but that there was room for reasonable doubt.⁴

Absolute certainty is generally unattainable in legal proceedings. As a result, triers of fact, like the O.J. juries, are given guidance on how to resolve uncertainty. A primary guide is the standard of proof—the level of confidence or type of evidence required to decide a case one way or another.⁵ One method to calculate the optimal standard of proof is based solely on the utilities of the possible trial outcomes.⁶ This method is formalized in an equation set forth in the body of this Article.⁷ Two points about this method should be emphasized at the outset: (1) the formula generates a probabilistic standard—for example, convict only if you are at least ninety percent sure the defendant is guilty; and (2) the formula is incomplete.

There is a substantial body of literature criticizing this formula on both grounds.⁸ This Article builds upon and adds to this criticism, and argues that the utility of trial outcomes alone cannot determine the optimal standard of proof.⁹ For example, scholars have identified the strength of evidence, the accuracy of adjudicators, and the merits distribution as factors that must be

1. B. Drummond Ayres, Jr., *Civil Jury Finds Simpson Liable in Pair of Killings*, N.Y. TIMES, Feb. 5, 1997, at A1.

2. *Id.*; see also Nina Bernstein, *Views of a Legal Ordeal*, N.Y. TIMES, Feb. 5, 1997, at A1.

3. Bernstein, *supra* note 2, at A1.

4. Whether such doubts are still reasonable is questionable after the publisher labeled O.J.'s aborted account of the murders, *If I Did It*, a “confession.” Julie Bosman, *Simpson Publisher Explains*, N.Y. TIMES, Nov. 18, 2006, at A11.

5. See LARRY LAUDAN, TRUTH, ERROR, AND CRIMINAL LAW 64–65 (2006) (explaining how standards of proof provide guidance on resolving uncertainties).

6. See *infra* text accompanying note 60 (describing and providing Equation 4); see also Alan D. Cullison, *Probability Analysis of Judicial Fact-Finding: A Preliminary Outline of the Subjective Approach*, 1 U. TOL. L. REV. 538, 564–71 (1969) (explaining the theory behind calculating the optimal standard of proof based on the utilities of difficult trial outcomes).

7. See *infra* Equation 4.

8. Michael L. DeKay, *The Difference Between Blackstone-Like Error Ratios and Probabilistic Standards of Proof*, 21 LAW & SOC. INQUIRY 95, 99 (1996) (demonstrating that probabilistic standards of proof do not guarantee a constant ratio of judicial errors); Michael S. Pardo & Ronald J. Allen, *Judicial Proof and the Best Explanation*, 27 LAW & PHIL. 223, 224–25 (2008) (contending that, not only do probabilistic theories incompletely explain the judicial proof process, but also that they “are parasitic on the more fundamental explanation-based considerations”); see also Ronald J. Allen, *The Restoration of In re Winship: A Comment on Burdens of Persuasion in Criminal Cases After Patterson v. New York*, 76 MICH. L. REV. 30, 47 n.65 (1977) (“Without knowing the distribution of guilt probabilities of factually innocent and guilty defendants, we cannot know the actual effect of choosing one standard of proof over another.”).

9. See LAUDAN, *supra* note 5, at 69–74.

considered.¹⁰ This Article puts these considerations and others into a new framework for selecting standards of proof.

Critics of the probabilistic approach may be unsatisfied with my treatment of the first point—framing the standard in probabilistic terms. I adopt the probabilistic approach without a formal response to the many criticisms leveled against it. My rationale is three-fold: (1) appellate courts have adopted the probabilistic approach; (2) the probabilistic approach allows for easier quantification than alternatives, such as the explanatory approach;¹¹ and (3) most importantly, the implications of my analysis apply regardless of which approach to standards of proof is adopted. Even the most vociferous critics of the probabilistic approach would concede that the utilities of trial outcomes are relevant to selecting a standard of proof. Such critics should also recognize the relevance and impact of the other factors identified by this Article. Operationalizing my framework non-probabilistically would be difficult, but not impossible. Indeed, proponents of other approaches arguably must do so to account for all the relevant factors.

The goal of this Article is to outline a systematic and complete justification for selecting between probabilistic standards of proof as a model for future inquiry. Perhaps the most important conclusion of this Article is that selecting a standard of proof, absent data that is not realistically attainable, is necessarily tentative. Some of the factors that go into selecting a standard of proof are affected by the choice of standard in ways that pure theory cannot predict. One might throw up one's hands at this point, but that would be a mistake. Courts and legislators must select standards under conditions of imperfect information, and the outcomes of real cases hang in the balance. The analysis set forth in this Article ought to guide the selection of standards of proof, even though it may not always determine the optimal choice.

This Article principally examines will contests in which a party alleges that the testator lacked the mental capacity to execute the will;¹² it then illustrates the general applications of that examination. Part I introduces the will-contest context, asking a deceptively simple question: which standard of proof—

10. *Id.* at 73.

11. See, e.g., Michael S. Pardo, *Second-Order Proof Rules*, 61 FLA. L. REV. 1083, 1102–04 (2009) (“A fact is proven by clear and convincing evidence when the explanation of the evidence and events in dispute that includes this fact is clearly and convincingly better than explanations that do not.”). A parallel probabilistic instruction might read: a fact is proven by clear-and-convincing evidence when you are at least 75% sure of its truth.

12. The Restatement (Third) of Property explains the standard of mental capacity:

To have mental capacity to make a will, the law requires the testator to be ‘of sound mind.’ To be ‘of sound mind,’ the testator must, when executing a will, be capable of knowing and understanding in a general way the nature and extent of his or her property, the natural objects of his or her bounty, and the disposition that he or she is making of that property, and must also be capable of relating these elements to one another and forming an orderly desire regarding the disposition of the property.

RESTATEMENT (THIRD) OF PROP.: WILLS & OTHER DONATIVE TRANSFERS § 8.1 cmt. c (2003).

preponderance of the evidence or clear-and-convincing evidence—is better? Part II provides what I believe to be the first systematic outline of a mathematical solution to the problem of selecting between two standards of proof, in any context. Part III discusses the assumptions behind the mathematics and examines the validity of each assumption and how each affects the conclusion, if at all. Part IV combines the insights of Parts II and III and discusses whether a revised answer is warranted and whether a definitive answer is achievable. Part V considers extensions of the analysis to standards of proof in three other contexts.

I. THE QUESTION: WHICH STANDARD OF PROOF IS BETTER FOR INCAPACITY WILL CONTESTS?

At a dinner party Mrs. [Brooke] Astor had at her apartment in January 2002 for Kofi Annan, Dr. [Henry] Kissinger testified, Mrs. Astor leaned toward him and asked, “Who is the black fellow who is sitting on the other side of me?” “Kofi Annan,” he said he responded. And when she later asked if Mr. Annan was distinguished, Mr. Kissinger said he told her: “He is a very distinguished man. He is secretary general of the United Nations.”¹³

This testimony was given in a criminal case against Astor’s only son,¹⁴ Anthony Marshall, in which Marshall was ultimately convicted for, among other things, taking advantage of Astor’s “diminished mental capacity” by having her amend her will in his favor.¹⁵ The Astor case was unusual not only because of the star power of the witnesses, but also because it is very rare for a will to be challenged in criminal court. Because of the setting, the state arguably had to prove incapacity beyond a reasonable doubt.¹⁶ In the simultaneous and still-pending will contest in civil court,¹⁷ the burden is on the proponent of the will to prove capacity by a preponderance of the evidence.¹⁸

In New York, where the Astor case was heard, the approach to the burden of proof in capacity will contests is traditional—the proponent carries the

13. John Eligon, *At Astor Trial, Famous Faces Turn Heads, and Testify*, N.Y. TIMES, May 22, 2009, at A23 [hereinafter Eligon, *Astor Trial*].

14. *Id.*

15. *People v. Marshall*, Indictment No. 6044-07, slip op. at 1 (N.Y. Sup. Ct. July 29, 2010), available at <http://news.findlaw.com/cnn/docs/brookeastor/nymrshll1107ind.html>; see also John Eligon, *Mrs. Astor’s Son Guilty of Taking Tens of Millions*, N.Y. TIMES, Oct. 9, 2009, at A1.

16. 75 AM. JUR. 2D *Trial* § 1091 (2007) (“In criminal cases, the jury should be instructed that the burden rests upon the state to prove the guilt of the accused beyond a reasonable doubt . . .”).

17. *In re Astor*, 879 N.Y.S.2d 560, 562 (N.Y. App. Div. 2009).

18. See A. G. Sulzberger, *Fate of the Astor Fortune Is Uncertain, Despite a Verdict*, N.Y. TIMES, Oct. 9, 2009, at A25 (noting that, in civil court, the standard of proof is by a preponderance of the evidence); see, e.g., *In re Will of Buckten*, 578 N.Y.S.2d 754, 755 (N.Y. App. Div. 1991).

burden.¹⁹ The modern approach in capacity will contests, followed by a majority of jurisdictions, places the ultimate burden to prove incapacity on the contestant.²⁰ As noted, civil will contests require a lower standard of proof than criminal cases.²¹ In will contests in which testator incapacity is alleged, most jurisdictions require proof by a preponderance of the evidence.²² That standard, however, is not universal.²³

Some courts lay down a rule, which, in form at least, requires more than a preponderance. It has been said that the evidence, especially of insanity, need not be more than to a reasonable satisfaction, or that insanity must be established by the manifest weight of the evidence, or that the evidence must be clear, or the evidence must be strong, or that the evidence must be clear, definite, and weighty, or that there must be a great preponderance of the evidence of incapacity, or that the evidence must be clear, convincing and satisfactory, or the greatest and most satisfactory evidence of incapacity, or that the evidence must be conclusive, or cogent and convincing, or evidence like that which is required in a criminal case to rebut and to overcome the presumption of innocence.²⁴

19. THOMAS E. ATKINSON, HANDBOOK OF THE LAW OF WILLS § 196, at 508 (1937) (“According to the orthodox view the proponent has the burden of proof as to mental capacity”); EUNICE L. ROSS & THOMAS J. REED, WILL CONTESTS § 6:14, at 6-67 n.39 (2d ed. 1999) (noting that, in a will contest in New York, “the proponent has the burden of proving that the testator possesses testamentary capacity”).

20. ATKINSON, *supra* note 19 (“[A] substantial number of courts place this burden on contestant.”); UNIF. PROBATE CODE § 3-407, 8 U.L.A. 87 (Supp. 2010) (“Contestants of a will have the burden of establishing lack of testamentary intent or capacity”).

21. Interestingly, Louisiana, for a time, required proof beyond a reasonable doubt of testamentary incapacity. *In re Lyons*, 452 So. 2d 1161, 1164–65 (La. 1984) (explaining that Louisiana previously “likened the requisite burden of proof to that required to overcome the presumption of innocence in criminal cases”) (citing *In re Mithoff*, 122 So. 886, 887 (La. 1929)). Louisiana currently requires proof “by clear and convincing evidence that the donor lacked capacity.” LA. CIV. CODE ANN. art. 1482(A) (2000).

22. 3 WILLIAM J. BOWE & DOUGLAS H. PARKER, PAGE ON THE LAW OF WILLS § 29.35, at 574 & n.1 (2004) (citing thirty-three jurisdictions as requiring the preponderance of the evidence standard to prove capacity); 95 C.J.S. *Wills* § 40 (2008) (“On the probate of a will, testamentary capacity ordinarily must be proved by a preponderance of the evidence.”). *See, e.g.*, *Looney v. Estate of Wade*, 839 S.W.2d 531, 533 (Ark. 1992) (noting that the contesting party “has the burden of proving by a preponderance of the evidence that the testator lacked mental capacity at the time the will was executed”); *In re Estate of Edwards*, 520 So.2d 1370, 1373 (Miss. 1988) (“[T]he proponents must prove the testator’s testamentary capacity by a preponderance of the evidence.”); *In re Estate of Dion*, 623 N.W.2d 720, 729 (N.D. 2001) (“A will contestant has the burden of proving testamentary incapacity by a preponderance of the evidence.”); *In re Estate of Roosa*, 753 P.2d 1028, 1032 (Wyo. 1988) (“[T]he burden is assigned to the contestants to show by a preponderance of the evidence the claimed testamentary incapacity”).

23. *See, e.g.*, 3 BOWE & PARKER, *supra* note 22, § 29.35, at 577–78.

24. *Id.* § 29.35, at 577 (citing case law for a heightened general standard from nine jurisdictions) (footnotes omitted). Medical clinicians observe the presumption of competence,

To this list one could add that, in Kentucky, the presumption of capacity “can only be rebutted by the strongest showing of incapacity.”²⁵ Similarly, although California courts frequently reiterate that the standard is preponderance of the evidence, the California Supreme Court has declared that “there is a *strong* presumption of competency.”²⁶ Illinois also purports to adhere to the preponderance of the evidence standard,²⁷ but the Illinois Supreme Court reversed a jury verdict because the instruction required only a “slight preponderance of the evidence”²⁸ and has elsewhere explained that “the evidence of incapacity must *clearly* preponderate to authorize the setting aside of the will.”²⁹

One treatise describes allocation of the burden of proof in incapacity will contests as “a crazy quilt of apparently conflicting and confusing maxims and principles which vary from state to state in an astounding variety of verbal formulae.”³⁰ Much the same can be said of the diverse views on the requisite level of proof. The modal heightened standard appears to be clear-and-convincing evidence.³¹ With slight variations in wording, this is the standard in Kansas,³² Louisiana,³³ New Jersey,³⁴ Pennsylvania,³⁵ Washington,³⁶ and

absent “clear evidence” to the contrary. Thomas G. Gutheil, *Common Pitfalls in the Evaluation of Testamentary Capacity*, 35 J. AM. ACAD. PSYCHIATRY & LAW 514, 515 (2007).

25. *Bye v. Mattingly*, 975 S.W.2d 451, 455 (Ky. 1998); *see also Keasler v. Estate of Keasler*, 973 S.W.2d 213, 217 (Tenn. App. 1997) (stating that “strong evidence” of incapacity must be introduced to rebut the presumption of capacity).

26. *In re Flatau’s Estate*, 76 P.2d 506, 508 (Cal. 1938) (emphasis added).

27. *Norton v. Clark*, 97 N.E. 1079, 1083 (Ill. 1912).

28. *Id.*

29. *Down v. Comstock*, 149 N.E. 507, 513 (Ill. 1925) (emphasis added) (quoting *Norton v. Clark*, 97 N.E. 1079, 1083 (Ill. 1912)).

30. ROSS & REED, *supra* note 19, § 6:14, at 6-67.

31. *See* 2 MCCORMICK ON EVIDENCE § 340, at 487-89 (Kenneth S. Broun ed., 6th ed. 2006) (stating that the clear-and-convincing-evidence standard is used in will contests, as well as other types of cases).

32. *In re Estate of Farr*, 49 P.3d 415, 426 (Kan. 2002) (requiring “clear, satisfying, and convincing evidence” to prove testamentary incapacity).

33. LA. CIV. CODE ANN. art. 1482(A) (Supp. 2010) (“A person who challenges the capacity of a donor must prove by clear and convincing evidence that the donor lacked capacity at the time the donor . . . executed the testament.”); *In re Lyons*, 452 So. 2d 1161, 1164-66 (La. 1984) (requiring that a party “overcome the presumption of capacity by clear and convincing evidence”).

34. *In re Hoover’s Estate*, 91 A.2d 155, 156 (N.J. Super. Ct. App. Div. 1952) (requiring clear-and-convincing evidence of testamentary incapacity).

35. *In re Estate of Cohen*, 284 A.2d 754, 755 (Pa. 1971) (requiring “clear, strong, and compelling evidence” of incapacity (quoting *In re Estate of Brantlinger*, 210 A.2d 246, 250 (1965))).

