Of Posner, and Newton, and Twenty-First Century Law: An Economic and Statistical Analysis of the Posner Rule for Granting Preliminary Injunctions

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OF POSNER, AND NEWTON, AND TWENTY-FIRST CENTURY LAW: AN ECONOMIC AND STATISTICAL ANALYSIS OF THE POSNER RULE FOR GRANTING PRELIMINARY INJUNCTIONS*

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I. INTRODUCTION

By virtue of his announcement of his Second Law of Motion (now known as $F=ma$),[1] Sir Isaac Newton succeeded in doing three things. First, Newton succeeded not only in isolating crucially relevant force-determining variables from a host of candidate variables, but also in demonstrating succinctly and definitively the relationship among those variables.[2] Second, by his equation, Newton was able to resolve the

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1. Where F = Force, m = mass, and a = acceleration. Newton announced his discoveries in I. NEWTON, PHILOSOPHIAE NATURALIS PRINCIPIA MATHEMATICA (1686). For the collected editions of Newton's *Principia*, see I.B. COHEN & A. KOYRÉ, ISAAC NEWTON'S PHILOSOPHIAE NATURALIS PRINCIPIA MATHEMATICA (1972) [hereinafter *Principia*] (providing in latin all versions of *Principia*). *See also* I.B. COHEN, INTRODUCTION TO NEWTON'S 'PRINCIPIA' (1971) (providing English translation of various versions of *Principia*, its precursors and contemporaneous critiques).

2. The reader should note that Newton's classical mechanics survived a scant 200 years of "legitimacy" before being replaced in rapid succession by Einstein's relativity, Schroedinger's wave mechanics, and Bohr and Heisenberg's quantum mechanics. And yet Newtonian mechanics are still useful today. *See* I.B. COHEN, THE BIRTH OF A NEW PHYSICS 148 (rev. ed. 1985). The author wishes to stress, therefore, that the Posner Rule is no more encompassing than Newtonian mechanics. The Rule provides an approach to quantifying and explaining the actual and proper use of the analytical factors involved in the field of preliminary injunctions. The Rule is the best "approximation" available today for achieving truly equitable results with preliminary injunctions.

Indeed, Werner Heisenberg, one of the founders of quantum mechanics, has acknowledged the logical consistency and present-day validity of Newtonian mechanics when used within given parameters. W. HEISENBERG, ACROSS THE FRONTIERS 185 (1974). With respect to Newtonian mechanics, at issue then was the degree of accuracy in results afforded a user of classical physics or Newtonian mechanics. W. HEISENBERG, PHYSICS AND PHILOSOPHY 96 (1958). The "good approximations" of the closed system of Newtonian mechanics were no longer good enough for the modern theoretical physicists. *Id.* at 97. Newton's closed system could not be improved. It had to be superceded and subsumed within a more accurate

controversy regarding the proper determinants of motion.[3] Third, with his equation, Newton demonstrated a certain irreverence for the scientific methodology of his day.[4] His "Newtonian Method" forms the basis for much of today's scientific methodology.[5]

Judge Richard Posner would certainly have made Sir Isaac Newton proud were Newton alive today. Indeed, a comparison of Judge Posner's rule for granting preliminary injunctions[6] [hereinafter the "Posner Rule"] with Newton's Second Law of Motion reveals many similarities. In fact, it will be argued in this Article that the Posner Rule, $PH_p > (1-P)H_d$,[7] is equally deserving of a descriptive accolade. First, like Newton, Judge Posner has isolated the relevant determinative variables, demonstrating succinctly and definitively the relationship among them.[8] Sec-

approximation. *Id.* It is in this sense then that it could be argued that Posner, by his Rule, supercedes and subsumes, at least for today, the historical and various "traditional" models for granting preliminary injunctions.

3. A. KOYRÉ, NEWTONIAN STUDIES 5 (1965). Again the reader should note that in physics, as in law, the issue of indeterminacy is a very live controversy. *See generally* D. BOHM, CAUSALITY AND CHANCE IN MODERN PHYSICS (1957) (critiquing quantum mechanics and, in particular, the Copenhagen interpretation of quantum mechanics); E. CASSIRER, DETERMINISM AND INDETERMINISM IN MODERN PHYSICS (1956) (discussing various philosophical, physical and metaphysical aspects of determinism and indeterminism).

As for the law, the author, though certainly not a "Posnerian," argues in favor of greater quantification of the variables involved in the "good approximation" that is American Jurisprudence. For Judge Posner's views, see generally Posner, *The Jurisprudence of Skepticism*, 86 MICH. L. REV. 827 (1988); Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399 (1973). For an alternative view see Williams, *Culture and Certainty: Legal History, Theory and the Reconstructive Project*, 76 VA. L. REV. 713 (1990); Williams, *Critical Legal Studies: The Death of Transcendence and the Rise of the New Langdells*, 62 N.Y.U. L. REV. 429 (1987).

4. *See generally* I.B. COHEN, THE NEWTONIAN REVOLUTION 39-154 (1980).

5. I.B. COHEN, THE REVOLUTION IN SCIENCE 175 (1985); I.B. COHEN, *supra* note 2, at 148.

6. *See* American Hosp. Supply Corp. v. Hospital Prods. Ltd., 780 F.2d 589, 593 (7th Cir. 1986).

7. *Id.* "P" represents the probability that the plaintiff will prevail on the merits at trial, (1-P) represents the probability that she will not prevail. "H_p" represents the harm to the plaintiff if she is denied the injunction, "H_d" is the harm to the defendant if the plaintiff is granted the injunction. *Id.*

8. *See id.* Posner is not the first judge to attempt quantification of the law. Judge Learned Hand, in *United States v. Carroll Towing Co.*, proposed the negligence formula: $B < PL$, where B = the burden of precautions to avoid an accident, L = the loss, if an accident occurs, and P = the probability of such an accident occurring absent the precautionary methods. 159 F.2d 169, 173 (2d Cir. 1947).

Although not "universally accepted," the Hand formula has been referred to in a number of cases. *See, e.g.*, East River S.S. Corp. v. Transamerica Delaval, 476 U.S. 858, 872 (1986); Rhode Island Hosp. Trust Nat'l Bank v. Zapata Corp., 848 F.2d 291, 295 (1st Cir. 1988); Washington Post Co. v. United States Dep't of Health & Human Servs., 690 F.2d 252, 285 (D.C. Cir. 1982); Lange v. Schultz, 627 F.2d 122, 129 (8th Cir. 1980); United States v. Atlantic Richfield Co., 429 F. Supp. 830, 836 (E.D. Penn. 1977); Hall v. E.I. du Pont de Nemours &

ond, although it is true that as of this moment in time he has generated more controversy than he has stilled, one cannot deny that Judge Posner has certainly shown an irreverence for the jurisprudential methodology of his day.[9] Finally, admittedly, the debate over the proper standard for granting a preliminary injunction is not as historically long-standing as the debate over the determinants of motion. However, it will be argued in this Article that the Posner Rule significantly narrows, if not resolves, the preliminary injunction debate.[10]

Remarkably, the similarity of the resistance to these two rules and their founders gives the greatest reason for pause. For, in the early dawn of a new age in physical science, the intellectual resistance to Newton's scientific approach was so great that he took an oath that he would never again hypothesize in support of his theories.[11] Today, the resistance to the Posner Rule is well documented.[12] As was true in Newton's day, the causes of the resistance to the Posner Rule are doubtless personal, ideological, sociological, philosophical and psychological. Yet, assuming that the Posner Rule will ultimately achieve recognition in the history of ideas, one wonders whether a law review "Pico-Micro Chip" in the twenty-first century would be a more appropriate venue for such a declaration.

What is called for, then, is an imaginative foray into twenty-first century law. With any attempt to move forward in time, however, must

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Co., 345 F. Supp. 353, 360 (E.D.N.Y. 1972); *cf.* Easton v. City of Boulder, 776 F.2d 1441, 1447 (10th Cir. 1985), *cert. denied,* 479 U.S. 816 (1986).

The Hand formula has also been referred to in a number of books and law review articles. *See, e.g.,* W. LANDES & R. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW 85 (1987); S. SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW 19 n.23 (1987); Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the* Betamax *Case and its Predecessors,* 82 COLUM. L. REV. 1600, 1609 n.57 (1982); Maurer, *Common Law Defamation and the Fair Credit Reporting Act,* 72 GEO. L.J. 95, 130 (1983); Posner, *An Economic Theory of the Criminal Law,* 85 COLUM. L. REV. 1193, 1194 n.5 (1985); Yorio, *In Defense of Money Damages for Breach of Contract,* 82 COLUM. L. REV. 1365, 1412 n.242 (1982).

9. *See, e.g.,* Cohen, *Posnerian Jurisprudence and Economic Analysis of Law: A View from the Bench,* 133 U. PA. L. REV. 1117 (1985); Leff, *Economic Analysis of Law: Some Realism About Nominalism,* 60 VA. L. REV. 453 (1973).

10. The author uses the term "resolves" within the "closed system" of preliminary injunctions. Certainly, in the evolution of the law a greater, more encompassing theory of equity would quite likely supercede' and subsume the Posner Rule, much as quantum mechanics superceded and subsumed classical mechanics.

11. L. MORE, ISAAC NEWTON: A BIOGRAPHY 104-06 (1934). The recent year-long, worldwide celebration of the 300th anniversary of the publication of Newton's *Principia* is testimony to the correctness of his objective scientific method. Browne, *Anniversary of a Revolution: Newton's Principia Turns 300,* N.Y. Times, Mar. 31, 1987, at C1, col. 1.

12. *See infra* notes 260-300 and accompanying text (Part VI) (discussing criticisms of Posner Rule).

come the realization that there are significant personal, ideological, socio-logical, philosophical and psychological obstacles to overcome.[13]

In entering this time warp, the reader is asked to temporarily sus-pend her biases, be they against mathematics, or, God forbid, law and economics research. During this brief time, this Article will explore the past, present, and future of preliminary injunctions and the Posner Rule in five parts. Part II presents a brief synopsis of the history of prelimi-nary injunctions. Part III offers a statement of the Posner Rule, with a brief discussion of relevant technical terms, the theoretical rationale un-derlying the rule, and a list of the insights afforded by the Rule. Part IV provides a United States Supreme Court and Court of Appeals circuit-by-circuit analysis of preliminary injunctions and comments on each cir-cuit court's approach (or approaches) when viewed in the light of the Posner Rule. Part V discusses the Posner Rule Probability and Harm Matrix, a tool which results from a manipulation of the Posner Rule and provides a basis for demonstrating the Rule's logical consistency and uni-versal applicability in the field of preliminary injunctions. Part VI exam-ines actual and potential criticisms of the Posner Rule.