36. *Pond’s Estate v. Faust*, 163 P. 753, 753 (Wash. 1917) (requiring “clear and convincing evidence”).

Wisconsin.³⁷ The question, then, is whether the clear-and-convincing-evidence standard is better in this context than the preponderance of the evidence standard.

II. A WORKING ANSWER: THE CLEAR-AND-CONVINCING-EVIDENCE STANDARD BETTER EFFECTUATES TESTATOR INTENT

The first step in determining which standard of proof is superior is to pick a criterion. Implementing the testator's intent is the fundamental premise of the law of wills and the basis for the mental capacity requirement.³⁸ Thus, the question becomes which standard better effectuates testator intent.

The next step in selecting a standard of proof is to define the two standards in common terms.

All burdens of persuasion deal with probabilities. The preponderance standard is a more-likely-than-not rule, under which the trier of fact rules for the plaintiff if it thinks the chance greater than 0.5 that the plaintiff is in the right. The reasonable doubt standard is much higher, perhaps 0.9 or better. The clear-and-convincing standard is somewhere in between.³⁹

But where exactly does the clear-and-convincing-evidence standard fall? A survey of 170 federal judges generated a mean, median, and mode of 0.75 for the clear-and-convincing standard.⁴⁰

To quantify the effect of different standards, one must recognize that there are four possible outcomes of a fully litigated will contest alleging incapacity. The contestant can either win or lose, and the testator either had or did not have capacity.⁴¹ The following two-by-two box summarizes.

37. *In re Estate of Sorenson*, 274 N.W.2d 694, 696 (Wis. 1979) (citing *In re Estate of Debrecevic*, 109 N.W.2d 477, 479 (Wis. 1961) (noting that the burden of proof in testamentary capacity cases is "clear, convincing and satisfactory evidence")).

One commentator has described imposition of the clear-and-convincing standard as "the trend." Laurie Dearman Clark, Comment, *Louisiana's New Law on Capacity to Make and Receive Donations: "Unduly Influenced" by the Common Law?*, 67 TUL. L. REV. 183, 212 (1992). I see no support for this assertion. Most of the jurisdictions applying the standard have done so for many years. See, e.g., *In re Hoover's Estate*, 91 A.2d at 153; *Lowrey's Estate*, 13 Pa. D. & C. 532, 535 (Pa. Orphans' Ct. 1930); *Pond's Estate*, 163 P. at 753; *In re Emerson's Will*, 198 N.W. 441, 443-44 (Wis. 1924); see also *In re Flatau's Estate*, 76 P.2d, 506, 508 (Cal. 1938) (suggesting a heightened standard); *Norton v. Clark*, 97 N.E. 1079, 1083 (Ill. 1912) (suggesting a heightened standard).

38. RESTATEMENT (THIRD) OF PROP.: WILLS & OTHER DONATIVE TRANSFERS § 8.1 cmt. b. (2003).

39. *Brown v. Bowen*, 847 F.2d 342, 345-46 (7th Cir. 1988).

40. C.M.A. McCauliff, *Burdens of Proof: Degrees of Belief, Quanta of Evidence, or Constitutional Guarantees?*, 35 VAND. L. REV. 1293, 1328 tbl.5 (1982); see also *United States v. Fatico*, 458 F. Supp. 388, 410 tbl. (E.D.N.Y. 1978) (reporting a range of 60% to 75% in a survey of eight federal district judges regarding the probabilities associated with the clear-and-convincing standard of proof).

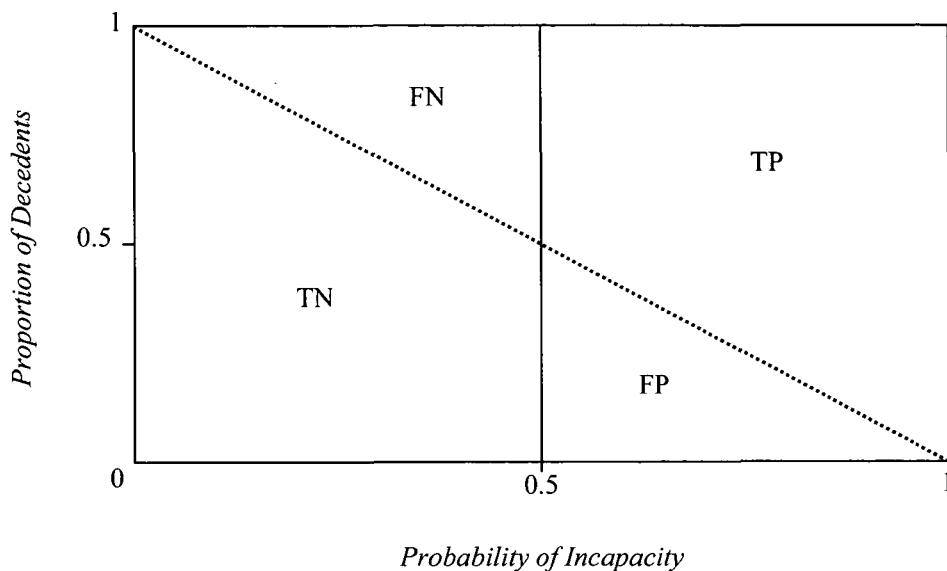
41. Cf. Cullison, *supra* note 6, at 568 (describing the four possible outcomes of civil suits).

Table 1. Possible Incapacity Will-Contest Outcomes

<i>Incapacity</i>	<i>Will Contestant</i>	
	<i>Loses</i>	<i>Wins</i>
<i>Yes</i>	False Negative (FN)	True Positive (TP)
<i>No</i>	True Negative (TN)	False Positive (FP)

Raising the standard of proof—making it more difficult to prove incapacity—will obviously lead to fewer findings of incapacity, thus generating more negative and fewer positive outcomes for the contestant. In order to quantify this effect, we need to make further assumptions. Assume that each testator falls somewhere on a continuum from 0 to 1, where the number reflects the probability based on admissible evidence that the testator lacked capacity. Given the absence of data about the underlying rate of incapacity, assume a uniform distribution—in other words, assume that exactly the same number of testators falls at each spot along the continuum. Figure 1 reflects the universe of decedents with wills under this distribution. Testators with capacity are under the diagonal line; testators without capacity are above the diagonal line. Assuming trials accurately assess the likelihood of incapacity and apply the preponderance of the evidence standard, the vertical line at 0.5 separates successful and unsuccessful will contests. The resulting four regions correspond to the four possible outcomes depicted in Table 1.

Figure 1. Outcomes of Incapacity Will Contests Assuming Preponderance Standard and Uniform Distribution

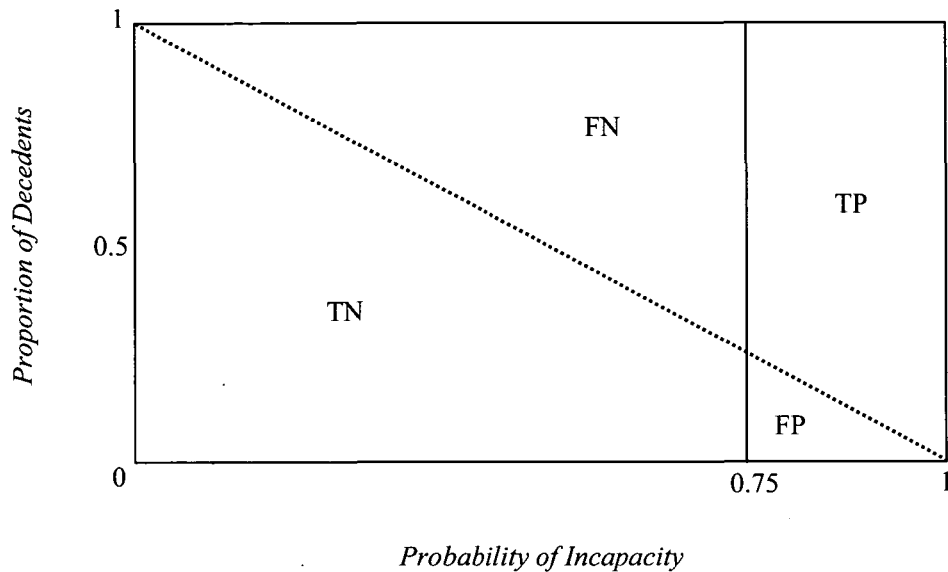


Additional explanation is in order. Consider first the case where the probability of incapacity is 0 (the left extreme of the figure). Because the probability of incapacity is less than 0.5, all wills are probated and a true negative is the result every time because every testator at this level had capacity. Hence, the dotted line begins in the upper left corner where probability of incapacity is 0 and the proportion of decedents is 1.

Look next at the point where the probability of incapacity is 0.5. Half of decedents at this level lack capacity. Note that, by assumption, a trier of fact cannot tell which half; she can only observe the probability of incapacity. Because there is a presumption of capacity, the wills of testators with borderline capacity are upheld. Half of the time this is correct, resulting in a true negative; half of the time this is incorrect, resulting in a false negative. Thus, the dotted line goes through the center of the figure, the 0.5/0.5 point. Finally, when the testator lacks capacity, all wills will be thrown out, which explains the dotted line's endpoint at the lower right corner of the figure—all true positives. The dotted line is linear because, by assumption, the incapacity rate rises linearly.

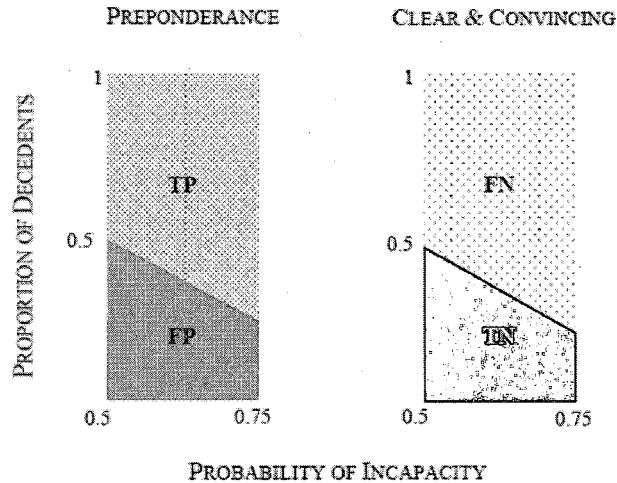
Applying the clear-and-convincing-evidence test instead elevates the standard of proof to 0.75. This leads to fewer findings of incapacity and, therefore, more true and false negatives. Figure 2 depicts the shift graphically.

Figure 2. Outcomes of Incapacity Will Contests Assuming Clear-and-Convincing Standard and Uniform Distribution



From Figures 1 and 2 it should be apparent that the only difference in outcomes between the preponderance and clear-and-convincing-evidence standards is in the region between 0.5 and 0.75 likelihood of incapacity. Wills created by such testators are thrown out under the preponderance standard but survive under the clear-and-convincing standard. As a result, a mix of true and false positives under the preponderance standard is replaced by a mix of true and false negatives (see Figure 3).

Figure 3. Preponderance and Clear-and-Convincing-Evidence Standards Compared



If the goal were to minimize the number of errors, the preponderance standard would clearly prevail. There are far fewer false positives under the preponderance standard than there are false negatives under the clear-and-convincing standard. Geometry shows that the total-error rate under the preponderance standard is 0.25; under the clear-and-convincing standard, it is 0.31. Error minimization, however, is not the goal; as stated earlier, the goal is to advance testator intent. The question, then, is whether the mix of true and false negatives under the clear-and-convincing-evidence standard better advances testator intent than the true and false positives that result under the preponderance standard. If P is the proportion of decedents, and U is utility (that is, the probability that the distribution matches testator intent), then the clear-and-convincing-evidence standard dominates if

$$\text{Equation 1. } P_{TN} \times U_{TN} + P_{FN} \times U_{FN} > P_{TP} \times U_{TP} + P_{FP} \times U_{FP}$$

This equation follows Figure 3 by including only the region between 0.5 and 0.75 probability of incapacity.

The right-hand side of the equation simplifies. Both true positives and false positives result in the estate distribution via the default scheme, generally intestacy. To evaluate the effect of intestate distribution, let I equal the likelihood that intestacy matches testator intent. The intestate distribution is independent of what the will says or whether the testator lacked capacity. It follows that $I = U_{TP} = U_{FP}$, so the right side reduces to $I \times (P_{TP} + P_{FP})$. It is

not necessary to calculate the individual values of *PTP* and *PPF*, because geometry shows the sum to be 0.25.

The left-hand side of the equation is more difficult because there is good reason to think $UTN \neq UFN$. A true negative affirms a will that was executed by a testator who had capacity; a false negative results in probate of a will executed by a testator who lacked capacity. For ease of exposition, let *G* (for "good" will) = *UTN*, and *B* (for "bad" will) = *UFN*. Substituting new variable names, doing mathematics relegated to a footnote,⁴² and dividing both sides of the equation by 0.25 lead to the following revised condition for clear-and-convincing superiority:

$$\text{Equation 2. } 0.375 \times G + 0.625 \times B > I$$

This equation shows that the values of *G*, *B*, and *I* determine which standard dominates. Barring other defects, it seems safe to assume that a will executed by a testator with capacity accurately reflects the testator's intent. In symbols, $G = I$. The value of *B* is more difficult to estimate, however.

Bad wills can be divided into two categories: honest mistakes and intentional overreaching. In the latter category it seems safe to assume that the resulting will never (or almost never) effectuates the testator's intent. In the former, at least some portion of honest mistakes may stumble upon the testator's true plan—for example, through chance, adherence to prior statements, or the guiding hand of a knowledgeable lawyer or friend. Thus, a best guess for the value of *B* is that it is quite low, but greater than 0.

Fortunately, there are extensive data on the value of *I*. Four studies of probated wills estimate *I* to be 0.28,⁴³ 0.31,⁴⁴ 0.23,⁴⁵ and 0.20.⁴⁶ These low values determine the answer to the question. Even if bad wills never effectuate testator intent ($B = 0$), the effect of the clear-and-convincing standard, which upholds more good wills (0.375), is greater than the accuracy of intestacy under the preponderance standard (highest estimate of 0.31).⁴⁷ Therefore, the

42.
$$PTN = \int_{x=0.5}^{0.75} (1-x) dx \qquad PFN = 0.25 - PTN$$

43. Frederick R. Schneider, *A Kentucky Study of Will Provisions: Implications for Intestate Succession Law*, 13 N. KY. L. REV. 409, 424-25 (1987). Due to incomplete reporting in the article, the 0.28 figure is a best estimate. The possible range of values is 0.25 to 0.35.

44. MARVIN B. SUSSMAN ET AL., *THE FAMILY AND INHERITANCE* 143 tbl.6-2 (1970).

45. Allison Dunham, *The Method, Process and Frequency of Wealth Transmission at Death*, 30 U. CHI. L. REV. 241, 252 n.20 (1963).

46. Edward H. Ward & J.H. Beuscher, *The Inheritance Process in Wisconsin*, 1950 WIS. L. REV. 393, 414 tbl.10 (1950).

47. SUSSMAN ET AL., *supra* note 44.

six states that have adopted the clear-and-convincing-evidence standard⁴⁸ have apparently made the right choice.

III. THE ASSUMPTIONS: THE PLAUSIBILITY OF THE ASSUMPTIONS AND THEIR IMPACT ON THE CHOICE OF A STANDARD OF PROOF

A. Assumption 1: The Uniform Distribution

The true distribution of incapacity among testators is almost certainly not uniform. A uniform distribution implies an overall incapacity rate of 0.5. Common sense dictates that the true rate must be much lower; in other words, the distribution is skewed to the left. But can we be more specific?

One small study of incapacity will contests found the most common comorbid medical conditions to be dementia syndrome (0.40), alcohol-related illness (0.28), neurological or psychiatric disorder (0.28), personality disorder (0.20), and suicide (0.12).⁴⁹ Based on prevalence estimates and statistics regarding testation and mortality,⁵⁰ I estimate that a maximum of 45% of testate deaths involved a testator with one of these conditions.⁵¹ This is a nearly absolute upper bound on incapacity among testators. The true number

48. See *supra* text accompanying notes 32–37.

49. Kenneth I. Shulman et al., *Psychiatric Issues in Retrospective Challenges of Testamentary Capacity*, 20 INT'L J. GERIATRIC PSYCHIATRY 63, 66–68, 67 tbl.1 (2005) ($n = 25$). See generally Aleksandar A. Jovanović et al., *Medical Reasons for Retrospective Challenges of Testamentary Capacity*, 20 PSYCHIATRIA DANUBINA 485, 490 (2008) (finding a statistically significant association between diagnoses and testamentary incapacity).

50. CTRS. FOR DISEASE CONTROL AND PREVENTION, *Suicide Facts at a Glance* (2008), www.cdc.gov/ncipc/dvp/suicide/suicide_data_sheet.pdf (reporting a 0.013 suicide rate in the United States); Dunham, *supra* note 45, at 279 tbl.15 (reporting that the average age of wills in 1963 was 4.9 years); Bridget F. Grant et al., *Prevalence, Correlates, and Disability of Personality Disorders in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions*, 65 J. CLIN. PSYCHIATRY 948, 949, 951 (2004) (noting a 0.148 prevalence of personality disorders); Ronald C. Kessler et al., *Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication*, 62 ARCH. GEN. PSYCHIATRY 617, 620 tbl.1 (2005) (noting a 0.156 prevalence of severe and moderate *DSM-IV* disorders, including alcohol abuse and dependence); Robert A. Stein & Ian G. Fierstein, *The Demography of Probate Administration*, 15 U. BALT. L. REV. 54, 86 (1985) (“On the average, testate decedents executed a will approximately five to seven years prior to their deaths.”). Based on the statistics from the Centers for Disease Control and Prevention and the Dunham article, I estimated dementia rates five years before death. See CTRS. FOR DISEASE CONTROL AND PREVENTION, *supra*; Dunham, *supra* note 45, at 279 tbl.15.

51. This estimate assumes that these conditions are independent—they are not. See, e.g., Jane E. Brody, *An Emotional Hair Trigger, Often Misread*, N.Y. TIMES, June 16, 2009, at D7 (reporting that 10% of borderline personality-disorder patients die by committing suicide). Recall that the overall suicide rate in the United States is 1.3%. CTRS. FOR DISEASE CONTROL AND PREVENTION, *supra* note 50. The conditions’ lack of independence is another reason that the true percentage of testate deaths involving the most common comorbid conditions must be lower than 0.45.

must be vastly smaller. Many people who have mild dementia,⁵² an alcohol problem, or an anxiety disorder, for example, are perfectly capable of executing a will. Furthermore, wills are generally drafted by attorneys and witnessed by at least two people.⁵³ Gross cases of incapacity are unlikely to go unnoticed by all of these participants.

Another way to get at testamentary incapacity is by analogy to other areas. A great deal of research has been done on capacity to consent to medical treatment, and that work “may be applicable to other complex capacities such as testamentary capacity.”⁵⁴ The levels of incapacity regarding medical decisions observed among control groups range from 0 to 0.18, and are generally less than 0.09.⁵⁵ It is tempting to conclude that testamentary capacity may be at similarly low levels. However, as the 0 to 0.18 range reflects, capacity is task specific, so it is impossible to draw strong conclusions about testamentary capacity from medical-capacity findings. Still, this research is broadly suggestive that the true level of testamentary incapacity is quite low.

Another imperfect attempt to quantify testamentary incapacity looks at studies of will contests and settlements. In one large study of wills, there were will contests in 1% of cases and redistributions in 14%.⁵⁶ Of course, there are many reasons why parties would decline to file a meritorious will contest and why settlement negotiations would break down. However, even if we assume every contest and every redistribution was motivated by the testator’s incapacity, incapacity affected the distribution in, at most, only 15% of the testate cases studied.⁵⁷

To examine whether a skew in the distribution affects the conclusion that the clear-and-convincing standard dominates, assume a simple linear distribution,

52. See Fayaz Roked & Abdul Patel, *Which Aspects of Cognitive Function Are Best Associated with Testamentary Capacity in Patients with Alzheimer’s Disease?*, 23 INT’L J. GERIATRIC PSYCHIATRY 552, 553 tbl.1 (2008) (finding that 92.6% of Alzheimer’s patients with mild cognitive impairment and 51.9% of those with moderate cognitive impairment had testamentary capacity).

53. RESTATEMENT (THIRD) OF PROP.: WILLS AND OTHER DONATIVE TRANSFERS § 3.1 cmt. o (2003) (“A will is validly executed if it is in writing and is signed by the testator and by a specified number of attesting witnesses under procedures provided by applicable law.”); cf. Jovanović et al., *supra* note 49, at 490 (revealing that wills in a narrow study were primarily holographic).

54. Shulman et al., *supra* note 49, at 64–65.

55. Dilip V. Jeste et al., *Magnitude of Impairment in Decisional Capacity in People with Schizophrenia Compared to Normal Subjects: An Overview*, 32 SCHIZOPHRENIA BULL. 121, 123 tbl.1, 126 (2005).

56. SUSSMAN ET AL., *supra* note 44, at 125, 184.

57. *See id.*

$y = 1 - x$. This distribution implies a 16.7% incapacity rate.⁵⁸ The result is that the clear-and-convincing standard remains superior if

$$\text{Equation 3: } 0.389 \times G + 0.611 \times B > I$$

In other words, the case for the heightened standard of proof becomes stronger as the distribution is skewed toward capacity—that is, as the likelihood of incapacity declines. This is consistent with the reasoning of some courts.⁵⁹

Still, this result may be surprising to those familiar with the standard statistical approach to selecting the optimal threshold of proof. According to this approach, the optimal level of proof does not depend on the underlying distribution. Rather, it is purely a function of the utilities of the four possible outcomes. Specifically,

$$\text{Equation 4: } P^* = \frac{1}{\frac{UTP - UFN}{UTN - UFP} + 1} \quad 60$$

58. 0.75

$$PTN = \frac{\int_{x=0.5}^{1} (1-x)(1-x) dx}{\int_{x=0.5}^{1} (1-x) dx} = 0.389$$

59. See, e.g., *Gen. Motors Corp. v. Toyota Motor Co.*, 467 F. Supp. 1142, 1173 (S.D. Ohio 1979) (“[I]f it is unlikely that a type of allegation can be supported, clear and convincing evidence will be required to meet the burden of persuasion.”), *rev’d in part on other grounds*, 667 F.2d 504 (6th Cir. 1981); see also 2 MCCORMICK ON EVIDENCE, *supra* note 31, at 489 n.25 (suggesting disapproval of this approach).

60. Cullison, *supra* note 6, at 569 eq.10b; DeKay, *supra* note 8, at 111 eq.17 (1996); John Kaplan, *Decision Theory and Reasonable Doubt*, in COMMUNICATION SCIENCES AND THE LAW: REFLECTIONS FROM THE JURIMETRICS CONFERENCE 251, 253 (Layman E. Allen & Mary E. Caldwell eds., 1965).

Some wrongly accuse Professor Alan Cullison of failing to consider the utilities of accurate results. Erik Lillquist, *Recasting Reasonable Doubt: Decision Theory and the Virtues of Variability*, 36 U.C. DAVIS L. REV. 85, 107–08, 108 n.59 (2002) (criticizing Cullison’s model for not discussing the effects of utilities from accurate verdicts). Cullison, however, expressly measures the costs of Type I and Type II errors relative to accurate results. Cullison, *supra* note 6, at 565–66.

Professor Laurence Tribe levels a more potent, yet still unpersuasive, attack on the statistical approach and, by implication, the mathematical method of the present Article. Laurence H. Tribe, *Trial By Mathematics: Precision and Ritual in the Legal Process*, 84 HARV. L. REV. 1329, 1381–82 (1971). First, Tribe argues that the four utilities depend on the particular case: “[T]he trier might justly regard as worse the erroneous conviction of a man to whose guilt he had attached a probability [just above the decision standard] than the erroneous conviction of one whose guilt had seemed to be virtually certain.” *Id.* at 1382. That thought may accord with human psychology, but it misses the point. The question is not how the trier evaluates utilities,

Substituting 1 for U_{TN} (G), 0.31 for U_{TP} and U_{FP} (I), and 0 for U_{FN} (B) generates an optimal proof standard of 0.69. By selecting the high estimate of I and low boundary of B , 0.69 represents a low-end estimate.

If the optimal standard of proof is independent of the merits distribution, why is the choice between the preponderance and clear-and-convincing standards not similarly independent? The short answer is that the optimal-standard formula considers only changes at the margin, whereas a comparison of the two standards requires calculating areas between them.⁶¹ This Article has already demonstrated that skewing the distribution toward capacity makes the clear-and-convincing standard relatively more appealing because of increased accuracy. Alternative distributions that tilt the scale in favor of preponderance are theoretically possible. Such a distribution would have to be skewed toward incapacity in the 0.5 to 0.75 range. Common sense and the data considered above, however, suggest that this skew is extremely unlikely. The percentage of testators who are incapacitated is almost certainly less than 50%, and there is no reason to think that this leftward skew would somehow be reversed in the 0.5 to 0.75 range.

In sum, the uniform-distribution assumption is likely false, but deviation in the more likely direction—an incapacity rate less than 0.5—strengthens the case for the clear-and-convincing-evidence standard.

B. Assumption 2: Distribution Is Independent of the Standard of Proof

The working answer assumes that the area under the total curve between 0.5 and 0.75 is not affected by the selected standard of proof. Economic theory suggests that this assumption may be false. Use of the clear-and-convincing

but how society should. The strength of the case against him makes no difference to a falsely convicted individual. More important for the purposes of this Article, testator intent is a more objective and reliable yardstick than the swirl of competing values at stake in the criminal-justice system. See *infra* text accompanying notes 92–95. Second, Tribe contends that the trier's utilities will cloud her perceptions of the evidence. Tribe, *supra*, at 1383–84. As with the first criticism, this is an argument against allowing the trier to set the standard of proof in each case, not an argument against having one. Indeed, Tribe recognizes this and argues that the standard should be set at the institutional level. *Id.* at 1384–85. But that does not satisfy Tribe. The formula itself fails to account for variables that Tribe thinks are essential, including how many false convictions and erroneous acquittals there are likely to be. See *id.* at 1385–86. This is precisely why the statistical model is useful; it generates an answer without needing information that is nearly impossible to gather. It can do so because it focuses on the marginal effects of each type of outcome. See *infra* text accompanying note 61.

61. D.H. Kaye has argued that the standard statistical approach minimizes *expected* errors rather than *actual* errors. D.H. Kaye, *Clarifying the Burden of Persuasion: What Bayesian Decision Rules Do and Do Not Do*, 3 INT'L J. EVID. & PROOF 1, 3, 10, 14 n.43 (1999). Kaye is correct only if the expected merits distribution is symmetrical around the standard of proof, which case selection theory would predict, see *infra* Part III.I, but which is not necessarily true. Cf. RICHARD A. EPSTEIN, FORBIDDEN GROUNDS: THE CASE AGAINST EMPLOYMENT DISCRIMINATION LAWS 224 (1992) ("It is critical to know not only the *probability* of Type I and Type II error but also the severity of loss associated with each type.").

standard would make wills more robust and, therefore, more attractive. As a result, more people would execute wills, thus shifting the distribution up throughout the range. But there is a countervailing effect: it is possible that the greater security a will provides against incapacity, the more likely people would be to delay executing a will until later in life. This is because the risk of dementia would loom less large under the clear-and-convincing standard than under the preponderance standard.⁶² Theory cannot predict which of these two effects would dominate. Nevertheless, it seems very unlikely that either effect would be substantial; few people considering making a will know about the standard of proof for incapacity in will contests.⁶³

Moving to a clear-and-convincing standard may also affect the amount of evidence admitted in a testamentary incapacity case. This evidentiary effect may be more potent than the effect on general will execution. The simple model classifies individuals based on the admissible evidence of their capacity.⁶⁴ Raising the proof threshold will require contestants to produce more evidence of incapacity, shifting the distribution rightward between 0.5 and 0.75. Because the incentive to produce evidence is strongest near the decision standard, there likely would also be a skew toward incapacity. As discussed above,⁶⁵ this skew would favor the preponderance standard and, if substantial enough, could tip the scale in that direction. But is such a substantial skew likely?

The evidentiary effect assumes that will contestants under a preponderance regime do not present as much evidence of incapacity as they could.⁶⁶ But strategic and practical considerations weigh against this assumption. Setting the burden of proof to one side, the preponderance standard has the reverse effect on will proponents. Proponents need to produce more evidence to rebut

62. Cf. Daniel L. Rubinfeld & David E.M. Sappington, *Efficient Awards and Standards of Proof in Judicial Proceedings*, 18 RAND J. ECON. 308, 314 (1987) (explaining that although reducing the penalty for crime can increase accuracy, such a reduction may “encourage more crimes to be committed”).

63. However, many individuals execute multiple wills during their lifetimes and many rely on family attorneys who have a long-term relationship with the testator. In either case, it is more likely that the standard of proof will be taken into account in deciding when to execute a will.

Even if the distribution is more or less independent of the standard of proof, it may be dependent on the low value of I . The lack of congruence between the intestate distribution and testator intent may operate as a penalty default, pushing individuals to make wills. Cf. Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 91 (1989) (discussing penalty defaults and explaining that they “are designed to give . . . an incentive to contract around the default rule”).

64. See *supra* Part II.

65. See *supra* Part III.A.

66. See Vern R. Walker, *Preponderance, Probability and Warranted Factfinding*, 62 BROOK. L. REV. 1075, 1114 n.98 (1996).

a showing of incapacity.⁶⁷ The strategic contestant anticipates this and responds by increasing her own evidentiary showing. In other words, as long as the parties do not know the outcome in advance, both will have strong incentives to produce a great deal of evidence under either proof standard. The distribution ultimately rests on the evidence as a whole, not just the evidence presented by the contestant.⁶⁸

Defendants in will contests cannot just sit on their hands for another reason: they must be concerned with the possibility of being subject to judgment as a matter of law.⁶⁹ Also, practically speaking, attorneys concerned about malpractice liability who are paid either by the hour or on contingency, will be highly motivated to root out most probative evidence. Still, the evidentiary effect weighs in favor of the preponderance standard and cannot be wholly discounted.

*C. Assumption 3: Proof by a Preponderance Means Greater than 0.5
Likelihood; Clear and Convincing Means 0.75*

The assumption that the preponderance standard equals 0.5 and the clear-and-convincing standard equals 0.75 has both descriptive and normative components. Descriptively, as reported above, a large survey of judges found a mean, median, and mode of 0.75 for the clear-and-convincing-evidence standard.⁷⁰ This is strong evidence, but it obscures the fact that 65% of judges picked a level other than 0.75 and that the responses, in general, ranged from 0.5 to 1 (see Figure 4).⁷¹

67. *Cf. id.* at 1115 (“If the decision value is set too high, then the party that does not have the burden of persuasion may be more inclined to rest on the noncredibility of the proponent’s proofs, and less inclined to produce affirmative evidence.”).