II. HISTORICAL BACKGROUND

The tale of Lord Chief Justice Coke and Chancellor Ellesmere is a story that first-year Civil Procedure law professors love to tell, and one which succinctly summarizes the history of preliminary injunctions. In fourteenth century England, the Chancery's equitable principles were supplanting the rigidity of the common law.[14] That is, the Court of Chancery was becoming the embodiment of equitable discretion in grant-ing exceptions to the rigid rules of pleadings and practice of the King's Court.[15] Consequently, disputes arose between the Chancellor and the common-law judges of the King's Courts.[16]

The most serious of all the King's Courts judges' allegations was that the Chancellor was undermining "the whole law of England by sub-

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13. Such travel in the figurative sense presumably would not violate the laws of relativity. However, one may assume that such travel, whether figurative or real, is uncertain at best, and can potentially or actually influence future events.

14. Black, *A New Look at Preliminary Injunctions: Can Principles from the Past Offer Any Guidelines to Decisionmakers in the Future?*, 36 ALA. L. REV. 1, 3-4 (1984).

15. *Id.* For a more thorough history of the victory of equity over law, and equity in gen-eral, see 1 W.S. HOLDSWORTH, A HISTORY OF ENGLISH LAW 459-65 (6th ed. 1938); Adams, *The Origin of English Equity*, 16 COLUM. L. REV. 87 (1916); Dawson, *Coke and Ellesmere Disinterred: The Attack on the Chancery in 1616*, 36 ILL. L. REV. 127 (1941).

16. Black, *supra* note 14; at 4.

stituting conscience for definite rule."[17] Apparently, the dispute centered on the use of preliminary injunctions.[18] The "definite rule" was that the common law would remedy a wrong only after its commission.[19] Chancery, however, saw no harm in preventing the wrong from occurring in the first instance.[20] The dispute over injunctive power reached its zenith on July 26, 1616,[21] when King James ruled in favor of the Chancery and Lord Ellesmere, establishing equity as a viable tool with which courts could dispense justice.[22]

At least four themes, lessons, or logical conclusions follow from the preceding historical summary. First, although historically interesting, the practical relevance of the historical distinction between law and equity has diminished in all federal[23] and in most state courts.[24] Second, the historical distinction between law and equity, as it relates to preliminary injunctions, illustrates that the tension in the law of preliminary injunctions is ultimately one of uniform versus flexible legal standards.[25] Third, as a historical matter, the 1616 victory of equity over law has a parallel in the modern-day victory of flexible and multiple preliminary injunction standards over a single uniform standard.[26] Fourth, it was historically presumed, and continues to be assumed, that flexible and multiple standards were and are incompatible with a single uniform

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17. *Id.*

18. *Id.*

19. *Id.*

20. *See id.*

21. *See* F.W. MAITLAND, EQUITY 2-10 (2d ed. 1936). Coke felt that injunctions were against the Statutes of Praemunire and challenged the common law of the King's Courts. *Id.* at 9-10.

22. ARGUMENTS Proving from ANTIQUITY the Dignity, Power, and Jurisdiction of THE COURT of CHANCERY, 21 Eng. Rep. 576, 581-82, 588 (Ch. 1616).

23. In *Shondel v. McDermott*, Judge Posner railed against the historical basis for discretion in equity, stating that "the proposition that equitable relief is 'discretionary' cannot be maintained today . . . ." 775 F.2d 859, 867-68 (7th Cir. 1985).

24. D. DOBBS, REMEDIES 27-28 (1973).

25. The distinction between law and equity cannot assist us in formulating a standard for granting preliminary injunctions. However, the distinction does confirm for us that the controversy over the proper standard is in essence a controversy over the uniformity versus the flexibility of legal standards.

26. *See infra* notes 101-77 and accompanying text (Part IV) (discussing various circuits and a profusion of preliminary injunction standards). Indeed, judges do not like the perceived possible loss of discretionary power under a uniform standard. *See* American Hosp. Supply Corp. v. Hospital Prods. Ltd., 780 F.2d 589, 595 (7th Cir. 1986) (Swygert, J., dissenting). *But see* Black, *supra* note 14, at 49. She argues for a national standard based upon the "balance of factors." *Id.* Specifically, Black writes, "[f]irst, great caution should be exercised in granting a preliminary injunction. Second, a preliminary injunction should be granted only after a finding of irreparable injury." *Id. See also infra* notes 86-94 and accompanying text (discussing difficulties attending "balance of factors" standard).

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standard.[27]

Indeed, one can find judges today who are quite concerned over the degree to which a uniform standard infringes upon their "judicial discretion" in granting preliminary injunctions.[28] In the midst of this discussion of judicial power, then, the pivotal and discomfiting question arises as to what extent the argument regarding flexibility and judicial discretion reflects simply the absence or inadequacy of analyses of preliminary injunctions. Could it be that the tension between uniformity and flexibility in the case of preliminary injunctions is merely a fictional one, merely reflecting a misunderstanding of the modern procedural rationale for the injunction? The Posner Rule appears to be premised on the belief that answers to the preceding questions are possible and indeed desirable. With his Rule, Judge Posner suggests that the appropriate and ultimately reconciling analytical framework for understanding preliminary injunctions is primarily an economic and statistical one.[29]

At present, no universally accepted standard for granting preliminary injunctions exists.[30] Some circuit courts have suggested the contrary, claiming that there is a four-part standard.[31] However, even their "four-part" standards differ from each other.[32] Indeed, the federal courts use two, three, four and five-step standards without any apparent logic to their choice.[33] Often those courts which seem to consistently use the same procedure will vary the weight accorded the various factors, rendering an accurate prediction of the court's ruling impossible.[34] The Posner Rule eliminates such uncertainties.

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27. *See* Black, *supra* note 14, at 4. *See also infra* notes 101-77 and accompanying text (Part IV) (demonstrating lack of rational standard for all federal courts).

28. *See American Hosp.*, 780 F.2d at 595 (Swygert, J., dissenting).

29. *Id.* at 593-94.

30. For a thorough discussion of the varying federal court standards for preliminary injunctions, see Wolf, *Preliminary Injunctions: The Varying Standards*, 7 W. NEW ENG. L. REV. 173 (1984). *See also infra* notes 101-77 and accompanying text (Part IV) (providing discussion, criticisms of federal preliminary injunction standards). The author is greatly indebted to Professor Wolf for his extensive survey of federal preliminary injunctions standards.

31. *See, e.g.*, H.H. Robertson, Co. v. United States Steel Deck, Inc., 820 F.2d 384, 387 (Fed. Cir. 1987); Eli Lilly & Co. v. Premo Pharm. Labs, Inc., 630 F.2d 120, 136 (3d Cir.), *cert. denied*, 449 U.S. 1014 (1980).

32. *Compare* Dataphase Sys., Inc. v. CL Sys., Inc., 640 F.2d 109, 114 (8th Cir. 1981) (en banc) *with* Florida Medical Ass'n v. United States Dep't of Health, Educ. & Welfare, 601 F.2d 199, 202-03 & n.2 (5th Cir. 1984).

33. *See, e.g., H.H. Robertson*, 820 F.2d at 387 (four-part model); Moteles v. University of Penn., 730 F.2d 913, 918-19 (3d Cir.), *cert. denied*, 409 U.S. 855 (1984) (two-part model); Garlock, Inc. v. United Seal, Inc., 404 F.2d 256, 257 (6th Cir. 1968) (per curiam) (three-part model). *See also infra* notes 109-14 and accompanying text.

34. *See infra* notes 141-46 and accompanying text.

III. STATEMENT, RATIONALE, AND INSIGHTS OF THE POSNER RULE

A. Statement of the Rule

Succinctly stated, the Posner Rule provides that a plaintiff should be granted a preliminary injunction *if* and *only if* the expected loss to the plaintiff if she is denied the injunction exceeds the expected loss to the defendant if the injunction is granted.[35] As the ideas contained in this Rule are well-established within economic and statistical analysis, and since mathematical symbolism is generally a more efficient means of communication, the Rule can be expressed mathematically as:

$$PH_p > (1-P)H_d.[36]$$

It is useful to consider an illustrative application of the Posner Rule. In *American Hospital Supply Corp. v. Hospital Products Ltd.*,[37] American Hospital Supply (AHS) sued Hospital Products alleging breach of contract.[38] AHS sought a preliminary injunction to enjoin Hospital Products from cancelling its contract with AHS.[39] The contract guaranteed that AHS would be the only United States distributor of Hospital Products' goods.[40] On July 8th, the trial court ordered a preliminary injunction, enjoining Hospital Products from further action in derogation of AHS's contractual rights.[41] Hospital Products was also ordered to notify AHS's dealers that AHS remained an authorized distributor of Hospital Products' merchandise.[42]

In upholding the trial court's grant of the preliminary injunction,

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35. American Hosp. Supply Corp. v. Hospital Prods. Ltd., 780 F.2d 589, 593 (7th Cir. 1986).

36. *Id.* Although seemingly cryptic, the mathematical formula is precisely analogous to the verbal formulation of the Rule that is given in the text of the case. *Id.* See also *supra* note 7 for a verbal formulation of the mathematical formula's symbols. See *infra* notes 79, 82-84 and accompanying text for a discussion of the term "expected loss."

37. 780 F.2d 589 (7th Cir. 1986).

38. *Id.* at 592. For a more thorough discussion of the case itself, see Note, *Formulating a Theory for Preliminary Injunctions: American Hospital Supply Corp. v. Hospital Products Ltd.*, 72 IOWA L. REV. 1158 (1987) (supporting Posner Rule as basis for national preliminary injunction standard).

39. *American Hosp.*, 780 F.2d at 592.

40. *Id.* The supply contract between the parties had provided that American Hospital Supply could continue to be Hospital Products' sole distributor of surgical stapling systems in the United States, so long as the annual contract was renewed by AHS by a certain date. *Id.* On the relevant date, June 3, 1985, Hospital Products requested, and AHS tendered a letter indicating its intention to renew the contract. *Id.* at 595. On June 4th, however, Hospital Products notified AHS of its intention to treat the contract as having been terminated. *Id.* On June 7th, Hospital Products sent a telegram to all of AHS's dealers, notifying them that AHS was no longer Hospital Product's authorized distributor. *Id.*

41. *Id.* at 592-93.

42. *Id.* at 593.