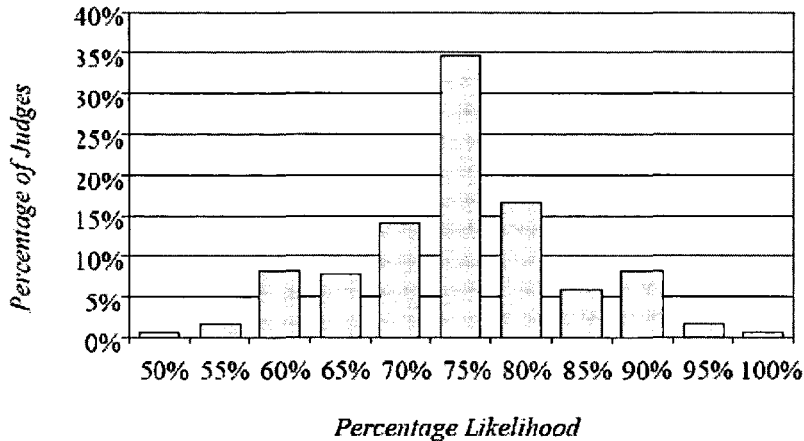
68. *See* Mike Redmayne, *Standards of Proof in Civil Litigation*, 62 MOD. L. REV. 167, 181–82 (1999).

69. *See* Walker, *supra* note 66, at 1115 (“The three standards of proof employed in litigation all help to create an incentive to produce more evidence than is sufficient to avoid suffering judgment as a matter of law.”).

70. McCauliff, *supra* note 40, at 1328–29, 1328 tbl.5. It should be noted that many courts resist quantification. *See, e.g.,* Mass. Inst. of Tech. v. Harman Int’l Indus., 584 F. Supp. 2d 297, 307 n.7 (D. Mass. 2008) (describing the clear-and-convincing standard as “vague and impressionistic” (quoting *Anderson v. Liberty Lobby*, 477 U.S. 242, 272 (1986) (Rehnquist, J., dissenting))); *Lockard v. Carson*, 287 N.W.2d 871, 874 (Iowa 1980) (“‘[C]lear and satisfactory’ refers to the character or nature of the evidence, whereas ‘preponderance’ of the evidence is a quantitative measure” (citing *Hall v. Crow*, 34 N.W.2d 195, 201 (Iowa 1948))).

71. *See* McCauliff, *supra* note 40, at 1328 tbl.5.

Figure 4. Distribution of Judges' Percentages Associated with Clear-and-Convincing Evidence⁷²



Judges were much more consistent in describing preponderance as at or just above 0.5—88% picked either 0.5 or 0.6.⁷³ One problem with these numbers is that juries, not judges, decide many will contests at the trial level.⁷⁴ (Judges, of course, decide motions and appeals, so their perception of the standard is significant even in jury trials.)⁷⁵

Laypeople do not share judges' ideas regarding the preponderance standard. One study reported that students' and jurors' means and medians hover around 0.75, not 0.5.⁷⁶ This perception arguably translates into juror confusion, at least when they must decide hypothetical cases. Studies have shown that the standard of proof described in traditional legal terms—preponderance, clear

72. *See id.* (supplying the values upon which Figure 4 is based).

73. *See id.* at 1331 & tbl.7. Whether judges actually apply the standards faithfully has been questioned: "We doubt very much that an experienced trial judge is much bothered by euphemisms such as clear and convincing or preponderance of the evidence." *In re Estate of Bennett*, 865 P.2d 1062, 1067 (Kan. Ct. App. 1993). But even the *Bennett* court stated that citing the wrong standard would be reversible error. *Id.*

74. Eleven states and the District of Columbia do not permit jury trials in will contests. ROSS & REED, *supra* note 19, § 4:9, at 4-18 n.67.

75. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252-54 (1986) (discussing the judge's use of evidentiary standards of proof).

76. Rita James Simon & Linda Mahan, *Quantifying Burdens of Proof: A View from the Bench, the Jury, and the Classroom*, 5 LAW & SOC'Y REV. 319, 325 (1971).

and convincing, or beyond a reasonable doubt—has only a slight effect on plaintiffs' win rate.⁷⁷ Some of the same studies, however, demonstrate that reframing the standards in numerical terms—51%, 71%, and 91% confidence—eliminates the apparent confusion and causes plaintiffs' win rates to decline as the standard of proof increases.⁷⁸ In other words, the 0.5 and 0.75 probability levels may not accurately capture present-day reality (at least for jurors and some judges), but numerical standards and appropriate jury instructions could remedy that situation.⁷⁹

The question, then, is: are such remedies normatively appealing? The affirmative case is straightforward. It should be more difficult to deprive an individual of his liberty⁸⁰ than of his inheritance.⁸¹ Thus, in some cases, the costs of one type of error are much higher than the costs of the other. The verbal formulations—beyond a reasonable doubt and clear-and-convincing evidence—attempt to reflect these policy judgments, but, in practice, they do

77. Dorothy K. Kagehiro & W. Clark Stanton, *Legal vs. Quantified Definitions of Standards of Proof*, 9 LAW & HUM. BEHAV. 159, 164, 168 (1985) (finding greater variation in jury verdicts with quantified, rather than qualitative, legal standards); James R. P. Ogloff, *A Comparison of Insanity Defense Standards on Juror Decision Making*, 15 LAW & HUM. BEHAV. 509, 516, 519 (1991) (noting no deviance when comparing jury comprehension of criminal rules and standards as applied to the insanity defense); see also *id.* at 521 (reporting that only “51.6% of participants identified the correct standard of proof”). Cf. Murray Levine, *Do Standards of Proof Affect Decision Making in Child Protection Investigations?*, 22 LAW & HUM. BEHAV. 341, 344–45 tbl.1 (1998) (noting that “the legal definitions of standards of proof taken alone had no effect on the rate of mock jurors’ decisions for plaintiffs, but that quantified definitions of the standards of proof did have an effect[.]”); David U. Strawn & Raymond W. Buchanan, *Jury Confusion: A Threat to Justice*, 59 JUDICATURE 478, 481 (1976) (“After seeing and hearing the video [standard criminal]instructions, only 50 per cent of the instructed jurors understood that the defendant did not have to present any evidence of his innocence, and that the state had to establish his guilt, with evidence, beyond any reasonable doubt.”). But see SANFORD H. KADISH ET AL., *CRIMINAL LAW AND ITS PROCESSES* 31–32 (8th ed. 2007) (“Empirical studies confirm that jurors convict more readily when instructed under a more-likely-than-not standard than when instructed under the reasonable doubt standard . . .”).

78. Kagehiro & Stanton, *supra* note 77, at 164–65.

79. More research is needed, but verbal instructions may suffice to achieve this goal. See, e.g., Kagehiro & Stanton, *supra* note 77, at 173 (“Our results suggest that legal definitions may have their intended effect on verdicts if they are presented in some form of comparative context.”); see also J.P. McBaine, *Burden of Proof: Degrees of Belief*, 32 CALIF. L. REV. 242, 246–47 (1944) (“The only sound and defensible hypotheses are that the trier, or triers, of facts can find what (a) probably has happened, or (b) what highly probably has happened, or (c) what almost certainly has happened.”).

80. This is applicable to Brooke Astor’s son, Anthony Marshall. See Joseph A. Rosenberg, *Regrettably Unfair: Brook Astor and the Other Elderly in New York*, 30 PACE L. REV. 1004, 1048–49 (2010).

81. See *Addington v. Texas*, 441 U.S. 418, 425 (1979) (“In cases involving individual rights, whether criminal or civil, [t]he standard of proof [at a minimum] reflects the value society places on individual liberty.” (alteration in original) (quoting *Tippett v. Maryland*, 436 F.2d 1153, 1166 (4th Cir. 1971) (Sobeloff, J., concurring in part and dissenting in part))).

not. The studies cited above show that people simply do not understand the terms; the plaintiff win rate does not vary with the standard.

As a counterargument, some research suggests that people make systematically better predictions in verbal terms than in numerical ones.⁸² Unlike the survey research described above, however, the cognitive psychology literature on this subject does not examine jurors' ability to follow instructions on hypothetical cases.⁸³ Still, this is an important point; if jurors think more accurately in words than in numbers, then the solution may be better verbal formulations, not quantification, of standards of proof.

Perhaps the strongest argument against quantification⁸⁴ is that quantified standards are insufficiently flexible; quantification prohibits the trier of fact from balancing the costs of false positives and false negatives in a particular case and from adjusting the standard of proof accordingly.⁸⁵ Verbal instructions allow such flexibility; numerical standards would not.⁸⁶ The studies showing no variance in jury decisions across legal standards perhaps provide evidence that jurors, in fact, reason this way.⁸⁷ Because only the legal standard varied and the fact pattern remained the same, the implicit relative costs of error were also constant across the studies. Thus, the lack of variation in outcomes is consistent with case-by-case balancing.

82. Alf C. Zimmer, *Verbal vs. Numerical Processing of Subjective Probabilities*, in DECISION MAKING UNDER UNCERTAINTY 159, 180 (Roland W. Scholz ed., 1983).

83. See, e.g., *id.* at 163–64, 179–80 (providing survey research involving memory, college-performance predictions, and exchange-rate predictions).

84. For a persuasive response to a catalogue of other counter-arguments, see Dorothy K. Kagehiro, *Defining the Standard of Proof in Jury Instructions*, 1 PSYCH. SCI. 194, 198 (1990), and Peter Tillers & Jonathan Gottfried, *Case Comment—United States v. Copeland*, 369 F. Supp. 2d 275 (E.D.N.Y. 2005): *A Collateral Attack on the Legal Maxim that Proof Beyond a Reasonable Doubt Is Unquantifiable?*, 5 LAW, PROBABILITY & RISK 135, 141–51 (2006).

Professor Kevin Clermont argues that quantification would reduce accuracy because hard variables mesh poorly with soft or unquantifiable variables, dehumanize legal procedure, mask complexity with illusory precision, and fail to “accord with our ingrained way of thinking.” Kevin M. Clermont, *Procedure’s Magical Number Three: Psychological Bases for Standards of Decision*, 72 CORNELL L. REV. 1115, 1147–48 (1987). None of these arguments is persuasive. Hard and soft variables mesh equally poorly under the current system, but the problem is hidden in ambiguity. If quantified standards can lead to better, more consistent results, then a little “dehumanization” and change from ingrained ways of thinking are prices worth paying. Numerical standards incorporating a modest range could mitigate the illusory precision concern. See *id.* at 1147; see also *infra* note 88 and accompanying text. Most importantly, Clermont’s premise that the present legal standards meaningfully convey information, Clermont, *supra* at 1148, is apparently false in light of the research findings reported above.

85. See, e.g., Elisabeth Stoffelmayr & Shari Seidman Diamond, *The Conflict Between Precision and Flexibility in Explaining “Beyond a Reasonable Doubt,”* 6 PSYCHOL. PUB. POL’Y & L. 769, 784 (2000) (“A single uniform standard across cases is not an optimal resolution when the decisions to which the standard is being applied carry different costs.”).

86. See Tillers & Gottfried, *supra* note 84, at 156. Again, clearer verbal standards are another possible solution that might eliminate confusion and still retain some flexibility.

87. See sources cited *supra* note 77.

One possible solution would be to permit quantified standards to be expressed loosely or as a permissible range.⁸⁸ For example, the-clear-and-convincing-evidence instruction could require confidence between 70% and 80%. This would effectively divide responsibility for setting the standard between legislatures and appellate judges, on the one hand, and triers of fact, on the other. As long as the standard was not too loose nor the range too wide, such an approach would not substantially impact the analysis of this Article.

There are strong arguments against giving jurors too much flexibility in setting the standard of proof. One pair of commentators puts the case for quantified standards as follows: (1) triers of fact should not be permitted “to strike a balance that is wildly at variance with the values of society at large”; (2) society’s authorized lawmakers—legislators and appellate judges—should select a standard of proof that best accommodates the competing interests; and (3) “society can most effectively communicate to triers of fact” and enforce its standards by using numbers.⁸⁹ Moreover, under the flexible approach, if costs are nonlinear, which is a justifiable presumption, “efficiency might require that [the trial court] treat similarly situated defendants differently.”⁹⁰ For example, prison overcrowding could ratchet up the criminal standard of proof.⁹¹

The case for relatively strict quantification is especially strong in capacity will contests. Arguments for flexibility are generally directed toward the criminal standard of proof—beyond a reasonable doubt.⁹² Two commentators illustrate some of the policy tradeoffs in criminal cases:

Should society be willing to risk 10 guilty defendants going free rather than one innocent person convicted? Or is the proper ratio 100 to one? Should we be willing to accept lower risks in a “pitting on

88. See James Franklin, *United States v. Copeland*, 369 F. Supp. 2d 275 (E.D.N.Y. 2005): *Quantification of the “Proof Beyond Reasonable Doubt” Standard*, 5 LAW, PROBABILITY & RISK 159, 164–65 (2006) (advocating a quantitative description of “well above a probability of 0.8” for the beyond-a-reasonable-doubt standard); Stoffelmayr & Diamond, *supra* note 85, at 782 (“An alternative to the single probability standard for beyond a reasonable doubt might be to provide a range (e.g., .87 to .92) that jurors would be invited to apply according to their assessments of the costs of error associated with a particular offense.”). Cf. Neil B. Cohen, *Confidence in Probability: Burdens of Persuasion in a World of Imperfect Knowledge*, 60 N.Y.U. L. REV. 385 (1985) (arguing for a confidence-interval approach to quantifying standards of proof).

89. Tillers & Gottfried, *supra* note 84, at 155; see also Redmayne, *supra* note 68, at 183 (stating that the weighing of utilities is a policy decision “better made by the legislature than by judges”). Cf. Josef Athanas, Comment, *The Pros and Cons of Jury Trials in Will Contests*, 1990 U. CHI. LEGAL F. 529, 551 (arguing against jury trials in will contests, in part because “the legislature should simply change the law rather than having juries misapply it”).

90. Michael L. Davis, *The Value of Truth and the Optimal Standard of Proof in Legal Disputes*, 10 J. L. ECON. & ORG. 343, 351 (1994).

91. See, e.g., *id.* (describing a hypothetical situation where a judge, knowing that the prison is full and an additional inmate would increase costs, instructs a jury to be 99% certain of a decision to convict).

92. See, e.g., Lillquist, *supra* note 60, at 87–89 (arguing for “a reasonable doubt standard that . . . varies from case to case”).

the sidewalk” case than in a capital homicide case? In a bomb-terrorist case, should the risks be inverted with a preference for convicting 10 innocents rather than letting one guilty go free?⁹³

Will contests for incapacity are less diverse and have a less direct impact on nonparties. As shown above, the key variable in setting the standard of proof is the probability that intestacy reflects testator intent if the will were deemed invalid. Some evidence of incapacity may go to this question—that is, what was the testator’s intent when he told a person she would inherit, and then disinherited her in his will?—but such evidence is not required. Moreover, the jury will not have access to the aforementioned will studies and survey research that estimate *I* in different situations.⁹⁴ In short, the case for flexibility is much weaker in will contests than in criminal cases. The countervailing advantage of consistency across cases and decision-makers strongly favors strict quantification or, alternatively, relatively precise verbal formulation.⁹⁵

D. Assumption 4: Courts Correctly Gauge Probability of Incapacity

The vertical lines in Figures 1–3 imply that courts can accurately discern even the smallest differences in the probability of incapacity. For example, under the preponderance standard, every will executed by a testator with a 0.49 probability of incapacity is upheld, and every will executed by a testator with a 0.51 probability of incapacity is struck down. Although I am not the first to make this simplifying assumption,⁹⁶ it is obviously unrealistic. Review of reversals in actual will contests that allege incapacity confirm the obvious.⁹⁷

How does error impact the choice of standards? The error rate, like parties’ uncertainty,⁹⁸ is almost certainly highest around the decision standard. Assume that juries can identify cases within 0.1 of the standard, but can do no

93. Jack B. Weinstein & Ian Dewsbury, *Comment on the Meaning of “Proof Beyond a Reasonable Doubt,”* 5 LAW, PROBABILITY & RISK 167, 168–69 (2006).