Judge Posner announced his rule[43] and applied it in three steps. The first step involved determining the magnitude of the plaintiff's harm (H_p).[44] The second and third steps involved determining the magnitudes of the defendant's harm (H_d),[45] and the probability of the plaintiff's success on the merits of the case (P), respectively.[46]

In applying the first step of his Rule, Posner postulated the relevant inquiry as a determination of (1) the plaintiff's harm; and (2) whether it is irreparable in the given case.[47] In *American Hospital*, the issue was not whether AHS would have suffered lost sales because of the unavailability of Hospital Products as a supplier.[48] This "lost sales" harm, the court said was speculative.[49] Indeed, the court noted the "lost supplier" *source* of the harm could have been easily eliminated by the actions available to AHS (*i.e.*, finding a new supplier).[50]

The real issue, the court said, turned on the nature of the harm resulting from the loss of "distributor status."[51] Judge Posner found that a Hospital Products mailgram of June 7th had effectively stripped AHS of its distributor status, and that the excess inventory held by AHS could only be sold at a loss ranging from $10 to $30 million.[52]

The second question facing the court, was whether or not that harm was irreparable.[53] AHS had purchased the excess inventory in an effort to assist the financially distressed Hospital Products.[54] The facts of *American Hospital* present one of the "classic" cases of irreparability. Hospital Products was insolvent and close to bankruptcy;[55] the ability of the plaintiff to obtain money damages at a later date was thus highly unlikely.[56]

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43. *Id.* However, the basic underlying concepts of the Rule were not new. In *Roland Machinery Co. v. Dresser Indus., Inc.*, Judge Posner articulated the Rule in nonmathematical terms. 749 F.2d 380, 386-87 (7th Cir. 1984) (en banc).

Additionally, another scholar had independently come to similar conclusions regarding preliminary injunctions and their dispensation. *See* Leubsdorf, *The Standard for Preliminary Injunctions*, 91 HARV. L. REV. 525 (1978).

44. *American Hosp.*, 780 F.2d at 595-96.
45. *Id.* at 596-98.
46. *Id.* at 598-600.
47. *Id.* at 595-96.
48. *Id.* at 595.
49. *Id.*
50. *Id.*
51. *Id.*
52. *Id.*
53. *Id.* at 595-96.
54. *Id.* at 595.
55. *Id.* at 596.
56. *Id.*

The second step in the application of the Posner Rule involves determining the magnitude of the defendant's harm.[57] Judge Posner reasoned that the source of harm to Hospital Products was the bankruptcy which might have resulted from the award of the preliminary injunction to AHS.[58] The real harm, he said, could not have been Hospital Products' state of bankruptcy itself, but rather the costs that go along with that state.[59] Assuming, however, that these costs represented the quantification of the harm to the defendant resulting from the issuance of the injunction, it became clear to the court that the projected likelihood that they will accrue these costs was speculative.[60] Judge Posner concluded that the nexus between this constraint on Hospital Product's actions and the precipitation of its bankruptcy was tenuous.[61]

Furthermore, the irreparability of H_d was not at issue. Judge Posner noted that there was no issue as to whether AHS was sufficiently solvent to reimburse the costs incidental to Hospital Products' bankruptcy.[62] Judge Posner also explained that the difficulty of measuring the harm did not make the harm "irreparable."[63] Indeed, *difficulty* in measuring the harm does not mean *impossibility* of measuring the harm.[64]

Having completed steps one and two in the application of the Posner Rule, Judge Posner proceeded to determine the value of P.[65] The primary issue in this case, he said, was whether defendant Hospital Products had breached the contract on June 3, 1985, or whether AHS anticipatorily repudiated the contract.[66] The district court judge concluded

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57. *Id.* at 596-98. As was true in the discussion of H_p, there are two questions that are to be asked about H_d: (1) what is the nature and magnitude of the defendant's harm?; (2) is that harm irreparable? *Id.* at 597.

58. *Id.*

59. *Id.* Examples of these costs include the expenses of administration paid to lawyers, accountants, etc. *Id.*

60. *Id.* at 602. The speculative nature of these costs may be explained by considering once again the "source of harm" approach. The harm defendant Hospital Products would have suffered from the injunction was being contractually bound to AHS for the following year, with up to six years in options. *Id.*

61. *Id.* at 598.

62. *Id.* at 596. Even if AHS were insolvent, Judge Posner observed, Hospital Products' damages would not have been "irreparable," as AHS had posted a preliminary injunction bond of $5 million. *Id.* at 598-99.

63. *Id.* at 597.

64. Difficulties in measurement mean that errors in measurement may result in overestimation or underestimation of the harm. Once the harm is estimated, however, a dollar amount (i.e., damages) can be calculated to offset the harm. A particular litigant's discomfort with the risks of estimation becomes completely irrelevant if the harm, once estimated, can be rectified by an award of damages at the end of trial.

65. *Id.* at 598-600.

66. *Id.* at 598-99.

that Hospital Products breached the contract.[67] After considering the conflicting evidence, Judge Posner, writing for the appellate panel, affirmed the district court's conclusion issuing the injunction, holding that the lower court's decision was not "clearly erroneous."[68]

In upholding the district court's decision to grant the preliminary injunction, Judge Posner conducted an implicit fourth step in his application of the Posner Rule—the mathematical substitution of the values computed in steps one through three. Under this mathematical substitution, AHS would have been granted the preliminary injunction even if Hospital Products' expected bankruptcy costs were as high as $11.6 million.[69]

B. Rationale of the Rule

1. The intuitive approach

The rationale of the Posner Rule can be explained from three different perspectives. The first perspective is intuitive and based on the premise that the party who prevails at trial was also entitled to the award of a preliminary injunction prior to trial. This premise reflects the implicit argument that irreparable losses which occur during the course of trial should not be borne by the party who ultimately prevails at trial. There is, however, a further and more subtle argument that is implicit within this premise. That is, as between the plaintiff and defendant, society as a whole is indifferent as to who bears the irreparable loss which occurs

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67. *Id.* at 600.

68. *Id.* Based on this ruling by the district court in the plaintiff's favor, Judge Posner concluded that the value of P must have been "very high." *Id.* at 598-99.

Circuit Judge Swygert's dissent strongly attacked the court for abusing its appellate discretion by affirming the lower court. *Id.* at 609 (Swygert, J., dissenting). He denounced the majority for developing what was effectively a new standard for preliminary injunctions by using a mathematical formula for which the variables were unquantifiable. *Id.* (Swygert, J., dissenting).

69. Given the formulation of the Posner Rule, assume that the algebraic "unknown" is H_d. In solving H_d algebraically, the values that can be substituted into the Rule are those values most favorable to Hospital Products' case (i.e., a denial of the injunction). If, despite these pro-Hospital Products numbers, H_d is unrealistically large, then an injunction can be granted with little concern for judicial error.

First, consider the value of P. Assume that "very high" denotes a probability range of 70% to 100%. If the pro-Hospital Products value is 70%, (1-P)=30%. As for the value of H_p, AHS anticipated losses of $10-30 million. *American Hosp.*, 780 F.2d at 595. Hospital Products could argue, however, that AHS's real loss was $5 million, as reflected in the bond. *Id.* at 598-99.

Accordingly, $(.7)($5,000,000) > (.3)H_d$, or $H_d = $11,600,000$. Hospital Products' bankruptcy costs could not have totalled $11.6 million. *See generally id.* at 597.

during the course of trial.[70] Society does have an interest, however, in minimizing "deadweight loss," which is defined here as preventable loss which need not have been borne by either party.[71]

The Posner Rule is the only rule for granting preliminary injunctions that is consistent with the premise that deadweight loss should be minimized.[72] Perhaps the most intellectually aesthetic aspect of the Posner Rule is that the Rule must logically follow once one accepts the legitimacy of its premise. Therefore, the only logical way to challenge the Rule itself is to challenge the premise upon which it is founded.[73]

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70. As is true in all litigation, the judge's ruling on the motion for injunction represents the outcome of a zero-sum game—someone will win and someone will lose. For society as a whole, therefore, there is a net indifference as to which litigant or litigants should bear the loss. Society is not indifferent, however, as to the occurrence of loss which need not have been borne by any of the litigants. Even if society's cancellation calculus does not obtain, the operation of the Posner Rule remains quite valid. That is, if society *does* have a preference for a litigant then society is *not* indifferent as to which litigant bears the loss from losing the lawsuit. If such a preference exists, then that preference will be expressed as a social policy (i.e., "public interest"). The judge can consider this societal preference by substituting the appropriate value for H_p, H_d or both.

71. "Deadweight loss" is denoted in the "welfare loss" triangle of a monopolist's demand and supply curves. *See* D. WATSON & M. GETZ, PRICE THEORY AND ITS USES 345-46 (5th ed. 1981). For example, assume that in a given action, the irreparable loss during the course of the trial that can be suffered by either party is $100. Because one of these parties must win and the other must lose at trial, the $100 loss will ultimately be borne by one of the parties. However, from a loss-prevention standpoint, society is indifferent as to which individual will ultimately bear the $100 loss. Assume that the plaintiff will suffer an additional $10 in irreparable loss during the course of trial, and that the plaintiff will certainly prevail at trial. It follows that society has an interest in awarding plaintiff the preliminary injunction, so as to prevent the additional $10 loss—a loss which would be prevented by the award of the injunction to the plaintiff.

From the preceding discussion of the premise which underlies the Posner Rule, that the party who prevails at trial is entitled to a preliminary injunction, it should be clear that there are a number of possible rules for granting preliminary injunctions that are antithetical to the premise. For example, a rule which dictates that the plaintiff should always be granted the preliminary injunction is a rule which gives no consideration to the concept of deadweight loss, since it is conceivable that the defendant, and not the plaintiff, may be the party experiencing the deadweight loss. The preceding is a liberal application of the idea of deadweight loss. For a readable discussion of deadweight loss, see D. WATSON & M. GETZ, *supra*, at 345-46.

72. *See supra* note 71. This assertion is supported by the following explanation: society's concern for the $10 deadweight loss is precisely equivalent to a concern for the difference between the expected losses of the parties (*e.g.*, $110-$100). This difference (*e.g.*, $110-100>0) is precisely equivalent to saying that the plaintiff should be granted the preliminary injunction if and only if its expected loss exceeds the defendant's expected loss (*e.g.*, $110-100>0 implies $110>100). This "expected loss" is the expected irreparable loss that will be incurred during the course of the trial as a result of the issuance of the preliminary injunction. For an example of an alternative rule, see *supra* note 71. As an exercise, the reader is invited to try to imagine an alternative rule more consistent with the objective of minimizing deadweight loss.

73. For example, one might argue that society's concern for the minimization of loss, if such a concern exists, is not always consistent with the vindication of parties' rights. One could argue that implicit within the Rule is the assumption that individuals are capable of

2. The error approach

A second perspective on the rationale of the Posner Rule involves the argument that the objective of the Rule is to minimize judicial errors in granting preliminary injunctions. Similar to the "intuitive approach" discussed above,[74] the argument turns on how one chooses to 'define "judicial error." An erroneously granted preliminary injunction can be defined as an injunction issued to a party who did not ultimately prevail at trial.[75] The result under this approach is precisely equivalent to the result under the "intuitive approach," that an erroneously granted injunction generates deadweight loss.