Some have argued that quantifying the reasonable-doubt standard would make society’s acceptance of false convictions damagingly explicit. Tribe, *supra* note 60, at 1375. In light of the publicity surrounding recent criminal exonerations, this worry seems almost quaint. Erik Lillquist, *Absolute Certainty and the Death Penalty*, 42 AM. CRIM. L. REV. 45, 90 (2005).

94. See Davis, *supra* note 90, at 350–51 (“If the marginal cost of error varies with the total number of errors, a trial court that wished to set the optimal standard would need information about facts not directly before it.”). Two commentators recommend telling jurors about likely criminal sentences in order to allow better weighing of costs in setting the standard of proof. Stoffelmayr & Diamond, *supra* note 85, at 783.

95. See Redmayne, *supra* note 68, at 171 (“[C]an the right to consistent weighing of moral harm be protected if the determination of the relevant utilities is left to each individual fact-finder?”).

96. George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1, 8 fig.1 (1984).

97. See, e.g., Paskvan v. Mesich, 455 P.2d 229, 231, 238–40 (Alaska 1969); Brown v. Brown, 287 P.2d 913, 914, 917 (Okla. 1955).

98. See *infra* Part III.J.

better than chance when deciding such cases.⁹⁹ Introducing this error profile actually increases the percentage-point advantage of the clear-and-convincing-evidence standard from 6.5 (Equation 2) to 9.6, assuming a uniform distribution.¹⁰⁰ Thus, erroneous verdicts and judgments tilt the scale toward the clear-and-convincing-evidence standard, but theory alone cannot determine to what degree the scale tilts. Given that only a tiny fraction of cases are litigated to judgment,¹⁰¹ the effect of decision errors is almost certainly very small.

E. Assumption 5: Wills Executed by Testators with Capacity Are Accurate

The assumption that wills executed by testators with capacity are accurate appears twice in the model—once explicitly and once implicitly in the estimates of *I*. The *I* values come from studies that compare the dispositive schemes of probated wills with the pattern that would otherwise be imposed through intestacy.¹⁰² Using the will as the gold standard assumes that it accurately reflects testator intent—that is, $G = I$.¹⁰³ Commentators have questioned this assumption, suggesting that “cultural standards”¹⁰⁴ or

99. Data from two nonrepresentative samples suggest that the jury-verdict error rate is at least 11–13%. Bruce D. Spencer, *Estimating the Accuracy of Jury Verdicts*, 4 J. EMPIRICAL LEGAL STUD. 305, 326 (2007).

100. Computations on file with author; see *supra* fig. 2. One commentator has noted that

[u]nder any standard of proof, there will be a certain number of inaccurate estimates of probability, wrongly placing the probability of the required fact on one or the other side of the prescribed line. Some of the erroneous estimates of probability under a clear and convincing standard—those that wrongly conclude that the required fact is highly probable when in actuality it is merely more probable than not—will now produce correct outcomes from the standpoint of truth. But the number of outcomes that fit this description will be overshadowed by the number of wrong outcomes that result from the skewed standard.

Emily Sherwin, *Clear and Convincing Evidence of Testamentary Intent: The Search for a Compromise Between Formality and Adjudicative Justice*, 34 CONN. L. REV. 453, 463 n.47 (2002).

101. See *infra* Part III.J.

102. See SUSSMAN ET AL., *supra* note 44, at 143 tbl.6-2; Dunham, *supra* note 45, at 251–52; Schneider, *supra* note 43, at 424–25; Ward & Beuscher, *supra* note 46, at 413–14.

103. See *infra* Part III.E. Cf. Stein & Fienstein, *supra* note 50, at 60–61, 61 tbl.2.1. In fact, using the will as the gold standard goes farther and assumes that all wills, not just good wills, accurately reflect a testator’s intent. Obviously, wills infected by undue influence or testamentary incapacity are almost certainly inconsistent with this assumption. However, although there is no way to isolate good wills based on the studies, there is reason to think the vast majority of wills are good.

104. Ronald J. Scalise, Jr., *Honor Thy Father and Mother?: How Intestacy Law Goes Too Far in Protecting Parents*, 37 SETON HALL L. REV. 171, 183 n.64 (2006) (“The drafters of wills are subject to influences by lawyers and other advisors that may be motivated by cultural standards, rather than an individual’s actual desires.”).

“customary”¹⁰⁵ arrangements may trump a testator’s true intent. Merely because the unchallenged will is the gold standard by default does not mean it perfectly reflects what a testator wants.

One way to test whether wills generally match testator intent is to compare preferences in wills with preferences expressed elsewhere. In one study of wills, 85.8% of decedents gave everything to their surviving spouse when also survived by lineal kin.¹⁰⁶ By comparison, a second study reports that 70.8% of survey respondents said they would leave everything to their spouses if their mothers were the only other survivors.¹⁰⁷ However, when survived by a spouse and children, the percentage of survey respondents giving the entire estate to the spouse dropped to between 51.6% and 58.3%, depending on the age of the children.¹⁰⁸ In one sense, these broadly consistent results are reassuring; majorities in will studies and telephone surveys alike favor the surviving spouse over all other kin. The direction of the difference suggests that culture and custom are not more powerful in influencing a will than a survey response. The intestacy statute reflects society’s judgment about how an estate should be distributed, generally forcing the surviving spouse to share with lineal kin.¹⁰⁹ That people deviate farther from that judgment in their wills than in surveys supports the view that wills are not often driven by culture and custom.

To culture and custom, mistake also must be considered as a source of deviation from testator intent. A classic example is *Mahoney v. Granger*, in which the testator instructed her lawyer that she wanted her twenty-five cousins to share her estate equally.¹¹⁰ Apparently not realizing that the testator also had a living aunt, the lawyer drafted a residuary clause in favor of the

105. Mary Louise Fellows, *An Empirical Study of the Illinois Statutory Estate Plan*, 1976 U. ILL. L. F. 717, 722 (1976) [hereinafter Fellows, *Empirical Study*] (“The attorney who typically drafts the will may have influenced the testate’s distributive pattern by suggesting that certain will provisions are customary.”).

106. SUSSMAN ET AL., *supra* note 44, at 89 tbl.5-1 (studying the preferences of those persons with wills in Ohio).

107. Mary Louise Fellows et al., *Public Attitudes About Property Distribution at Death and Intestate Succession Laws in the United States*, 1978 AM. B. FOUND. RES. J. 321, 351 tbl.7 (1978). The Sussman study exclusively involved Ohio wills. SUSSMAN ET AL., *supra* note 44, at 36. Fellows’s survey included Ohio and studied four additional states. See Fellows et al., *supra*, at 352 tbl.8 (showing results for Ohio as well as Alabama, California, Massachusetts, and Texas). The Ohio respondents in Fellows’s study were particularly generous to their surviving spouses—82.8% gave their spouses the entire estate, *id.*, a figure consistent with Sussman’s findings. See SUSSMAN ET AL., *supra* note 44, at 89.

108. Fellows et al., *supra* note 107, at 358, 359 tbls.11 & 12. Again, Ohioans were the most generous to their spouses. See *id.* at 361 tbls.13 & 14.

109. See Laura A. Rosenbury, *Two Ways to End a Marriage: Divorce or Death*, 2005 UTAH L. REV. 1227, 1263–69 (2005) (discussing estate distribution when there is a surviving spouse and surviving children); Scalise, *supra* note 104, at 177–80 (discussing the two general approaches used to determine a decedent’s parents’ share when there is a surviving spouse).

110. *Mahoney v. Granger*, 186 N.E. 86, 86–87 (Mass. 1933).

testator's "heirs at law."¹¹¹ Because the aunt was the only "heir[] at law" under Massachusetts law, the cousins took nothing, despite the testator's clear statement that she wanted them to inherit.¹¹² There is a modern trend to correct such errors, but the majority of jurisdictions still follow the traditional rules barring extrinsic evidence and reformation.¹¹³

By how much would good wills have to deviate from perfection in order to favor the preponderance standard? Using the uniform distribution, G would have to be less than 0.827.¹¹⁴ In other words, a will executed by a person with capacity and free of any other defects would have to reflect the testator's intent less than 82.7% of the time in order to tip the scale toward the preponderance standard. Custom and culture may be powerful and mistakes numerous, but it is hard to believe they introduce at least a 17.3% error rate into wills.¹¹⁵

F. Assumption 6: Will Studies Show How Well Intestacy Matches Testator Intent

The estimate of I as less than or equal to 0.31 derives from studies of wills probated in 1982 and earlier.¹¹⁶ Obviously, much has changed since 1982, but three potential sources of error stand out: (1) changes in intestacy law; (2) changes in family structure and hence survivorship; and (3) changes in testator preferences.

By far the biggest reason for the disparity between testator preference and intestacy is that testators usually want their surviving spouses to take the entire estate, whereas intestacy statutes often divide the estate.¹¹⁷ For example, in one study of wills, 86% of testators devised the entire estate to their surviving spouses when they were also survived by lineal kin, generally parents or children; the intestacy statute divided the estate.¹¹⁸ After studies and survey research on wills pointed out this incongruity,¹¹⁹ some states modified their intestacy statutes to give surviving spouses a larger share.¹²⁰ This would tend

111. *Id.* at 86.

112. *Id.* at 87.

113. JESSE DUKEMINIER ET AL., WILLS, TRUSTS, AND ESTATES 335–36, 352 (8th ed. 2009).

114. Using the $y = 1 - x$ distribution, G would be less than 79.7%.

115. One could argue that these are not errors at all. The lawyer who convinces a testator to dispose of property in a way different than the testator originally requested most likely acts in good faith. The testator's changed mind may reflect his new intent and is not necessarily a custom-induced error.

116. SUSSMAN ET AL., *supra* note 44; Dunham, *supra* note 45, at 252 n.20; Schneider, *supra* note 43, at 412 (indicating wills examined were probated before 1982); Ward & Beuscher, *supra* note 46, at 414 tbl.10.

117. See SUSSMAN ET AL., *supra* note 44, at 89; Fellows, *supra* note 107, at 350–51.

118. SUSSMAN ET AL., *supra* note 44, at 89.

119. See, e.g., Fellows, *supra* note 107, at 348, 354.

120. Susan N. Gary, *Adapting Intestacy Laws to Changing Families*, 18 LAW & INEQ. 1, 2 n.8 (2000).

to raise I , but a clear majority of states still require that the estate be split.¹²¹ In most of the country, therefore, it does not appear that intestacy statutes have substantially improved in advancing the intent of most decedents regarding surviving spouses.¹²²

The case of the surviving spouse may still be problematic, but perhaps there are fewer surviving spouses due to increasing divorce rates. The total percentage of married Americans declined from 67% in 1950, to 54% in 2008,¹²³ but the percentage of married persons aged 65 and older actually increased from 55% in 1980 to 58% in 2007.¹²⁴ Notably, persons aged sixty-five years and older account for approximately 73% of deaths annually.¹²⁵ Of course, with divorce more common today, many older, married adults may be in second marriages. Survey research suggests that individuals with a surviving spouse and child from a previous marriage favor splitting the estate between them.¹²⁶ Twenty-nine states “give the surviving spouse a reduced share if she is not the other parent of the deceased spouse’s children.”¹²⁷ The prevalence of second marriages and the accuracy of modern intestacy statutes in matching testator intent in such circumstances are values that would need to be known before updating estimates of I .¹²⁸

Notably, the same demographic change also exerts force in the opposite direction. Remarriage often creates stepchild and stepparent relationships. It has been estimated that “one out of every three Americans is a

121. See Rosenbury, *supra* note 109, at 1266 (“In . . . thirty-four states, the surviving spouse never receives the deceased spouse’s entire estate in any situation where the deceased spouse left children, even if the surviving spouse is the other parent of those children.”).

122. At least in cases where there are no children from a previous marriage. See *infra* text accompanying note 126.

123. MS-I. MARITAL STATUS OF THE POPULATION 15 YEARS OLD AND OVER, BY SEX AND RACE: 1950 TO PRESENT, <http://www.census.gov/population/socdemo/hh-fam/ms1.xls> (last visited Oct. 2, 2010).

124. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2009, 37 tbl.33 (2009); U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2000, 42 tbl.40 (2000).

125. Melonie Heron et al., *Deaths: Final Data for 2006*, 57 NAT’L VITAL STAT. REPS. 1, 20, 22 tbl.3, available at http://www.cdc.gov/nchs/data/nvst/nvsr57/nvsr57_14.pdf.

126. Fellows et al., *supra* note 107, at 366 tbl.18 (reporting that 23% of respondents wanted their spouses to take their entire estate; 29% wanted their spouses to take between 51–99%; 37% wanted an equal split between their spouses and children; and 11% wanted their spouses to take less than 50%).

127. Rosenbury, *supra* note 109, at 1268.

128. Note that, assuming a uniform distribution, if $I > 0.375$, that would not necessarily tilt the scale in favor of the preponderance standard. One would need to know B , the probability of a bad will reflecting intent.

member of a stepfamily.”¹²⁹ Intestacy law generally excludes step relationships;¹³⁰ some argue that this thwarts the intent of many stepparents.¹³¹

Other demographic changes similarly depress the value of *I*. For example, “[a]pproximately 7% of the nation’s couples are in unmarried committed relationships, including roughly 1.7 million gay and lesbian couples.”¹³² This is consistent with the overall marital-status numbers reported above. Because same-sex couples are permitted to marry in only a handful of states, intestacy law’s exclusion of unmarried partners raises discrimination concerns as well.¹³³ Unmarried, committed partners overwhelmingly prefer that the surviving partner share in the estate,¹³⁴ but prevailing intestacy laws give unmarried partners nothing.¹³⁵

A final concern with relying on relatively old research findings is that people’s dispositive preferences may have changed over time. Short of undertaking a new study, there is little to say in response to this concern. However, given the observed stability of *I* across studies from diverse areas over a forty-seven-year period,¹³⁶ perhaps the burden should be on the proponent of change to offer a persuasive theory for why preferences would have changed in the direction of intestacy statutes.

129. Gary, *supra* note 120, at 29–30.

130. RALPH C. BRASHIER, *INHERITANCE LAW AND THE EVOLVING FAMILY* 156–57 (2004) (“On the whole, the instances in which stepchildren inherit from an intestate stepparent are negligible.”).

131. *Id.* at 157 (“The sweeping but easily administered objective rule that denies stepchildren an intestate share under the laws of most states undoubtedly is at odds with the wishes of many stepparents who die intestate.”).

132. Jennifer K. Robbennolt & Monica Kirkpatrick Johnson, *Legal Planning for Unmarried Committed Partners: Empirical Lessons for a Preventive and Therapeutic Approach*, 41 ARIZ. L. REV. 417, 418 (1999); *see also* BRASHIER, *supra* note 130, at 2 (arguing that census numbers are “probably underrepresentative because some unmarried cohabitants are reluctant to identify themselves as such and because the number excludes unmarried couples who reside in a household headed by someone else”); JASON FIELDS, U.S. CENSUS BUREAU, *AMERICA’S FAMILIES AND LIVING ARRANGEMENTS: 2003* 16, Current Population Reports, U.S. Dep’t of Commerce (Nov. 2004) (“The proportion of all households that were unmarried-partner households [opposite-sex only] has been steadily increasing, from 2.9 percent of all households in 1996 to 4.2 percent in 2003.”).

133. *See, e.g.*, Robbennolt & Johnson, *supra* note 132, at 419 (acknowledging that the passage of the Defense of Marriage Act “allows states to refuse to reconcile same-sex marriages authorized in other states”).

134. Mary Louise Fellows, *Committed Partners and Inheritance: An Empirical Study*, 16 L. & INEQ. 1, 38, 47, 50 (1998); *accord* Robbennolt & Johnson, *supra* note 132, at 441.