The error approach allows one to distinguish between two possible sources of error. The first source of potential error occurs when a judge chooses not to apply the Posner Rule in granting a preliminary injunction.[76] The second source occurs when the Posner Rule is used but misapplied because of a misestimation of the Posner Rule variables. It would seem that the number of cases in which an ultimately non-prevailing party is awarded an injunction will be greater under the first source of error than under the second.[77]

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bearing loss equally, and even if they are not, society has no interest in seeing to it that wealthier individuals bear more than their share of social loss. *See supra* note 70. The fact remains, however, that the Posner Rule is logically unassailable once one accepts the legitimacy of its premise. That is, within the "closed system" of the Posner Rule, there is logical congruity. The author does not mean to suggest that the reader engage in no further study of preliminary injunctions because there can be no future gains from their study. Such advice would be equivalent to the advice which Max Planck's professor gave the great physicist, not to enter the study of physics as it was essentially concluded. W. HEISENBERG, *The End of Physics?*, in ACROSS THE FRONTIERS 184 (R. Anshen ed. 1974).

74. *See supra* notes 70-71 and accompanying text.

75. It should be noted that the error being discussed here is not error vis-a-vis the absolute and unresolvable issue of whether it is the plaintiff or the defendant who should have won. Rather, the error is defined within the very narrow context of whether the plaintiff or defendant actually *did* win at trial.

76. The reference here is to a judge who uses an approach with a rationale not even remotely close to the Posner Rule rationale. Note that a given judge's outcome, using a non-Posner Rule approach, might result in the same outcome as that which would obtain if the Posner Rule were used explicitly. As shown below, the Rule is very comprehensive. *See infra* notes 178-259 and accompanying text (Part V). It is "positive" in the sense that it describes what judges are doing, and it is "normative" in that it dictates to judges what they must do to minimize judicial errors.

77. Alternately stated, the deadweight loss to society from erroneously granted injunctions will be greater where the Posner Rule is not used than when it is used and merely misapplied. One might argue for a third source of error, that being imperfect information. However, paucity of information is merely a variant of the second source of error—misestimation of Posner Rule variables.

3.   The statistical and economic approach

The third perspective is geared toward the reader who might be concerned about the economic and statistical underpinnings of the Posner Rule. A technical discussion must begin by noting that the decision to grant a preliminary injunction is like any other statistical decision. Accordingly, the errors that have been discussed above[78] are precisely analogous to the type I and type II errors which exist in statistical theory.[79]

As applied to the Posner Rule, the relevant hypothesis is that the difference between the expected harm to the plaintiff and the expected harm to the defendant is greater than zero. This is simply another way of saying that the expected harm to the plaintiff is greater than the expected harm to the defendant or, there exists positive deadweight loss to society which the court can avoid by issuing the injunction. Where a judge has rejected the hypothesis as being false when it is indeed true, then an injunction will not issue, deadweight loss will be incurred, and a type I error will have been committed.[80] Where, however, a judge accepts this hypothesis as being true when it is indeed false, then an injunction will issue and deadweight loss will once again be incurred. This is, of course, a type II error.[81]

Applied to the Posner Rule, the occurrence of the irreparable harm to the plaintiff or defendant is contingent on the occurrence of a number of events. Accordingly, the computation of the expected harms involves a number of potential probabilities. The Posner Rule assumes that the probability of winning on the merits at trial is the most significant of

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78. *See supra* notes 74-77 and accompanying text.

79. A type I error is said to be committed where one rejects as false a hypothesis that is indeed true. R. KIRK, ELEMENTARY STATISTICS 251 (2d ed. 1984). Similarly, a type II error has been committed where one accepts as true a hypothesis that is indeed false. *Id.* This discussion falls within the subfield of statistics called hypothesis testing. *See generally* L. BUNT & A. BARTON, PROBABILITY AND HYPOTHESIS TESTING (1967); K. MILLER, HYPOTHESIS TESTING WITH COMPLEX DISTRIBUTIONS (1980). With this technical approach it also becomes possible to provide some clarification on the idea of "expected loss" as that idea is used in the Posner Rule. A "conditional loss" is the magnitude of loss that will occur contingent upon the occurrence of some event (*e.g.*, H_p, H_d). *See* H. BIERMAN, C. BONINI & W. HAUSMAN, QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS 19-25 (4th ed. 1973). An "expected loss" is the magnitude of loss as measured once a conditional loss is multiplied or discounted by the probability of the occurrence of the event. *Id.* at 74. It should be clear that the occurrence of any given conditional loss can be contingent on the occurrence of a number of events. Therefore, any given discussion of expected loss includes either an implicit or explicit analysis of the relevant events and probability. *See generally id.* at 82-86. The terms "expected loss" and "expected harm" are used interchangeably throughout this Article.

80. *See supra* note 79.

81. *See supra* note 79.

those probabilities.[82]

There are at least two other probabilities relevant to the computation of the expected harm in the Posner Rule. Although not explicitly denoted in the Posner Rule formula, but implicitly considered in Judge Posner's analysis in *American Hospital Supply Corp. v. Hospital Products, Ltd.*[83] are the probability assigned to H_d, which reflected Judge Posner's assessment of the degree of certainty that H_d would *actually* occur during the course of trial, and the similar probability assigned to H_p.[84]

C.   Problems with Formulation of Injunction Standards

The Posner Rule affords insights into the nature of other preliminary injunction standards as those standards have been verbally formulated by the courts. Under the Rule, these insights have been recharacterized as "problems."[85] They represent the problems with the verbal formulation of injunction standards, which one might expect to find in a casual survey of the various preliminary injunction standards. It necessarily follows that these "problems" exist only insofar as they are deemed to exist by dint of the Posner Rule.

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82. The rationale underlying this assumption is to minimize net loss or "deadweight loss." *See supra* notes 71-72 and accompanying text. Since it cannot be known with certainty which party will prevail at the end of a trial, it becomes necessary to weigh the losses being alleged by each party by a probability which reflects the state of knowledge about the parties' chances of success at trial. Because *someone* will win at trial *and* someone will lose, the probability of the simultaneous occurrence of these two events must be equal to one.

83. 780 F.2d 589 (7th Cir. 1986).

84. Regardless of the outcome of the judge's decision, what is the "naked" probability that the plaintiff or the defendant would experience the loss at issue? Unlike the probability of success at trial, the sum of these two probabilities need not equal one. The occurrence of the irreparable harm to be experienced by the plaintiff or the defendant during the course of trial are events that are more independent than dependent. Of course, the designation of the Posner Rule harms as "expected harms" remains, despite the fact that a second, additional, but different kind of probability should be used to compute the final expected harm magnitudes. Let the occurrence probabilities be denoted by P_p and P_d, and the Posner Rule could now be written as $(P)(P_p)(H_p) > (1-P)(P_d)(H_d)$. Allowing $P^* = (P)(P_p)$ and $P^{**} = (1-P)(P_d)$, the magnitudes $(P^*)(H_p)$ and $(P^{**})(H_d)$ would still be considered "expected harms." *See also infra* note 300. For a discussion of the probability "multiplication rule," see E. MANSFIELD, STATISTICS FOR BUSINESS AND ECONOMICS 86-87 (2d ed. 1983).

Much technical material remains to be discussed about the Posner Rule. These topics, however, although of fundamental importance, are not of immediate relevance to the objectives to be achieved by this Article. First, there is the issue and the controversy as to whether or not a judge engages in the estimation of subjective probabilities. The Posner Rule assumes that a judge does indeed engage in such estimation. Second, there is the broader analytical framework within which the Posner Rule fits. A judge can be said to be a supplier of, and litigants are demanders of "errorless judicial decisions." In this context, it is possible to define price and quantity terms as is customarily done in supply and demand analysis. For an even more esoteric discussion one might, economically-speaking, "enter the judge's mind."

85. These have been denominated "problems" only for purposes of this essay.

1.   Factor relationship problem

This problem refers to the fact that many preliminary injunction standards consist simply of a list of two, three, four or five "factors" that are "to be considered" in granting the preliminary injunction.[86] Like any other legal analysis based upon a "list of factors," one is led to wonder why the factors proffered should have more relevance than any other list of factors. The intellectual defensibility of a particular list of factors becomes problematic where the factors listed have earned their places on the list through legal tradition. As discussed in the historical synopsis at the outset of this Article,[87] the historical rationale for the preliminary injunction has very little to do with its modern procedural rationale.

Yet, even where the factors *are* related to the modern procedural rationale for preliminary injunctions, a mere listing of these factors leaves one in a quandary as to how these factors are related. Indeed, questions abound: Are these the most crucial, determinative factors? Are all of the factors of equal importance? .Must they all be met? How should they be met? It should be apparent to the reader that the Posner Rule and the resultant Matrix[88] rectify this problem by demonstrating precisely and succinctly the manner in which preliminary injunction "factors" are related.

2.   Probability differentiation problem

As previously discussed,[89] a multitude of probabilities could be used to compute the expected harm in the Posner Rule. When one is without the aid of a rationale as to why a particular probability should be used, the problem of differentiating among possible probabilities becomes pressing. For example, when a preliminary injunction standard requires only some probability of success on the merits, it is not at all clear what is to be done with the other probabilities relevant to the granting of the injunction.[90]

The Posner Rule minimizes the possibility of this confusion by making a distinction between the probability of success on the merits and the other probabilities that might be used in the computation of the expected

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86. *See infra* notes 101-77 and accompanying text (Part IV) (providing discussion of various tests).

87. *See supra* notes 14-34 and accompanying text (Part II).

88. *See infra* notes 178-259 and accompanying text (Part V).

89. *See supra* notes 82-84 and accompanying text.

90. Indeed, since the standards may fail to mention or distinguish the merit probability from other relevant preliminary injunction probabilities, it is quite possible to confuse these other probabilities as being the probability of success on the merits, when in reality the others are not.

harms to the parties.[91]

3. Probability gradation problem

Another potential problem related to the use of probabilities within preliminary injunction standards is the probability gradation problem— assigning numerical values to verbal statements of probability levels. This problem can manifest itself in many different ways. For example, the statement that a litigant has "no probability of success on the merits" cannot be taken literally to mean that the probability of success is equal to zero. At the same time, a standard which requires the showing of "some probability of success on the merits" is somewhat unclear. The magnitude of "some" can range from a probability of one percent to ninety-nine percent. As discussed in *American Hospital Supply Corp. v. Hospital Products, Ltd.*,[92] one possible solution to the probability grada- tion problem is to assign numerical values to the probability or to specify a range of values within which a probability falls.

4. Definition-of-harm problem

This problem has two basic manifestations. The first involves the determination of the "irreparability" of the harm. As discussed above,[93] the Posner Rule suggests that there be only one test—whether or not the harm can be "repaired" by the award of damages at trial. This definition of irreparability is consistent with the idea that the purpose of the injunc- tion is to minimize deadweight loss. Clearly, the concern for this loss would not be as great were that loss ameliorable by the award of dam- ages. This definition of irreparability is narrow.

The other difficulty involves a failure to make a distinction between the absolute and the expected harm to the parties. A failure to attach a probability to the harms alleged by the parties in the preliminary injunc- tion hearing implies that the harms are being treated as absolute harms, or harms that are certain to occur. Such an assumption on the part of the court greatly distorts the preliminary injunction decision that is ren- dered, since rarely is it absolutely true that the prospective harm alleged by the parties will occur.[94]

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91. *See* American Hosp. Supply Corp. v. Hospital Prods. Ltd., 780 F.2d 589, 593 (7th Cir. 1986). Also, the Posner Rule makes it clear that a relationship exists between the probabilities of success for the plaintiffs and defendant (*i.e.,* P and (1-P)). *See id.*

92. 780 F.2d 589, 595 (7th Cir. 1986). *See also supra* note 69 (providing example of as- signing numerical values).

93. *See supra* notes 53-64 and accompanying text.

94. Judge Posner rectified this problem by assigning a specific probability (*e.g.,* P_p, P_d) to the harm alleged by the parties. *American Hosp.*, 780 F.2d at 593.

5.   Aphorism problem

This category of problems is a catch-all category dealing with the preliminary injunction aphorisms that are often used by the courts.[95] These aphorisms are extant in the current law only by virtue of historical accident. One example is that a preliminary injunction should be granted to "preserve the status quo."[96] Such a declaration is fraught with questions: Whose status quo and why should the status quo be preserved?[97]

The insurmountable problem with these legal aphorisms is that they reverse the process of logical analysis. The proponent of one of these aphorisms is put in the awkward position of attempting to intellectually justify the aphorism without an antecedent analysis of why it is that preliminary injunctions exist. Such intellectual freewheeling leads to a number of problems, the most visible of which is massive confusion as to the "right" justification for the aphorism. The Posner Rule alleviates these difficulties by beginning with an analysis of the rationale underlying the preliminary injunction, and then following with a rule which reflects this analysis.[98]

The next portion of this Article discusses the preliminary injunction standards announced by the United States Supreme Court and the federal courts of appeals. Specifically, an attempt is made to identify which of the preceding five problems[99] can be found within a given court. The intent here is to be comprehensive, but not encyclopedic. Given the measure of repetition from circuit to circuit, the reader is urged to focus simply on the circuits of interest.[100]

IV.   APPLICATION: PROBLEMS WITH FORMULATION OF STANDARDS IN THE UNITED STATES SUPREME COURT AND COURTS OF APPEALS

A.   *The United States Supreme Court*

Much of the responsibility for the existing variations in preliminary injunction standards lies with the United States Supreme Court. At least

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95. *See, e.g.*, Los Angeles Mem. Coliseum Comm'n v. National Football League, 634 F.2d 1197, 1200 (9th Cir. 1980).

96. *Id.* (citations omitted).

97. *See* D. LAYCOCK, MODERN AMERICAN REMEDIES 403-05 (1st ed. 1985).

98. *See infra* text accompanying notes 178-259 (Part V) (providing Posner Rule Probability of Harm Matrix and case analysis).

99. *See supra* notes 85-98 and accompanying text.

100. Many of the cases cited in this portion of the essay came to this author's attention because they were cited in Wolf, *supra* note 30. The author is once again quite grateful to Professor Wolf for his able analysis.

one commentator has suggested that the Court has been "inattentive," addressing the standards "casually and with little regard for the varying standards followed by the lower Federal courts."[101] This observation is validated by considering some of the "problems" manifested by recent injunction standards used and formulated by the Court.

Both the probability differentiation[102] and the probability gradation problem[103] are illustrated in the case of *Amoco Production Co. v. Village of Gambell.*[104] In that case, the Ninth Circuit Court of Appeals had affirmed a preliminary injunction of all activities connected with oil and gas leases that the Secretary of the Interior had awarded various oil companies.[105] In reversing the preliminary injunction, the Supreme Court stated that the lower court should not have issued an injunction because the injury to the environment was not "probable" (*i.e.*, no indication of probability gradation and probability differentiation problems).[106]

Other Supreme Court cases illustrate the probability gradation problem. For example, the *Amoco* Court's reference to the "likelihood," as opposed to the "possibility" of success on the merits, was an attempt to approximate various probability magnitudes with verbal formulations.[107]

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101. Wolf, *supra* note 30, at 174.

102. *See supra* notes 89-91 and accompanying text.

103. *See supra* note 92 and accompanying text.

104. 107 S. Ct. 1396 (1987).

105. *Id.* at 1402.

106. *Id.* at 1404. Specifically, the Court stated:

> Environmental injury by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of a long duration, *i.e.*, irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment. Here, however, injury to subsistence resources from exploration was not at all probable. And on the other side of the balance of harms was the fact that the oil company petitioners had committed approximately $70 million to exploration to be conducted during the summer of 1985 which they would have lost without chance of recovery had exploration been enjoined.

Id.

The Court was certainly correct in denoting environmental injury as irreparable. Environmental injury, like bankruptcy, represents a classic case of irreparable injury. Notwithstanding this, the "probability differentiation problem" in the decision is glaring. What exactly did the Court mean by "probable?" Was this a reference to the probability of success on the merits, or the probability that the event would actually occur, or some other probability? In addition to this problem, the incidence of the "probability gradation problem" must also be noted in the preceding passage. That is, it is clear that the reference to $70 million is a reference to that amount as an absolute number, a cost that would occur with certainty. The assignment of an implicit probability of 1 to an uncertain magnitude, often leads to an erroneous decision.

107. *See, e.g.,* Granny Goose Foods, Inc. v. Brotherhood of Teamsters, 415 U.S. 423, 441 (1974) (citing Stark v. New York Stock Exch., 466 F.2d 743 (2d Cir. 1972)) (providing likelihood test); Brown v. Chote, 411 U.S. 452, 456 (1973) (providing possibility test). For a more thorough discussion, see Wolf, *supra* note 30, at 182-83.

The difficulty, of course, is that these various verbal formulations give no indication whatsoever as to the relevant underlying probability magnitudes. A simpler and clearer analytical system would be one in which various probability magnitudes were consistently equated with certain verbal formulations. In addition to the probability gradation problem, Supreme Court cases reveal indications of the "factor relationship problem."[108]

B.   The Circuit Courts of Appeals

1.   The District of Columbia Circuit

The factor relationship problem is also present in preliminary injunction cases decided by the District of Columbia Circuit. Although the four-factor standard of *Virginia Petroleum Jobbers Association v. Federal Power Commission*[109] is often cited by the court,[110] the three-factor standard of *Perry v. Perry*[111] has never been expressly overruled by the Court. Moreover, it might be argued that this circuit employs a five-factor standard since in *Megapulse, Inc. v. Lewis*[112] the court considered the inadequacy of legal remedy as a factor separate from the irreparable injury factor.[113] In short, the circuit's movement from three to four to five factors signals a fundamental confusion as to what the relevant factors are for granting preliminary injunctions.[114]

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108. Specifically, in the absence of an analytical framework, the Court has been hard-pressed to determine what "factors" are relevant to a standard for granting preliminary injunctions. For example, over the past two decades, the Court has announced a two-factor, three-factor, and four-factor standard with no indication of how these standards could be reconciled. *See, e.g.,* Doran v. Salem Inn, Inc., 422 U.S. 922, 931-34 (1975) (applying three-factor test); Sampson v. Murray, 415 U.S. 61, 83-84 n.53 (1974) (applying four-factor test); Brown v. Chote, 411 U.S. 452, 456 (1973) (applying two-factor test). *See also* Wolf, *supra* note 30, at 182-83.

109. 259 F.2d 921 (D.C. Cir. 1958) (per curiam). *Jobbers* elucidated the District of Columbia Circuit's four-factor test for issuing a preliminary injunction. A plaintiff must: (1) make a strong showing of likely success on the merits; (2) demonstrate *irreparable* injury in the case and the inadequacy of a remedy at law; (3) provide that other parties are not substantially harmed by the injunction; and (4) show that the "public interest" is not adversely affected. *Id.* at 925.

110. *See, e.g.,* Murray v. Kunzig, 462 F.2d 871, 877-78 (D.C. Cir. 1972); Democratic Cent. Comm. v. Washington Metro. Area Transit Comm'n, 436 F.2d 233, 234 (D.C. Cir. 1970); Armour & Co. v. Freeman, 304 F.2d 404, 418 (D.C. Cir. 1962).

111. 190 F.2d 601 (D.C. Cir. 1951). *Perry* states that the determinative factors are: (1) the probability of success on the merits; (2) irreparable injury; and (3) balancing of harm to the parties involved. *Id.* at 602.

112. 672 F.2d 959 (D.C. Cir. 1982).

113. *Id.* at 970.

114. It is also possible to find preliminary injunction cases in this circuit that demonstrate an interesting variation on the "probability gradation problem." In *Washington Metro. Area*

2.   The Federal Circuit

The statutory jurisdiction of this circuit is primarily limited to appeals from Article I courts,[115] federal agencies, and patent cases from any United States district court.[116] As such, the court's standard for reviewing grants and denials of preliminary injunctions is dependent upon the circuit from which the case originated.[117] However, the court claims to follow a traditional four-factor test.[118] This circuit thus suffers from the same factor indecisiveness as the Third Circuit, whose "traditional" standard it has adopted.[119]

Transit Comm'n v. Holiday Tours, Inc., the court argued that the four-factor standard of *Jobbers* could be viewed as a flexible standard. 559 F.2d 841, 843 (D.C. Cir. 1977). Specifically, the court stated that the more the first three equity factors "favored" the plaintiff, the less of a showing was required on the likelihood of success on the merits. *Id.* Indeed, the court stated that the plaintiff did not have to show a mathematical probability of success on the merits. *Id.* Questions arise. Are there probabilities known to intellectual history that are *not* mathematical probabilities? Assuming then that the court misspoke on this issue, is it reasonable to further assume from the court's statement that it is possible for the plaintiff to be awarded an injunction with a non-existent mathematical probability (*i.e.*, a probability of success of zero)? Such a position would imply an expected harm of zero. Based upon that standard, the plaintiffs could never be awarded a preliminary injunction.