135. Fellows, *supra* note 134, at 38, 47.

136. SUSSMAN ET AL., *supra* note 44, at 84; Dunham, *supra* note 45, at 252 tbl.9; Schneider, *supra* note 43, at 425.

G. Assumption 7: Intestacy Is the Fallback Position

Not every successful will contest results in the estate being divided according to the intestacy statute.¹³⁷ Sometimes the court gives effect to a prior will.¹³⁸ The Brooke Astor case described above illustrates this point.¹³⁹ There, the state alleged, inter alia, that Astor's son wrongfully induced her to execute a codicil giving him her residuary estate, which was to go to charity under her prior will.¹⁴⁰ The question, then, is: what is the effect of a prior will on the standard-of-proof question?

The accuracy of intestacy does not depend on testator capacity; the likelihood that a prior will accurately reflects testator intent does. If the testator had capacity when he executed a codicil or a new will, then the old will almost necessarily fails to reflect intent ($UFP = 0$). If, on the other hand, the testator lacked capacity, then there would seem to be a very high probability that the prior will properly reflected the testator's intent ($UTP = P$).¹⁴¹ Plugging these values into Equation 3 and assuming a uniform distribution, the clear-and-convincing standard of proof prevails only if $B > P - 0.6$.¹⁴² This seems unlikely given the expectation that B is very close to 0 and P to be very close to 1. Jurisdictions that currently require clear-and-convincing evidence of incapacity should consider requiring only a preponderance when evaluating a codicil or replacement will.¹⁴³

137. 96 C.J.S. *Wills* § 862 (2001) (stating that courts make a presumption against intestacy and favor effectuating the testator's true intent).

138. 95 C.J.S. *Wills* § 39 ("A prior will executed by a testator who was admittedly of sound mind is admissible on the theory that such a will tends to show the fixed and settled purpose of the testator."); see, e.g., *In re Brink's Estate*, 161 N.W.2d 438, 440 (Mich. Ct. App. 1968) (holding that a testator's prior will "was material and admissible evidence on the issues of mental incompetency and undue influence"); *In re Bailess's Estate*, 569 P.2d 543, 545 (Okla. Civ. App. 1977) (holding that prior will could be considered in deciding whether a testator lacked capacity when executing a subsequent will); *Burns v. Kabboul*, 595 A.2d 1153, 1162 (Pa. Super. Ct. 1991) (explaining that a previously executed, valid will "tends to show the fixed and settled purpose of the testator, and any sudden change in such purpose without adequate cause may be evidence from which an unsound mind may be inferred").

139. See Eligon, *Astor Trial*, *supra* note 13, at A25.

140. *People v. Marshall*, Indictment No. 6044-07, slip op. at 6-7 (N.Y. Sup. Ct. July 29, 2010), available at <http://news.findlaw.com/cnn/docs/brookeastor/nymrshll1107ind.html>.

141. See Sherwin, *supra* note 100, at 463 n.49 ("[A]n informal document offered as a will often reflects a disposition that the testator at least considered, even if the disposition was ultimately rejected.").

142. Skewing the distribution to the left (toward capacity) favors the clear-and-convincing standard, but it is probably not enough to change the bottom line. Applying the $y = 1 - x$ distribution, the clear-and-convincing standard dominates if $B > P - 0.64$, which still seems very unlikely.

143. Cf. Stoffelmayr & Diamond, *supra* note 85, at 782 (suggesting that "a legislature might set different quantitative [proof] levels for different offenses").

H. Assumption 8: Promoting Testator Intent Is Dichotomous

A closely related assumption for all three parameters (G , B , and I) is that a distribution either matches testator intent perfectly (equal to 1) or it utterly fails (equal to 0). Of course, some distributions would be more offensive to a testator than others. The intestacy statute may attempt to achieve distributions that are least offensive to most people rather than to achieve perfect results in the maximum number of cases.¹⁴⁴ Failing to award partial credit, as it were, may be a heavy thumb on the scale against intestacy and, therefore, in favor of the clear-and-convincing standard.

The case against partial credit relies on formalism and realism. Formally, a distribution either is or is not what the testator wanted. A solution that gets it only partially right is not what the testator wanted. The argument from realism is based on the difficulty in awarding partial credit. Assume the testator wanted to give everything to his surviving spouse, but the intestacy statute awards only half to his spouse and the rest to his children. Does this advance the testator's intent by 0.5, or by more or less than 0.5? Would it matter if the testator were estranged from his children? Even this simple case illustrates that non-arbitrary intermediate values would be difficult to estimate.

Note, too, that the net effect of relaxing the assumption is ambiguous in theory. No doubt the value of I would go up, but so too would the value of B . Even wills executed by a testator without capacity probably include some provisions that are not wholly objectionable. For example, the codicil in the Brooke Astor case changed the residuary clause but left the rest of the original will intact.¹⁴⁵ Which effect dominates? To tip the scale in favor of preponderance (assuming a uniform distribution), the change in I (ΔI) would have to be greater than $0.065 + 0.625 \times \Delta B$. Using one will study,¹⁴⁶ for example, if the intestate estate-splitting arrangement advanced the intent of testators who were survived by spouses and lineal kin and who willed everything to their spouses by 0.5, the value of I would rise by 0.22, from 0.31 to 0.53. B would have to rise by 0.25 in order to outweigh I 's increase and save the clear-and-convincing-evidence standard. It seems unlikely that incapacitated testators are on average 25% satisfied with their wills. Then again, to assume that all testators who will everything to their spouses give 50% approval to splitting is probably an overestimate. If one, instead, assumes that only half of such testators gives 50% partial credit and the remaining half gives 0, then I would increase by 0.11 and B would need to rise by only 0.07 for the clear-and-convincing standard to prevail. Data are needed to resolve the question, but awarding partial credit has the potential to flip the result.

144. See Lawrence W. Waggoner, *Marital Property Rights in Transition*, 59 MO. L. REV. 21, 29 (1994) ("No intestacy regime can hope to be 'suitable' for every person who dies intestate.").

145. See *supra* notes 139–40 and accompanying text.

146. SUSSMAN ET AL., *supra* note 44, at 86, 89.

I. Assumption 9: Promoting Testator Intent Is and Should Be the Only Objective of the Capacity Requirement

It has been suggested that the mental-capacity requirement does not promote testamentary freedom at all.¹⁴⁷ Thomas Atkinson, in a classic wills handbook, argued that eliminating the mental-capacity requirement “would be carrying the conception of freedom of testation to its fullest extent.”¹⁴⁸ In a different context, I argued against this type of reasoning.¹⁴⁹ In fairness to Atkinson, a subsequent edition adds the correct statement that “an attitude of consent is essential and this presupposes some degree of mental capacity.”¹⁵⁰

It is now widely accepted that promoting testator intent is at least one goal of the capacity requirement.¹⁵¹ Other goals include: (1) protecting the family, (2) protecting an incompetent man or woman as he or she is not considered a “person,” (3) preserving an appearance of legitimacy, (4) protecting the sane testator who later loses capacity, (5) protecting society from irrational acts, and (6) protecting vulnerable testators from exploitation.¹⁵² The “personhood” line of argument appears to devolve into testator intent; it is the inability to formulate intent, to reason, that deprives the insane of personhood.¹⁵³ Similarly, the fourth and sixth reasons are specific manifestations of the concern for testator intent—we protect the will of a sane testator because we think the will reflects testator intent, and we worry about exploitation because we fear it might overcome a vulnerable person’s intent.¹⁵⁴ The third and fifth reasons both address externalities; neither seems as important as what happens to the interested parties, namely the testator and the family.¹⁵⁵

When the testator’s and his family’s interests conflict, who wins? The general answer in the law of wills is that the testator wins.¹⁵⁶ If there is a valid

147. ATKINSON, *supra* note 19, § 78, at 186.

148. *Id.*, § 77, at 186; *see also* George J. Alexander & Thomas S. Szasz, *From Contract to Status via Psychiatry*, 13 SANTA CLARA L. REV. 537 *passim* (1973) (making a similar argument for contracts).

149. *See* Fredrick E. Vars, *Illusory Consent: When an Incapacitated Patient Agrees to Treatment*, 87 OR. L. REV. 353, 355 (2008) (“Assent without capacity is not an expression of autonomy; it is at best an illusion of autonomy.”).

150. ATKINSON, *supra* note 19, § 26, at 186.

151. DUKEMINIER ET AL., *supra* note 113, at 167; Mary Louise Fellows, *In Search of Donative Intent*, 73 IOWA L. REV. 611, 621 (1988).

152. DUKEMINIER ET AL., *supra* note 113, at 166–68.

153. *Cf.* Bailey H. Kuklin, *The Asymmetrical Conditions of Legal Responsibility in the Marketplace*, 44 U. MIAMI L. REV. 893, 925 (1990) (“Autonomous choices entail knowledge (information and foreseeability) and capability (reason and sense).”).

154. DUKEMINIER ET AL., *supra* note 113, at 167.

155. *See* Pamela Champine, *Expertise and Instinct in the Assessment of Testamentary Capacity*, 51 VILL. L. REV. 25, 53–55 (2006) (describing the need to balance the tension between testator protection and family protection).

156. *See id.* at 55 (“As important as the family preference is, it takes second place to the overriding policy of wills law, which is effectuating the testator’s intent.”); *see also id.* at 54 (“[T]he family’s interest, in all cases, derives from the testator’s presumed intention to benefit

will, it controls subject to very few exceptions.¹⁵⁷ This is not quite the right question, however, when the issue is setting the standard of proof for an incapacity contest. Instead, one needs to ask what influence, if any, family protection should have on the values of *G*, *B*, and *I*. The relative weight of *G* and *B* would seem independent of family concerns; a will should be enforced regardless of whether it contains provisions for family. That leaves *I*. One goal of intestacy is clearly family protection.¹⁵⁸ The question then becomes: should *I*, as a result, be assigned a value higher than its percentage correspondence with testator intent?

Some have argued that family protection is the primary goal of the capacity requirement,¹⁵⁹ but that seems plainly wrong. Despite suggestions to the contrary,¹⁶⁰ the capacity doctrine is not an open-ended invitation for juries to strike down dispositions that do not adequately provide for the testator's family.¹⁶¹ Favoring intestacy over testacy in this way would be a blunt instrument to protect the family.¹⁶² The law could protect family more directly with an elective share for spouses, forced heirship for issue, or a family maintenance system like those of England and Canada.¹⁶³ These schemes would represent express policy judgments that certain dispositive schemes

them.”). *But see* Jeffrey M. Alden, *Testamentary Capacity in a Nutshell: A Psychiatric Reevaluation*, 18 STAN. L. REV. 1119, 1123–24 (1966) (“[T]he primary purpose of testamentary capacity . . . is the protection of the family.”).

157. *See, e.g.*, UNIF. PROBATE CODE § 2-202 (amended 2008), 8 U.L.A. 102 (1998 & Supp. 2010) (providing an example of an exception to the general rule that a valid will controls the elective share of a surviving spouse).

158. Milton D. Green, *Public Policies Underlying the Law of Mental Incompetency*, 38 MICH. L. REV. 1189, 1216 (1940) (“[P]rotection of the family lay at the root of the statutes of descents and distributions.”).

159. *Id.* at 1218–19.

160. *See* Milton D. Green, *Proof of Mental Incompetency and the Unexpressed Major Premise*, 53 YALE L.J. 271, 298–302 (1944) (discussing the “unnaturalness” of a testator’s disinheriting his family and courts’ responses to such).

161. Alexander M. Meiklejohn, *Contractual and Donative Capacity*, 39 CASE W. RES. L. REV. 307, 365–66 (1988–89). Fairly applied, the capacity doctrine could strike down a will that gives the bulk of an estate to family (e.g., Brooke Astor’s son) in favor of a prior will that gave the lion’s share to charity.

162. *See* Jane B. Baron, *Empathy, Subjectivity, and Testamentary Capacity*, 24 SAN DIEGO L. REV. 1043, 1051 (1987) (“If family protection is sought, obviously better ways exist to achieve it.”).

163. *See* Ronald Chester, *Should American Children Be Protected Against Disinheritance?*, 32 REAL PROP. PROB. & TR. J. 405, 408, 414–18 (1997) (advocating adoption of the British Columbia family maintenance system). Louisiana promotes testator intent through a high incapacity standard, and family protection through forced heirship. LA. CONST., art. XII, §5; LA. CIV. CODE ANN. art. 1477 (2000).

should not be allowed. Most important, they leave intact a testator's other dispositive wishes, unlike a finding of incapacity.¹⁶⁴

In sum, advancing testator intent is the only legitimate goal of the capacity requirement.

J. Assumption 10: Every Case Is Litigated to Judgment

By applying the decision rule to every testator, the working answer implicitly assumes that all cases are litigated to judgment and hence subjected to the rule. That, however, is not true. About 1% of testate cases involve will contests,¹⁶⁵ although a high fraction of those contain an allegation of testamentary incapacity.¹⁶⁶ Hence, the overwhelming majority of wills are either enforced as written or informally revised through settlement by interested parties.

1. Only Uncertain Cases Are Litigated

A leading model posits that uncertainty over the outcome of a will contest drives litigation.¹⁶⁷ Uncertainty is greatest around the decision standard; accordingly, that is where the bulk of litigated cases should be.¹⁶⁸ To take an extreme case, assume that incapacity will contests are litigated to judgment only when the testator's likelihood of incapacity is within 0.1 of the decision standard (and all such cases are in fact litigated to judgment). Assume, further, that all wills outside that range are implemented without contest. How does each standard of proof advance testator intent? The clear-and-convincing-evidence standard is superior so long as $G > B$, which is almost certainly

164. See Baron, *supra* note 162, at 1051 (“[R]egulatory effects of holding a testator incompetent on mental incapacity grounds are considerably more draconian than the explicit regulations set forth in elective share statutes and the like.”).

165. SUSSMAN ET AL., *supra* note 44, at 184 (reporting that, in Ohio, 6 out of 453, or 1.32%, of testate cases involved will contests); Jeffrey P. Rosenfeld, *Will Contests: Legacies of Aging and Social Change*, in INHERITANCE AND WEALTH IN AMERICA 173, 185 tbl.8.3 (Robert K. Miller, Jr. & Stephen J. McNamee, eds., 1998) (finding that 90 out of 7817 probates, or about 1.14%, were contested); Jeffrey A. Schoenblum, *Will Contests—An Empirical Study*, 22 REAL PROP. PROB. & TR. J. 607, 613 chart 3 (1987) (noting that 66 out of 7638, or 0.86%, of filed wills were contested). Will-contest rates were historically higher in some jurisdictions. See Kristine S. Knaplund, *The Evolution of Women's Rights in Inheritance*, 19 HASTINGS WOMEN'S L.J. 3, 30 & n.183 (2008) (providing data that indicates will contests ranged from 1% to 8.89%).

166. Schoenblum, *supra* note 165, at 648 chart 22 (finding allegations of testamentary capacity in forty-eight out of sixty-six, or 73%, of will contests).

167. Priest & Klein, *supra* note 96, at 7–9; see Bruce L. Hay & Kathryn E. Spier, *Settlement of Litigation*, in 3 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 442, 443 (Peter Newman ed., 1998) (describing divergent-party expectations as “the most influential account of why cases may fail to settle”).

168. Priest & Klein, *supra* note 96, at 20 (“According to the model, given some error in the parties' estimates of Y , an interval will exist around the decision standard which will contain some large fraction of the set of litigated disputes.”).

true.¹⁶⁹ Thus, settlement in accord with the most accepted model strengthens the case for the clear-and-convincing-evidence standard.

Professor Emily Sherwin has suggested in another context that greater ambiguity about the meaning of the clear-and-convincing standard would lead to less settlement and more litigation.¹⁷⁰ This is an excellent theoretical point, but it ignores the underlying distribution and the possibility of more precise jury instructions. First, as explained above,¹⁷¹ there is good reason to think the merits distribution is skewed toward capacity. This means that fewer cases are near the clear-and-convincing standard than are near the preponderance standard. Therefore, even if a higher percentage of cases that are close to the heightened proof threshold (clear and convincing) fail to settle, the overall settlement rate might increase. Second, and more importantly, even with a uniform distribution, quantifying the clear-and-convincing standard of proof¹⁷² could reduce uncertainty and thereby facilitate settlement.