115. U.S. CONST. art. I, § 8, cl. 9. Such courts include the Court of International Trade, 28 U.S.C. §§ 251(a), 1292(d)(1) (1982), and the Tax Court, 26 U.S.C. § 7441 (1982).

116. The Federal Circuit's appellate jurisdiction is limited. It can hear appeals from the Board of Patent Appeals and Interferences, 28 U.S.C. § 1295(a)(4)(A) (1982 & Supp. V 1987), certain findings by the Secretary of Commerce, *id.* § 1295(a)(7), the Merit Systems Protection Board, *id.* § 1295(a)(9), and any agency board of contract appeals. *Id.* § 1295(a)(10).

117. In *Atari, Inc. v. JS & A Group, Inc.*, the court held that it would follow the law of the circuit from which the case was transferred. 747 F.2d 1422, 1439-40 (Fed. Cir. 1984). *See also, e.g.*, Xeta, Inc. v. Atex, Inc., 852 F.2d 1280, 1282 (Fed. Cir. 1988) (applying First Circuit's preliminary injunction test); Pretty Punch Shoppettes, Inc. v. Hauk, 844 F.2d 782, 783 (Fed. Cir. 1988) (applying Eighth Circuit's four-factor test); Power Controls Corp. v. Hybrinetics, Inc. 806 F.2d 234, 237 (Fed. Cir. 1986) (applying Ninth Circuit test).

118. In H.H. Robertson, Co. v. United Steel Deck, Inc., 820 F.2d 384 (Fed. Cir. 1987), the court found that the standard four-factor test enunciated by the Third Circuit in Eli Lilly & Co. v. Premo Pharm. Labs., Inc., 630 F.2d 120, 136 (3d Cir.), *cert. denied*, 449 U.S. 1014 (1980), was "substantially the same standard enunciated" by the Federal Circuit. *H.H. Robertson*, 820 F.2d at 387 (citing Roper Corp. v. Litton Sys., 757 F.2d 1266, 1270-73 (Fed. Cir. 1985); Atlas Powder Co. v. Ireco Chems., 773 F.2d 1230, 1231-34 (Fed. Cir. 1985)). That test is:

> (1) a reasonable probability of eventual success in the litigation and (2) that the movant will be irreparably injured *pendente lite* if relief is not granted .... Moreover, while the burden rests upon the moving party to make these two requisite showings, the district court "should take into account, when they are relevant, (3) the possibility of harm to other interested persons from the grant or denial of the injunction, and (4) the public interest."

H.H. Robertson, Co., 820 F.2d at 387 (quoting Eli Lilly & Co. v. Premo Pharm. Labs., Inc., 630 F.2d 120, 136 (3d Cir.), *cert. denied*, 449 U.S. 1014 (1980)).

119. See *infra* notes 127-29 and accompanying text for a discussion of Third Circuit standards.

3. The First Circuit

An interesting variant of the factor relationship problem is the "sliding scale" standard of granting preliminary injunctions, which has been adopted by the First Circuit.[120] The idea which seems to underlie the sliding scale standard is that an inverse relationship exists between the probability of success on the merits and the irreparable injury to the plaintiff. The reader will note, however, that the sliding scale idea is simply an application of the expected loss concept discussed above.[121] For example, in order to achieve an expected loss of $10, one can multiply an absolute magnitude of $100 by a probability of .1, or an absolute magnitude of $20 by a probability of .5, and so on. This illustrates that the probability and absolute magnitude are inversely related and are, in this sense, a sliding scale. Contrast this with the idea of expected loss as it is used by the Posner Rule.[122]

4. The Second Circuit

The famous "alternative grounds" preliminary injunction standard of the Second Circuit presents an interesting twist on the "factor rela-

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120. *See* Planned Parenthood League v. Bellotti, 641 F.2d 1006, 1009 (1st Cir. 1981); *accord* Massachusetts Coalition of Citizens with Disabilities v. Civilian Defense Agency, 649 F.2d 71, 74-75 (1st Cir. 1981). First Circuit preliminary injunction case law contains a number of the preliminary injunction "problems" discussed *supra* notes 85-98 and accompanying text. For example, the "aphorism problem" is illustrated in the case of International Association of Machinists & Aerospace Workers v. Eastern Air Lines, Inc., 826 F.2d 1141 (1st Cir. 1987). In that case, the court indicated that a preliminary injunction should "maintain the status quo." *Id.* at 1151.

Illustrations of the "factor relationship problem" can also be found in the First Circuit where it is not completely clear whether the standard in the First Circuit involves two, three or four "factors." The four-factor standard of *Belotti,* 641 F.2d at 1009, is often cited by the court. *See, e.g.*, Cohen v. Massachusetts Bay Transp. Auth., 647 F.2d 209, 211 (1st Cir. 1981); Auburn News Co. v. Providence Journal Co., 659 F.2d 273, 277 (1st Cir. 1981). However, the court has on occasion reverted to a two-factor standard. *See, e.g.*, Maceira v. Pagan, 649 F.2d 8, 15 (1st Cir. 1981). The court has also applied a three-factor standard. *See* Rushia v. Town of Ashburnham, 701 F.2d 7, 9-10 (1st Cir. 1983); National Tank Truck Carriers, Inc. v. Burke, 608 F.2d 819, 823-25 (1st Cir. 1979).

121. *See supra* notes 79, 82 and accompanying text.

122. In contrast to the sliding scale approach, the expected loss concept clarifies the nature of the relationship between the irreparable harm and the probability of success on the merits. The expected loss concept demonstrates that these two factors are inextricably intertwined. Once it is clear that the sliding scale idea is merely an application of the expected loss concept, the sliding scale idea loses some of its intellectual novelty and rigor. It naturally follows from the expected loss concept that there are an infinite number of arithmetical ways to generate a single expected loss. The Posner Rule, therefore, permits the emphasis to be placed where it should be: given the magnitude of plaintiff's expected loss, how does that magnitude compare to the magnitude of defendant's expected loss?

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tionship problem."[123] In the Second Circuit, a plaintiff seeking a prelimi-
nary injunction must show irreparable injury, and either a likelihood of
success on the merits or a "serious question" which goes to the merits.[124]
The Second Circuit also requires that a plaintiff show that the balance of
hardship tips in her favor.[125] Perhaps the most obvious difficulty with
this standard is that literally an infinite number of "factors" are sub-
sumed within a "serious question." It becomes rather difficult for anyone
to form a reasonable expectation as to what will constitute a serious ques-
tion in the eyes of the judges in the Second Circuit. One can imagine that
cries of the meting out of justice according to the length of the "chancel-
lor's foot" are not too distant from the administration of such a
standard.[126]

5. The Third Circuit

The preliminary injunction problems of the Third Circuit are not
significantly different from the problems of other circuits. The factor re-
lationship problem is present: like most circuits, the Third Circuit is un-
able to decide whether it wants a two- or four-factor standard.[127] In
some cases, it seems the Third Circuit has been unable to decide whether

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123. See Wolf, *supra* note 30, at 192-96 for a discussion of historical development of the
"alternative grounds" standard.

124. Jackson Dairy, Inc. v. H.P. Hood & Sons, 596 F.2d 70, 72 (2d Cir. 1979) (per curiam).

125. *Id.*

126. However, the Second Circuit's standard may arguably be a single standard, not a stan-
dard based on "alternative grounds." Specifically, the alternative ground in the Second Cir-
cuit's standard suggests only that a plaintiff could possibly be awarded a preliminary
injunction even when the probability of success on the merits is less than likely, or less than
50%. The plaintiff can still have a large expected loss even when the probability of success on
the merits is less than 50% (*i.e.*, H_p is large, while P is less than 50%).

Jack Kahn Music Co. v. Baldwin Piano & Organ Co. presents an interesting variation on
the "probability gradation problem." 604 F.2d 755 (2d Cir. 1979). Specifically, the Second
Circuit held that lower courts should address the issue of irreparable injury first, since that
issue must be addressed ultimately under either ground of the Second Circuit's standard. *Id.*
at 758-59. The Posner Rule suggests that since both the irreparable injury and the probability
of success are used in computing the plaintiff's expected loss, the number that is generated first
is irrelevant to the ultimate computation of that expected loss. Ultimately, the instruction by
the Second Circuit to the lower courts does not merge with the reality of the courtroom. If the
plaintiff's probability of success on the merits is truly equal to zero, then the trial judge is
unlikely to waste judicial time in addressing the issue of whether or not the plaintiff's injuries
are irreparable. Such an approach is perfectly consistent with the dictates of the Posner Rule.

127. *See, e.g.,* Allegheny County Sanitary Auth. v. EPA, 732 F.2d 1167, 1177 (3d Cir.
1984) (applying four-factor test); Moteles v. University of Penn., 730 F.2d 913, 918-19 (3d
Cir.) (applying two-factor test), *cert. denied,* 409 U.S. 855 (1984). For a detailed discussion of
the Third Circuit's groping for a preliminary injunction standard, see Wolf, *supra* note 30, at
196-200.

it should have a standard at all.[128]

Furthermore, judges in the Third Circuit are given the option of using the "sliding scale" in ruling on preliminary injunctions.[129] Once again, this idea of a sliding scale likely reflects the court's misunderstanding of the relationship between the probability of success on the merits and the irreparable harm. Additionally, the court's exclusive focus on this sliding scale suggests that the plaintiff's harm has abstract significance. Such a myopic view misses the point that the plaintiff's harm has significance only in relationship to the defendant's harm.

6.   The Fourth Circuit

When considered from the perspective of the Posner Rule, the preliminary injunction case law in the Fourth Circuit exhibits few problems. In an early and seminal preliminary injunction case, *Sinclair Refining Co. v. Midland Oil Co.*,[130] the court stated that the balance of hardships had to favor the movant if she were to be granted a preliminary injunction.[131] Forty years later, the court refined its test into a form that is almost precisely equivalent to the Posner Rule. In *West Virginia Highlands Conservancy v. Island Creek Coal Co.*,[132] the court indicated that a preliminary injunction could be granted only if the injury to the movant without the injunction outweighed the injury to the opponent were the injunction granted.[133] This formulation differs from that of the Posner Rule insofar as it does not make an explicit reference to the idea of expected harm.

Even though the Fourth Circuit's standard reflects a "factor relationship problem," the Fourth Circuit has continued to make encouraging refinements of its preliminary injunction standard.[134] Indeed, the court recently referred to the probability of success on the merits as the appropriate probability to be used in computing the expected harm of the parties.[135]

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128. *See* Wolf, *supra* note 30, at 196-200.

129. *See, e.g., Eli Lilly,* 630 F.2d at 136.

130. 55 F.2d 42 (4th Cir. 1932).

131. *Id.* at 45-46.

132. 441 F.2d 232 (4th Cir. 1971).

133. *Id.* at 235-36. Additionally, the court added the "public interest" factor to its determination. *Id.* at 236.

134. *See, e.g.,* Blackwelder Furniture Co. v. Seilig Mfg. Co., 550 F.2d 189, 194-95 (4th Cir. 1977).

135. *Id.* at 195. In *Blackwelder Furniture Co.*, the court stated that the preliminary injunction movant did not have to show a likelihood of success on the merits where the balance of hardships tipped in her favor. *Id.* The court implied that where the balance of hardships did

7.   The Fifth Circuit

Although the Fifth Circuit has indicated a four-factor standard, the court has suggested that additional factors may be considered by the trial judge as needed.[136] Such an ad hoc approach to the formulation of preliminary injunction standards suggests the existence of a grave case of the "factor relationship problem." The factor relationship problem is also apparent in the Fifth Circuit's use of the "sliding scale" concept.[137] Additionally, the "aphorism" problem is present in the Fifth Circuit. The court has suggested that the historical distinction between affirmative and negative injunctions may provide a basis on which to grant or deny a preliminary injunction.[138]

However, some cases within the Fifth Circuit are in complete accord with the Posner Rule. For example, in *Texas v. Seatrain International, S.A.*,[139] the court held that an injunction could not issue where the movant had *"no* chance" of success on the merits regardless of the relative hardships associated with the injunction.[140]

8.   The Sixth Circuit

The factor relationship problem appears to be particularly pronounced in the Sixth Circuit. Not only are there two-,[141] three-[142] and

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not tip in the movant's favor, then a greater showing of likely success on the merits had to be made. *Id.*

The reader can easily demonstrate that the two preceding statements are correct per the Posner Rule. This is not to suggest that preliminary injunctions in the Fourth Circuit are completely without difficulty: there is some indication that the court continues to believe that preliminary injunctions are necessary to preserve the status quo. *See* United States *ex rel.* Taxpayers Against Fraud v. Singer Co., 889 F.2d 1327, 1335 (4th Cir. 1989); Feller v. Brock, 802 F.2d 722, 727 (4th Cir. 1986); Federal Leasing, Inc. v. Underwriters at Lloyd's, 650 F.2d 495, 499 (4th Cir. 1981). This, of course, is a classic manifestation of an "aphorism problem" discussed *supra* notes 95-98 and accompanying text.

136. Florida Medical Ass'n v. United States Dept. of Health, Educ. & Welfare, 601 F.2d 199, 203 n.2 (5th Cir. 1984) (authorizing use of additional factors); Canal Authority v. Callaway, 489 F.2d 567, 576 (5th Cir. 1974) (stating four-factor standard).

137. *See, e.g., Canal Authority*, 489 F.2d at 576. For a greater discussion of the Fifth Circuit's use of the sliding scale approach, see Wolf, *supra* note 30, at 206-07.

138. Compact Van Equip. Co. v. Leggett & Platt, Inc., 566 F.2d 952, 954 (5th Cir. 1978).

139. 518 F.2d 175 (5th Cir. 1975).

140. *Id.* at 180 (emphasis in original). If the court had not literally referred to a probability of zero, then its statement would not accord with the Posner Rule. It is possible to have a large expected loss even when a probability value is small. *See infra* notes 183-201 and accompanying text.

141. American Fed'n of Musicians v. Stein, 213 F.2d 679, 683 (6th Cir.), *cert. denied,* 348 U.S. 873 (1954).

142. Garlock, Inc. v. United Seal, Inc., 404 F.2d 256, 257 (6th Cir. 1968) (per curiam).

four-factor[143] standards, but the court seems to have suggested that the appropriateness of these standards depends upon the nature of the case.[144] More interesting perhaps is the fact that the court has denied the existence of this "alternative test approach" while not explicitly overruling any particular standard.[145] This situation is aggravated by the court's suggestion that its factors are not comprehensive.[146]

9.   The Seventh Circuit

It seems almost axiomatic that a prophet, be he Posner or Newton, is not (initially, at least) welcome in his own land. The law of preliminary injunctions in the Seventh Circuit offers no exception to that axiom. The mathematical formula announced by Judge Posner in *Roland Machinery Co. v. Dresser Industries, Inc.*[147] and *American Hospital Supply Corp. v. Hospital Products Ltd.*[148] has received a mixed reception.[149]

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143. North Avondale Neighborhood Ass'n v. Cincinnati Metro. Hous. Auth., 464 F.2d 486, 488 (6th Cir. 1972) (per curiam).

144. This is clearly demonstrated in Wolf's analysis of the Sixth Circuit. *See* Wolf, *supra* note 30, at 208-12.

145. Warner v. Central Trust Co., 715 F.2d 1121, 1123-24 (6th Cir. 1982).

146. Tate v. Frey, 735 F.2d 986, 990 (6th Cir. 1984) (per curiam). There is an interesting aspect of the Sixth Circuit's four-factor standard, which must be commented upon here. In *North Avondale,* one of the four factors listed by the court was a "strong showing" of the probability of success on the merits. *North Avondale,* 464 F.2d at 488. The Posner Rule affords the insight that even where such a strong showing has been made, the awarding of a preliminary injunction may not be warranted.

In terms of the formula, even where P is extremely high, a value of H_p that is extremely small implies that the expected harm to the plaintiff is small. Where the harm to the defendant, H_d is extremely large, despite the small size of $(1 - P)$, then the expected harm to the defendant may still be quite large. This combination of circumstances implies that the plaintiff will be denied the injunction despite her "strong showing" of the probability of success.

147. 749 F.2d 380 (7th Cir. 1984) (en banc).

148. 780 F.2d 589 (7th Cir. 1986).

149. Though a number of Seventh Circuit cases cite *American Hospital,* few have actually applied the Posner Rule. The cases can be separated into three categories: those following the Rule—Haan Crafts Corp. v. Craft Masters, Inc., 683 F. Supp. 1234, 1244 (N.D. Ind. 1988); DiDomenico v. Employers Coop. Indus. Trust, 676 F. Supp. 903, 907 (N.D. Ind. 1987); Samuel Bingham Co. v. Maron, 651 F. Supp. 102, 107 (N.D. Ill. 1986); Lesko v. Bowen, 639 F. Supp. 1152, 1156-57 (E.D. Wis. 1986); Interpoint Corp. v. Truck World, Inc., 656 F. Supp. 114, 116 (N.D. Ind. 1986); Midcon Corp. v. Freeport-McMoran, Inc., 625 F. Supp. 1475, 1479 (N.D. Ill. 1986); Dillingham Constr. v. Milwaukee Metro. Sewerage Dist., 629 F. Supp. 406, 408 (E.D. Wis. 1986); Nagy v. Custom Hoists, Inc., 629 F. Supp. 675, 678 (E.D. Wis. 1986); those following *Roland Machinery's* five part standard—Hendricks Music Co. v. Steinway, Inc., 689 F. Supp. 1501, 1513 (N.D. Ill. 1988) (using "sliding scale" approach); Robertson v. Granite City Community Unit School Dist. No. 9, 684 F. Supp. 1002, 1004-05 (S.D. Ill. 1988); Jones v. Bowman, 664 F. Supp. 433, 436-37 (N.D. Ind. 1987); Stove, Furnace & Appliance v. Weyerhauser Paper Co., 650 F. Supp. 431, 433-34 (S.D. Ill. 1988); Means Servs., Inc. v. Rental Uniform Servs., 639 F. Supp. 208, 213 (C.D. Ill. 1986); and those following the "traditional" Seventh Circuit four-part standard—Schwinn Bicycle Co. v. Ross Bicycles, Inc., 870 F.2d

Some of the criticisms leveled at the Rule are discussed further in later sections of this Article.[150] For now, however, it is worthwhile to consider the merits of the post-Posner Rule assertion that "it should be obvious . . . that concerns about the continuing validity of the traditional approach to preliminary injunctive relief in this circuit are misplaced," and that "[t]he law remains unchanged."[151] Also in response to the Posner Rule, Judge Will has observed that if the "traditional standards 'ain't broke,'" they should not be fixed.[152]

The preceding discussion illustrates that in seven circuits and the Supreme Court, the so-called "traditional standard" is very broke. Furthermore, to the assertion that the "law remains unchanged," comes the necessary rebuttal: *what* law? We know that a change *from* a prior state of the world has occurred only if we know what that prior state of the world was. The state of disarray of the world of preliminary injunction case law in the Seventh Circuit was well documented in the *Roland Machinery* opinion.[153]

Indeed, the "traditional approach" of the Seventh Circuit resembles very much the traditional approach in any other circuit.[154] Clearly, the "factor relationship problem" is present. The court's simple listing of the four "factors"[155] gives a practitioner no idea of how these factors are related. Certainly, the "probability gradation problem" is present as well. In attempting to establish a probability of success on the merits, a movant has no idea whether the level of proof required is "some," "reasonable," or "at least a reasonable" level.[156] Finally, the "sliding scale" in the Seventh Circuit has many of the same problems as the sliding scale

1176, 1181 (7th Cir. 1989); Gould v. Lambert Excavating, Inc., 870 F.2d 1214, 1217 (7th Cir. 1989); Naked City, Inc. v. Aregood, 667 F. Supp. 1246, 1252 (N.D. Ind. 1987); Illinois Psychological Ass'n v. Falk, 638 F. Supp. 876, 880-83 (N.D. Ill. 1986); Dynamics Corp. of Am. v. CTS Corp., 637 F. Supp. 406, 408 (N.D. Ill 1986); Laidlaw Acquisition Corp. v. Mayflower Group, Inc., 636 F. Supp. 1513, 1517 (S.D. Ind. 1986); Beermart, Inc. v. Stroh Brewery Co., 633 F. Supp. 1089, 1104 (N.D. Ind. 1986) (using sliding scale approach).

150. *See infra* notes 260-300 and accompanying text (Part VI).

151. Frisby v. Schultz, 807 F.2d 1339, 1343 (7th Cir. 1986).

152. Ball Mem. Hosp., Inc. v. Mutual Hosp. Inc., 784 F.2d 1325, 1347 (7th Cir. 1986) (Will, J., concurring).

153. *Roland Machinery*, 749 F.2d at 382.

154. *See, e.g., H.H. Robertson*, 820 F.2d at 387.