2. *Settlement Replicates Trial Outcomes*

The standard model of litigation assumes that a plaintiff will sue when the expected benefits outweigh the expected costs.¹⁷³ Expected benefits include the probability of prevailing multiplied by the expected amount of an award. Because litigation costs money, if the parties accurately assess trial prospects there are almost always gains to be achieved through settlement.¹⁷⁴ That is why the case selection model above is premised on the notion that parties cannot foresee trial outcomes with perfect accuracy. We assumed above a zone of uncertainty of plus or minus 0.1. Below that threshold, no will contest should ever succeed; above that threshold, the proponent of the will should always agree to a settlement favoring the contestant.¹⁷⁵ If that happens, the working answer holds, even though only a fraction of cases are litigated.

Economic theory predicts that settlements will replicate trial outcomes if “(1) the plaintiff and the defendant have the same expectations about the trial, and (2) the plaintiff and defendant bear the same transaction costs to resolve

169. This result corresponds to a uniform distribution. Note that the dominance of the clear-and-convincing-evidence standard is even stronger with a leftward skew, or $y = 1 - x$.

170. Sherwin, *supra* note 100, at 470–73; *see also supra* Part III.C.

171. *See supra* Part III.A.

172. *See supra* Part III.C.

173. Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 J. ECON. LIT. 1067, 1075–76 (1989).

174. Hay & Spier, *supra* note 167, at 442; *see infra* text accompanying note 186 (referring to “strategic litigation”). I argue that there are *almost* always gains to be achieved through settlement because, for example, a party may value trial as an opportunity for self-expression or publicity.

175. *See* Hay & Spier, *supra* note 167, at 445 (“As an initial approximation, . . . we might anticipate that cases will generally settle for an amount roughly equal to the expected judgment at trial.”).

the dispute.”¹⁷⁶ The second condition will not be satisfied with respect to many will contests. The costs of defending a will contest are generally borne by the estate.¹⁷⁷ This means that an interested beneficiary, if successful in the will contest, may pay only a portion of the costs of litigation. Moreover, the unsuccessful will beneficiary pays nothing out of pocket.¹⁷⁸ Therefore, the beneficiary is likely to be more aggressive and successful in settlement negotiations than at trial.¹⁷⁹ But the beneficiary is not the one who controls the litigation in such cases, unless he is also the executor.¹⁸⁰ The executor may have less incentive to aggressively defend the will, which would tend to tilt the scales back toward pro-plaintiff settlements.¹⁸¹ This may explain why some beneficiaries choose to intervene in will contests.¹⁸²

Accordingly, the estate paying the costs of will contests causes settlements more often to favor will proponents. How, then, does this affect the selection of the standard of proof? In effect, it elevates the effective standard in settlement. For example, the decision rule at trial may be 0.50, but only contestants with cases above 0.60 will succeed in settlement. Because the vast majority of cases are not litigated to judgment,¹⁸³ the simple answer’s analysis should be applied to the settlement threshold, not to the litigation threshold. Depending upon its magnitude, this effect could flip the answer. The presumptive optimal threshold, again, is 0.69. Shifting the standard upward

176. ROBERT COOTER & THOMAS ULEN, *LAW & ECONOMICS* 445 (5th ed. 2008); see also Janet Cooper Alexander, *Do the Merits Matter? A Study of Settlements in Securities Class Actions*, 43 STAN. L. REV. 497, 499 (1991) (“Moreover, the available theoretical models of settlement behavior predict or imply that settlement outcomes will approximate trial outcomes.”).

177. Diane J. Klein, *A Disappointed Yankee in Connecticut (or Nearby) Probate Court: Tortious State Approaches in the First, Second, and Third Circuits*, 66 U. PITT L. REV. 235, 238 & n.4 (2004) (“Generally, the estate bears the cost of defending the proffered will.”); see, e.g., TEX. PROBATE CODE ANN. § 243 (West 2003) (providing that “necessary expenses and disbursements” relevant to probate come from the estate).

178. Edmund Nathaniel Cahn, *Undue Influence and Captation: A Comparative Study*, 8 TUL. L. REV. 507, 517 (1934) (“Estates are consumed with fees and expenses, costs being but rarely imposed upon unsuccessful contestants.”); John H. Langbein, *Living Probate: The Conservatorship Model*, 77 MICH. L. REV. 63, 65 (1978) (explaining that estates bear the costs of will contests, thus “failing to charge a losing plaintiff with attorney fees and other costs incurred by the defendant”).

179. See Cahn, *supra* note 178, at 519.

180. See ATKINSON, *supra* note 19, at 579 (noting that a temporary administrator may be appointed pending a trial, which demonstrates that the beneficiary is not in charge of the litigation).

181. See *id.* (indicating that courts have authority to replace executors if they are unduly hostile to the estate or if charged with undue influence in administering the estate).

182. See *In re Estate of Roosa*, 753 P.2d 1028, 1031 (Wyo. 1988) (noting that the sole beneficiary is allowed to intervene in will contests). But see *Estate of Peery v. Swafford*, No. 03A01-9803-CV-00087, 1998 WL 744109, at *1 (Tenn. Ct. App. Oct. 2, 1998) (rejecting beneficiary’s motion for intervention because it was untimely and because his interests were adequately represented by the proponents of the will).

183. Schoenblum, *supra* note 165, at 613 chart 3.

moves the preponderance threshold closer to, and the clear-and-convincing standard farther from, the optimum threshold.

Even where the assumptions hold, empirical evidence has called into question the prediction of economic theory that settlements will approximate trial outcomes.¹⁸⁴ One analysis of data collected from securities class-action suits concluded that the merits did not affect settlements, citing an agency problem akin to the one discussed above, along with a host of other factors.¹⁸⁵ The researcher speculated that a similar disconnect might be found in “strategic litigation, where the ultimate outcome of the litigation is not its real object but the mere filing of a lawsuit achieves the litigant’s objective.”¹⁸⁶ Will contests do not seem a likely candidate for strategic litigation.

Something other than money, however, plainly motivates will contestants. One researcher concludes that “there is no correlation between size of the estate and the likelihood of contest.”¹⁸⁷ That will contestants are deviating from the economic model in this respect¹⁸⁸ poses the question of whether they are also indifferent to the merits. That seems unlikely. A failed will contest would seem to vindicate non-monetary interests—such as fairness, respect, etc.—little more than monetary ones. Settlements, however, can deviate from the merits for other reasons.

3. Will Contests May Be Nuisance Suits

Economic theory has developed an explanation for settlements in weak cases—a further divergence from the view that settlements replicate trial outcomes.¹⁸⁹ Economic theory posits that it is costly for defendants to assess the merits of a plaintiff’s case.¹⁹⁰ It would seem less costly the farther away one is from the standard of proof. This suggests that the clear-and-convincing standard would reduce will contests filed for nuisance purposes because the distribution is quite probably skewed toward capacity. Few weak suits are close enough to the standard of proof to masquerade as strong ones. But is this effect important?

184. See Alexander, *supra* note 176, at 499–500.

185. *Id.* at 597.

186. *Id.*

187. Schoenblum, *supra* note 165, at 617; accord Rosenfeld, *supra* note 165, at 185 tbl.8.3.

188. Hay & Spier, *supra* note 167, at 444 (“[T]he likelihood of settlement decreases as the amount at stake in the case increases.”). The asymmetric cost effect described *supra*, text accompanying note 186, is mitigated to the extent the parties are motivated by factors other than money.

189. E.g., Avery Katz, *The Effect of Frivolous Lawsuits on the Settlement of Litigation*, 10 INT’L REV. L. & ECON. 3 (1990).

190. *Id.* at 4.

One commentator has asserted that “[a] great percentage of will contests are merely for nuisance value.”¹⁹¹ But one study of sixty-six filed will contests found that 24 of those contests (approximately 36%) settled out of court.¹⁹² This settlement rate is substantially lower than general civil litigation,¹⁹³ suggesting relatively few nuisance suits.¹⁹⁴ Perhaps more probative is the fact that “the contestant rarely obtained less than a substantial portion of the estate.”¹⁹⁵ To be sure, large settlement amounts are not inconsistent with the economic theory of nuisance suits,¹⁹⁶ but settlements for small amounts are more likely to be indicative of nuisance motives.¹⁹⁷ Fourteen additional will contests (21%) were either voluntarily terminated or dismissed,¹⁹⁸ which may represent unsuccessful nuisance suits. The remaining twenty-eight cases (42%) were either fully adjudicated or were still pending at the time of the study.¹⁹⁹ Seventeen out of the twenty-five adjudicated cases (68%) were decided in favor of the proponent.²⁰⁰ Without an independent measure of the merits of settled and dismissed cases, it is impossible to know how common nuisance will contests are, but the data do not seem to indicate an unusually

191. Walter T. Burke, *Avoiding Pitfalls When Counseling the Elderly*, 15 NO. 2 COMPLEAT LAW. 13, 18 (1998).

192. Schoenblum, *supra* note 165, at 619–20.

193. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* § 21.4, at 597 (7th ed. 2007) (“[O]nly 4 percent of all civil cases in state courts are tried.”); Hay & Spier, *supra* note 167, at 442 (“Of filed lawsuits in America, over 90 percent settle before trial . . .”).

194. Alternative interpretations are possible. See, e.g., Ray D. Madoff, *Lurking in the Shadow: The Unseen Hand of Doctrine in Dispute Resolution*, 76 S. CAL. L. REV. 161, 177–82 (2002) (arguing that will contests are less likely to settle because the testator is dead, the testator’s intent is malleable, the doctrine has moral dimension, and the remedy is all-or-nothing).

195. Schoenblum, *supra* note 165, at 621.

196. See Katz, *supra* note 189, at 4 (explaining that, though a defendant may “realize that a claim is frivolous, the plaintiff may still obtain a positive settlement,” and that a defendant is often willing to settle for an amount below or equal to his potential defense costs).

197. See Schoenblum, *supra* note 165, at 617–18; see also, e.g., SUSSMAN ET AL., *supra* note 44, at 122 (reporting that 42% of will contest cases that involved redistribution of the estate involved a car ranging in value from \$10 to \$1000).

198. Schoenblum, *supra* note 165, at 619 chart 6.

199. *Id.* Another will study suggests that even fully litigated will contests often include settlements; five out of five contests litigated to jury verdict involved an out-of-court settlement. SUSSMAN ET AL., *supra* note 44, at 184.

200. Schoenblum, *supra* note 165, at 626 chart 8. This finding of “no pronounced bias toward the proponent or contestant,” *id.* at 627, is broadly consistent with the Priest-Klein case selection model described above. See text accompanying notes 167–69; see also Priest & Klein, *supra* note 96, at 4–5. Cf. Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299, 1312 n.51 (2003) (finding that win rates for claims requiring proof by a preponderance of the evidence were no different than win rates for claims requiring clear-and-convincing evidence).

high percentage.²⁰¹ Nor do the data rule out a substantial number of nuisance will contests, which favors the clear-and-convincing standard.²⁰²

By focusing on filed will contests, the reported study may have missed settlements that avoid a court filing. Another study of wills found a redistribution of the estate in 50 out of 360, or 14% of, testate cases.²⁰³ Twenty-one redistributions involved a car,²⁰⁴ which seems an unlikely way to resolve a potential will contest. In seventeen cases, property was redistributed from the surviving spouse to lineal descendants or vice versa.²⁰⁵ Because the spousal intestate share varied from 1/3 to 3/4,²⁰⁶ these redistributions could have preempted will contests. Of the remaining twelve redistributions, only three appear at all likely to have been settlements of threatened will contests.²⁰⁷ Overall, as many as 20 out of 360 testate cases (5.6%) may have involved a pre-filing settlement. Although this is a high estimate, it shows that examining only filed contests may overlook a large number of settlements. But again, without knowing the merits of the potential claims, it impossible to say whether these settlements mirror trial outcomes or merely avoid nuisance actions.

To summarize, although the greater uncertainty of the clear-and-convincing-evidence standard may lead to more litigation, quantifying the standard could avoid that problem. The asymmetric cost structure of will contests raises the effective standard of proof higher than the decision rule at trial. This weighs in favor of the preponderance standard. Pushing in the opposite direction is the desire to avoid nuisance suits. Nuisance suits do not appear to be particularly pronounced in will contests, but the data do not rule out the possibility that they occur in significant numbers. In short, settlement substantially complicates the choice of the standard of proof.

IV. REFINING THE WORKING ANSWER

Laypeople estimate the probability required for the preponderance standard at the same level as judges place the clear-and-convincing-evidence standard.²⁰⁸ In addition, mock-jury research shows no significant difference in plaintiff win rates between the two standards.²⁰⁹ Therefore, the entire civil standard-of-proof question is meaningless without reform of jury instructions. Quantified or comparative standards appear to be effective.²¹⁰ If legislatures

201. Schoenblum, *supra* note 165, at 613–14, 626–27.

202. *See id.* at 613 chart 3, 614 n.33.

203. SUSSMAN ET AL., *supra* note 44, at 122–25.

204. *Id.* at 122.

205. *Id.* at 122–23.

206. *Id.* at 89.

207. *Id.* at 122–23 (reporting that three cases involved disinheritance or near disinheritance).

208. *See supra* notes 40 & 76 and accompanying text.

209. *See supra* note 77 and accompanying text.

210. *See supra* Part III.C.

and appellate courts want any policymaking role in setting the standard of proof, they should institute reform in that direction.

Assuming the two standards are meaningfully differentiated, which standard is better for incapacity will contests? The working answer presented here mirrors the standard approach of comparing the utilities of the possible outcomes and concludes that the clear-and-convincing-evidence standard dominates. Examining the underlying assumptions of this answer, however, introduces some doubt as to the answer's robustness.

If one relaxes the assumption that the fallback is intestacy, the preponderance standard would be superior when there is a prior will. That conclusion seems relatively robust even in light of uncertainties created by the other assumptions. Several other considerations weigh in favor of the preponderance standard more broadly, but with unknown force. These include: (1) testator intent is arguably not dichotomous, which would tend to increase the utility of distribution via intestacy; (2) testator intent is arguably not the only goal of the capacity requirement, which would similarly make intestacy more attractive; (3) the asymmetric cost structure of will contests also likely tilts toward preponderance; and (4) the preponderance standard creates marginally better incentives to produce evidence.²¹¹

Against these, the clear-and-convincing-evidence standard is better than the preponderance standard at achieving testator intent if the distribution of testators, as seems almost certain, is skewed toward capacity. Additionally, it reduces nuisance suits more than the preponderance standard. Introducing case selection through the prevailing model can tilt the scale further toward the clear-and-convincing-evidence standard. An unknown consideration concerns whether old will-studies reflect the accuracy of intestacy today, given changes in statutes, family structures, and testators.

If forced to choose between the standards based on presently existing information (as courts and legislators are), the case for the clear-and-convincing-evidence standard seems stronger on balance. The working answer weighs heavily in its favor. Using conservative estimates of the utilities of the four possible outcomes generates an optimal standard of 0.69,²¹² not far from the 0.75 level associated with the clear-and-convincing standard.²¹³ The likely distributional skew toward capacity strengthens this finding, as does concern

211. See *supra* Part III for a discussion of each of these considerations.

212. If one accepts the argument for quantification, the question becomes whether the standard should simply be set at 0.69. Indeed, more refined proof levels are already at work in this context; recall the dizzying array of verbal formulations. See *supra* text accompanying notes 16–22. Some have argued that three is a magic number. Clermont, *supra* note 84, at 1115 (noting that the standard of proof divides into three standards, despite the fact that it may more properly be understood as a “continuum”); see also McBaine, *supra* note 79, at 245–47 (discussing three burdens of persuasion). Whether more refined standards are appropriate is outside the scope of this Article.

213. See *supra* Figure 2.

for reducing nuisance suits. On the other hand, asymmetric costs and evidentiary incentives push toward the preponderance standard. As noted above, asymmetric costs are potentially very important given how few cases are litigated, but they are mitigated in this context because will litigants appear to be motivated by factors other than money. Evidentiary incentives do not seem particularly profound given uncertainty, risk aversion, and the other incentives at work.

That leaves three difficult considerations. First, the will studies underlying the simple answer are dated, but that should not disqualify them in the absence of new data or persuasive theory about the direction of change. Second, awarding partial credit for distributions that deviate from the testator's preferred scheme would be arbitrary without evidence that doing so is what the testator wants.²¹⁴ Finally, if family protection is given preference in setting the standard of proof for incapacity, then that could tilt the scales in favor of the preponderance standard. However, as argued above, effectuating testator intent should be the only relevant goal.²¹⁵

In light of all the relevant factors, a definitive answer to the standard-of-proof question is not possible based on currently available data. There are simply too many unknowns, pushing in opposite directions. Remaining questions include: (1) whether partial credit should be awarded and, if so, how much; (2) whether old will studies accurately reflect the current situation; and (3) whether other goals are relevant. One commentator, Professor Alex Stein, has argued that, because the preponderance standard minimizes the total number of errors, "[a]ny deviation from this rule requires unequivocal justification, which is hard to provide in cases not featuring asymmetric risks of error."²¹⁶ This Article demonstrates that unequivocal justification is

214. Researchers could ask respondents not only how they would prefer their estates to be distributed under different factual scenarios, *see, e.g.*, Fellows et al., *supra* note 107, at 351 tbl.7, but also how they feel about the intestate distribution. For example, the researcher could ask a follow-up question to respondents who deviate from the intestate pattern. This could be phrased, "If the distribution you just selected is given a score of 100 on a 100-point scale where 100 is 'exactly what you want' and 0 is 'totally unacceptable,' where does the following intestate distribution fall on that scale?" Answers could help generate a more refined estimate of *I*.

215. To these three considerations, one could add consistency. If the case for the preponderance standard is relatively strong for replacement wills and codicils, consistency argues in favor of applying it generally. *See Pierce v. Pierce*, 127 S.W.2d 791, 794 (Tenn. 1939) (rejecting the clear-and-convincing standard in favor of preponderance, and noting that "[r]ecognition and application of exceptions to the fixed rules governing the proof required in civil and criminal cases, respectively, would give rise to great confusion[']"). This argument should not prevail; the existence of a prior will creates a bright-line rule, and lawyers who currently practice in this area must be sensitive to standards of proof.

216. ALEX STEIN, FOUNDATIONS OF EVIDENCE LAW 153 (2005). *Accord* Redmayne, *supra* note 68, at 174 (arguing that the preponderance standard "should only be abandoned where the reasons for doing so are compelling"). Elsewhere, Professor Stein appears to back away somewhat from this statement. *See* Richard A. Bierschbach & Alex Stein, *Overenforcement*, 93 GEO. L.J. 1743, 1758 (2005) (explaining that their "theory offers no concrete prescriptions for a

probably impossible to provide even in cases, like incapacity will contests, that feature asymmetric costs of error.

The result should not be adoption of the preponderance standard across the board; rather, unequivocal justification should not be required. Minimizing errors is an attractive goal, but only because doing so will generally minimize the cost of errors. It is the cost, not the error itself, that matters.²¹⁷ Professor Stein likely would not disagree.²¹⁸ He suggests that asymmetric error costs will, at least frequently, qualify as an unequivocal justification.²¹⁹ Perhaps a better statement of the preference for the preponderance standard is as a default rule when error costs are nearly equal or unknown. Once asymmetric costs are shown, the considerations outlined in this Article should be weighed, with no strong thumb on either side of the scale.

V. POTENTIAL EXTENSIONS OF THE ANALYSIS

Three examples illustrate some broader implications of the foregoing analysis: undue influence, fraud, and criminal law. The closest analog to testamentary incapacity is undue influence, which, along with incapacity, is one of the two most common grounds for will contests.²²⁰ There is a split between those jurisdictions that require contestants to prove undue influence by a preponderance of evidence and those that require clear-and-convincing evidence.²²¹ Substitute “probability of undue influence” for “probability of incapacity” and almost the entire analysis above applies. The most notable exception is that, with undue influence, there is a wrongdoer who manipulates

perfectly tailored counterbalancing approach,” such as a heightened evidentiary requirement, “that would do exactly right on a case-by-case basis[]” and, furthermore, that such a theory is “unattainable”).

217. Cf. EPSTEIN, *supra* note 61.

218. See STEIN, *supra* note 216, at 141.

219. *Id.* at 153.

220. Schoenblum, *supra* note 165, at 648 chart 22 (indicating that 49 out of 66 contests, or 74%, involved undue influence claims; 48, or 73%, involved incapacity claims; and, the next most common claim, lack of testamentary formalities, was alleged in only 9 cases, or 14%). Undue influence is a slippery concept, but it has been defined as follows: “[a] donative transfer is procured by undue influence if the wrongdoer exerted such influence over the donor that it overcame the donor’s free will and caused the donor to make a donative transfer that the donor would not otherwise have made.” RESTATEMENT (THIRD) OF PROP.: WILLS AND OTHER DONATIVE TRANSFERS § 8.3(b) (2003).

There obviously can be overlap between incapacity and undue influence. Fraud is also a basis for will contests and may, too, overlap with the other two contest grounds. A definitive answer to the question of which standard of proof is optimal for any one of these grounds would have to account for their potential interchangeability. Such second-order effects are outside the scope of this Article.

221. ROSS & REED, *supra* note 19, § 7:12, at 7-76 to 7-79 nn.17–18 (listing authority from twenty-nine states following the preponderance rule and authority from fourteen states requiring clear-and-convincing evidence).

the content of the will.²²² Recall the previous discussion that attempted to estimate how often wills executed by incapacitated testators reflect their intent by subdividing such “bad” wills into innocent mistakes and intentional malfeasance. With undue influence there are no innocent mistakes; accordingly, there is good reason to think that B is very close to 0.²²³ This weakens the case for the clear-and-convincing standard. It is, therefore, somewhat surprising that more than twice as many states (fourteen) apply the heightened standard to undue-influence claims²²⁴ than to incapacity claims (six).²²⁵ (In light of the overlapping issues that these claims implicate, it is not surprising that all 6 of those states requiring clear-and-convincing evidence of incapacity require the same of undue influence.)²²⁶

A second example may shed light on the anomaly that, in many states, it is more difficult to prove undue influence than incapacity. Professor Stein justifies the application of the clear-and-convincing-evidence standard to civil claims of fraud on the ground that an individual found to have committed fraud suffers a social sanction in addition to a legal one.²²⁷ The heightened standard of proof avoids over-deterrence by reducing the probability of a finding of fraud.²²⁸ In the terms of this Article, Stein argues that the utility of true and false positives is lower for fraud cases than for other civil actions because a fraud finding has the negative effect of over-deterrence. Equation 4 shows that the optimal-proof standard necessarily rises as the utility of positive findings declines; Stein, therefore, is on the right track.²²⁹ However, his account falls far short of a justification for the fraud standard.

Even within the standard statistical approach, one needs to know how large the effect of over-deterrence is. If the utility of positive findings decreases only slightly, the preponderance standard may still prove more effective than the clear-and-convincing-evidence standard.²³⁰ Depending on the magnitude of the effect of over-deterrence, the amount of fraud may be relevant. The greater the court’s error rate, the greater the effect would have to be to justify

222. *Id.* § 7:1, at 7-3.

223. *Id.* (demonstrating that innocent, mistaken conduct will not inculcate an individual under the undue influence standard).

224. ROSS & REED, *supra* note 19, § 7:12, at 7-79 n.18. This treatise places Iowa and Ohio on both sides of the divide. *Id.* (1999 & Supp. 2010). However, the authority it cites puts both states in the preponderance camp. See *In re Estate of Todd*, 585 N.W.2d 273 (Iowa 1998); *West v. Lucas*, 139 N.E. 859 (Ohio 1922).

225. ROSS & REED, *supra* note 19, § 6:14, at 6-67 n.39, 6-75 n.43.

226. *Id.* § 7:12, at 7-76 n.17, 7-79 n.18. Section 7:12 lists Louisiana citations in support of both standards, *id.*, but the controlling statute indicates that the state applies the clear-and-convincing-evidence standard. See LA. CIV. CODE ANN. art. 1483 (2000).

227. STEIN, *supra* note 216. *Accord Addington v. Texas*, 441 U.S. 418, 424 (1979).

228. STEIN, *supra* note 216.

229. *Id.*; see *supra* Equation 4.

230. In this sense, Stein fails his own unequivocal-evidence test. STEIN, *supra* note 216. In fairness, Stein may have intended to offer an explanation rather than a full justification.

deviation from the preponderance standard. All of this assumes an agreed-upon metric that measures deterrence along with all other purposes of the law of fraud. My own tentative view is that a heightened standard of proof for fraud is probably not justified.

Regardless, the fraud issue sheds light on undue influence. Being found guilty of undue influence likely carries a social sanction similar to being found guilty of fraud. With undue influence, however, avoiding over-deterrence is even more important because the boundary between good and bad behavior is less clear.²³¹ It is not wrong for a child to ask his parent to be remembered in her will, and some testators may need and want assistance from individuals who are also beneficiaries. The same concern with over-deterrence that arises in fraud cases is therefore magnified in undue influence cases, and this weighs heavily in favor of a heightened standard for undue influence.²³²

Similarly, a criminal conviction could inflict social as well as legal harm, but the emphasis of those who defend the reasonable doubt standard is usually different; the cost of convicting an innocent person is greater than the cost of acquitting a guilty person.²³³ Judge Richard Posner attributes this disparity, in part, to the high cost of imprisonment.²³⁴ This is obviously a direct application of the standard statistical approach.²³⁵ Judge Posner, like Professor Stein, makes no attempt to quantify the relative costs of errors.²³⁶ Moreover, some have argued that, in the criminal context, it is not possible to quantify either the utilities or the standard.²³⁷

Judge Posner offers a second argument in favor of the reasonable-doubt standard—inequality of resources.²³⁸ Because the government generally has a large advantage in resources, the high burden is needed to level the playing

231. *Id.*

232. Even without that concern, however, this Article suggests that there is a reasonably strong case for the clear-and-convincing-evidence standard for undue influence.

233. See Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1504 (1999). Even those who criticize this rationale cite the costs of false convictions in favor of the high standard. See Richard Lempert, *The Economic Analysis of Evidence Law: Common Sense on Stilts*, 87 VA. L. REV. 1619, 1665 (2001) (relying on “an aspiration to never convict innocent people and a moral judgment about the wrongfulness of inflicting the pain of criminal conviction on people who are not guilty of crimes”).

234. POSNER, *supra* note 193, § 22.4, at 648. Note, however, that the reasonable-doubt standard applies to all crimes, not just those leading to imprisonment. See, e.g., Dept. of Rev. of Mont. v. Kurth Ranch, 511 U.S. 767, 778 (1994) (“A government may not impose criminal fines without first establishing guilt by proof beyond a reasonable doubt.”).

235. See *supra* note 56 and accompanying text.

236. See Posner, *supra* note 233, at 1504–07.

237. See, e.g., McCullough v. State, 657 P.2d 1157, 1159 (Nev. 1983) (“The concept of reasonable doubt is inherently qualitative. Any attempt to quantify may impermissibly lower the prosecution’s burden of proof, and is likely to confuse rather than clarify.”); Lillquist, *supra* note 60, at 91 (“[T]he traditional understanding wrongly assumes that we know *how* to weigh these costs and benefits.”).

238. Posner, *supra* note 233, at 1505.

field. Recall the discussion above of asymmetric costs in will contests.²³⁹ The proponent of the will has a resource advantage because the costs of litigation come from the estate instead of out of the proponent's pocket.²⁴⁰ This advantage supports an argument for a lower standard of proof to make the contestant's life easier. In criminal law, the situation is reversed; it is the prosecution that has superior resources, and this, argues Judge Posner, militates in favor of requiring proof beyond a reasonable doubt.²⁴¹

Moreover, although the government's resources in any particular case will vastly outstrip those of an individual defendant, prosecutorial resources are insufficient to cover every crime. Therefore, prosecutors will draw defendants from among the suspects most likely to be convicted if tried—in other words, those most likely to be guilty.²⁴² In making this argument, Judge Posner demonstrates sensitivity to the importance of the underlying distribution and case selection.²⁴³ But his argument justifies a lower, not higher, standard of proof. This Article demonstrated above that a leftward merits skew generally favors a higher standard of proof.²⁴⁴ All else equal, a rightward skew like the one Judge Posner identifies should have the opposite impact on the selection of the standard of proof.²⁴⁵

Judge Posner only briefly mentions the potential that a high standard of proof may reduce the probability of conviction and thus the disincentive to commit crime.²⁴⁶ This is analogous to the incentive effects identified above: greater security from the clear-and-convincing-evidence standard should mean more wills and wills executed later in life.²⁴⁷ Judge Posner's inattention is particularly remarkable because, only a few pages later, he argues that pro-defendant Supreme Court precedent on other issues "would have reduced the expected cost of punishment, and so driven crime rates even higher."²⁴⁸ In fairness, Judge Posner may believe that the resource constraint is so severe that it drives the conviction rate independent of the standard of proof.

VI. CONCLUSION

This Article posed a very specific question: in will contests alleging incapacity, which standard of proof—preponderance of the evidence or clear and convincing evidence—is better? There were reasons to think a definitive answer was achievable. First, there is a basic agreement that advancing

239. *See supra* Part III.J.

240. *See, e.g.*, TEX. PROBATE CODE ANN. § 243 (West 2003).

241. POSNER, *supra* note 193, § 22.4, at 648–49.

242. *Id.* at 649.

243. *See id.*

244. *See supra* text accompanying note 59.

245. *See* POSNER, *supra* note 193, § 22.4, at 648.

246. *See id.*

247. *See supra* Part III.B.

248. POSNER, *supra* note 193, § 22.4, at 649–50.

testator intent is the primary goal of the law of wills. Second, studies have examined how well the fallback system of intestacy matched testator intent. And third, the base rate of incapacity is almost certainly low. But these facts were not enough to definitively find in favor of one standard. The final answer was necessarily equivocal, but exposed previously unrecognized factors that are relevant in selecting any standard of proof.

Perhaps most important is the need for sensitivity to the effects of settlement. One cannot simply assume that settlements will mirror trial outcomes. The asymmetric cost structure of will contests is just one example of why a myopic focus on trial results may be inadequate. Some understanding of the merits distribution can also affect the choice of a standard of proof. As in will contests, it may not be necessary to know the precise distribution; it may be sufficient simply to know the likely direction of the skew. And, although there were difficulties measuring the utilities of the four outcomes, this Article suggests that this basic problem may not be intractable, at least in some contexts.

An important thread of this Article's argument is that standard of proof instructions should be clarified. The whole question of which standard to apply is almost meaningless if jurors cannot differentiate among the standards, as appears presently to be the case. More precise language may suffice, but a numerical approach deserves serious consideration.

Perhaps the biggest contribution of this Article is to present a more complete framework through which to evaluate standards of proof. Leading commentators have at times recognized some of the relevant considerations, but more often they have failed to examine critical assumptions and, in some cases, they have cited considerations in favor one standard of proof when they actually support another. To be fair, precision of result may necessarily be elusive in this area, but precision of analysis is not. And although this Article's framework is presented in probabilistic terms, the lessons learned are applicable to other approaches to standards of proof.