155. Fox Valley Harvestore v. A.O. Smith Harvestore Prods. Inc., 545 F.2d 1096, 1097 (7th Cir. 1976). The "traditional" four-factor test of the Seventh Circuit is as follows: (1) the plaintiff must have no adequate remedy at law and will be irreparably harmed; (2) the injury to the plaintiff will outweigh the injury to the defendant if the injunction is granted; (3) the plaintiff has at least a reasonable likelihood of success on the merits; and, (4) granting the preliminary injunction will serve the public interest. *Id.*

156. Wolf, *supra* note 30, at 214-15.

in other circuits.[157]

10.   The Eighth Circuit

Examination of the preliminary injunction case law in the Eighth Circuit presents a serious case of the "factor relationship problem," while simultaneously illustrating the logic behind the Posner Rule. In *Dataphase Systems, Inc. v. C.L. Systems, Inc.*,[158] the Eighth Circuit met *en banc* in order to resolve the confusion over the proper preliminary injunction standard in the circuit. Prior to *Dataphase*, the standards in the circuit included a two-factor standard,[159] a two-factor with two additional optional factors,[160] and an "alternative test" standard.[161]

Although the court in *Dataphase* recited a four-factor standard,[162] it is not at all clear that it achieved its objective of alleviating the confusion in the circuit. Indeed, the concurring opinion in *Dataphase* suggested that the court had succeeded only in supplanting its two "alternative test[s]" with a third test.[163] *Dataphase* dictum added to the confusion by stating "[i]n balancing the equities no single factor is determinative."[164] The Posner Rule suggests that such a position is simply erroneous. Where P has a value of zero, the movant should not be awarded the preliminary injunction. Therefore, it is possible for a single "factor" to be determinative.

11.   The Ninth Circuit

There is very little that is unique about the preliminary injunction standards in the Ninth Circuit. Indeed, the "factor relationship problem" is present in the Ninth Circuit's decisions. Specifically, at least three different standards are presently in use in the Ninth Circuit: the "continuum" standard;[165] the "traditional" standard;[166] and the "alter-

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157. *See* Omega Satellite Prods. Co. v. City of Indianapolis, 694 F.2d 119, 123 (7th Cir. 1982) (enunciating sliding scale approach). For a discussion of the problems with this approach, see *supra* notes 120-22, 129 and accompanying text.

158. 640 F.2d 109 (8th Cir. 1981) (en banc).

159. City of Newton v. Levis, 79 F. 715, 718 (8th Cir. 1897).

160. Minnesota Bearing Co. v. White Motor Corp., 470 F.2d 1323, 1326 (8th Cir. 1973).

161. Fennell v. Butler, 570 F.2d 263, 264 (8th Cir.), *cert. denied*, 437 U.S. 906 (1978).

162. *Dataphase*, 640 F.2d at 114.

163. *Id.* at 115 (Ross, J., concurring).

164. *Id.* at 113. *But see* Roberts v. Van Buren Pub. Schools, 731 F.2d 523, 526 (8th Cir. 1984) (failure to show irreparable injury is fatal to injunction).

165. Benda v. Grand Lodge, 584 F.2d 308, 315 (9th Cir.), *cert. dismissed*, 441 U.S. 937 (1978) (two prongs of test were extremes of single continuum and not separate standards).

166. William Inglis & Sons Baking Co. v. ITT Continental Baking Co., 526 F.2d 86, 87 (9th Cir. 1975).

native test" standard.[167] One could probably find that different panels in the Ninth Circuit are applying different standards. Additionally, the Ninth Circuit has asserted that "[a]lthough it sometimes appears that there are two separate tests for the grant of a preliminary injunction, in fact there is only one, best described as a continuum in which the required showing of harm varies inversely with the required showing of meritoriousness."[168]

12. The Tenth Circuit

The "factor relationship problem" is present in the Tenth Circuit. At least four different preliminary injunction standards are currently in use in the circuit; two different two-factor standards,[169] a third standard that juxtaposes the first two sets of factors to make one alternative test standard,[170] and a fourth, sliding scale standard.[171]

The Tenth Circuit's sliding scale approach is of the Eighth Circuit variety: the likelihood of success on the merits is to be weighed against the three other factors.[172] The *ad hoc* and arbitrary nature of this weighing process has already been discussed under the discussion of standards in the Eighth Circuit.[173]

13. The Eleventh Circuit

The Eleventh Circuit has stated that Fifth Circuit cases are binding precedent in the Eleventh Circuit.[174] The circuit has clarified its declaration in preliminary injunction cases by making substantial use of the

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167. Costandi v. AAMCO Automatic Transmission, Inc., 456 F.2d 941 (9th Cir. 1972) (per curiam).

168. San Diego Comm. Against Registration and the Draft Card v. Governing Bd., 790 F.2d 1471, 1473 n.3 (9th Cir. 1986) (suggesting that "increase in meritoriousness" is tantamount to increase in probability of success on merits). The "continuum" standard in the Ninth Circuit is nothing but the "sliding scale" standard of other circuits. It follows, therefore, that the inverse relationship described by the Ninth Circuit refers to the relationship between the probability of success on the merits and the movant's showing of irreparable harm. This continuum is as problematic as the sliding scale of other circuits.

169. Armstrong v. Maple Leaf Apts., 508 F.2d 518, 524-25 (10th Cir. 1974), *cert. denied,* 449 U.S. 901 (1980); Morton Salt Co. v. City of S. Hutchinson, 159 F.2d 897, 899-900 (10th Cir. 1947).

170. Continental Oil Co. v. Frontier Ref. Co., 338 F.2d 780, 781-82 (10th Cir. 1964) (per curiam).

171. Lundgrin v. Claytor, 619 F.2d 61, 63 (10th Cir. 1980). However, the court has not always adhered to *Lundgrin* when invoking its name. *See* Wolf, *supra* note 30, at 225-26.

172. *Lundgrin,* 619 F.2d at 63.

173. *See supra* notes 158-64 and accompanying text (discussing Eighth Circuit preliminary injunction standards).

174. Bonner v. City of Prichard, 661 F.2d 1206, 1207 (11th Cir. 1981) (en banc).

four-factor standard of the Fifth Circuit's *Canal Authority v. Callaway* case.[175] The appropriation of such a four-factor standard suggests the existence of a "factor relationship problem" since once again practitioners have no way of knowing the relationship among the four factors.

On balance, however, it is still too early to tell how many of the Fifth Circuit's preliminary injunction problems will be inherited by the Eleventh Circuit. Indeed, the Eleventh Circuit may have implicitly rejected the idea of a "sliding scale."[176] Further, it appears that the Eleventh Circuit has been rather principled in its application of the four-factor standard.[177]

V. APPLICATION: THE POSNER RULE AND THE PROBABILITY OF HARM MATRIX (PRPHM)

In the previous section of this Article, the application of the Posner Rule was concerned with the identification of problems with the Supreme Court's and the federal courts of appeals' preliminary injunction standards. This section focuses not so much on various preliminary injunction standards but the facts of various preliminary injunction cases in order to define a matrix using the Posner Rule. The actual result of most preliminary injunction decisions can be represented by a cell within the matrix.

A. *Rationale of the PRPHM*

The analysis begins by rewriting the Posner Rule to define a new variable. That is, rewriting the inequality of $PH_p > (1-P)H_d$ implies the new inequality $P/(1-P)[H_p/H_d] > U$, where U is a variable of unknown magnitude. Substituting P_m for the ratio of probabilities $P/(1 - P)$ and H_n for the ratio of harms H_p/H_d, it becomes possible to discuss the various possibilities suggested by the variable P_mH_n.

For example, if one assumes that the plaintiff's harm is much greater than the defendant's harm (implying that H_p/H_d or H_n has a value much greater than 1), and the plaintiff's probability of success on the merits is less than the defendant's (implying that $P(1-P)$ or that $P/(1-$

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175. *See* Harris Corp. v. National Iranian Radio & Television, 691 F.2d 1344, 1353-54 (11th Cir. 1982).

176. For an example of the Eleventh Circuit's rigidity, see National Wildlife Fed'n v. Marsh, 721 F.2d 767, 786 (11th Cir. 1983) (court discusses four "requirements" for issuance of preliminary injunction).

177. *Id.* Denial of the preliminary injunction is not proper where the moving party made a showing on all four factors. *Id.* This position is, of course, consistent with the Posner Rule. Where either P or H_p take on a value of zero, a preliminary injunction cannot issue.

P) (or P_m) has a value less than 1), then in all likelihood the variable P_mH_n will have a value that is greater than 1. This value of P_mH_n is verbally equivalent to the case where a court states: Despite the fact that the plaintiff has a substantial likelihood of success on the merits in this case, the fact remains that the defendant will suffer greater harm than the plaintiff should this injunction be issued.

This analysis, taken to its logical conclusion, implies that an infinite number of combinations of P_m and H_n may be used to describe the universe of judicial decisions in preliminary injunction cases. For purposes of this discussion, however, four categories of probabilities, P_0, P_1, P_2, P_3 (m = 0, 1, 2, 3), and four categories of harm, H_i, H_j, H_k, H_l (n = i, j, k, l), are recognized. These eight categories, when juxtaposed, lead to a 4 X 4 matrix.

It follows that this 4 x 4 matrix will have 16 elements, each element representing a different category of preliminary injunction cases, for a total of 16 categories of cases. The verbal interpretation of these mathematical symbols is as follows: The symbol P_0 represents the situation where the plaintiff has virtually no possibility (*e.g.*, "little chance") of success on the merits. The symbol P_1 represents the situation where the plaintiff's probability of success on the merits of the case is less than the defendant's probability of success (*e.g.*, "no likelihood"). P_2 is where the plaintiff has an equal or greater chance than the defendant of succeeding on the merits (*e.g.*, "likelihood"). P_3 is where the plaintiff has a much greater chance than the defendant of succeeding on the merits (*e.g.*, "substantial likelihood"). The harm symbols can be interpreted as follows: H_i represents the situation where the plaintiff's harm is "much greater" than the defendant's. H_j is where the plaintiff's harm is simply "greater" than the defendant's. H_k is where the harms are approximately equal, and H_l is where the plaintiff experiences less or virtually no harm relative to the defendant's harm. Once again, these four kinds of probabilities and four kinds of harms can be juxtaposed in matrix form. This matrix, the "Posner Rule Probability Harm Matrix" (PRPHM), is the subject of Illustration 1. An example of the verbal equivalent for each particular category is presented in Table 1.

Several things should be noted about Illustration 1 and Table 1. First, the verbal interpretations of the mathematical symbols are only approximations; the central ideas of the symbols can quite easily be conveyed using other verbal approximations. For this reason, the assignment of any particular preliminary injunction case to a given category is not hampered by an attempt to find a literal correspondence between the words used by the court and those found in Table 1. It should also be

ILLUSTRATION 1
The Posner Rule Probability Harm Matrix (PRPHM)

	"Much Greater Harm" H_i	"Greater Harm" H_j	"As Much Harm As" H_k	"Less Harm Than" H_l
"Little Chance" P_0	Category 1 $P_0 H_i$ Hard	Category 2 $P_0 H_j$ Hard	Category 3 $P_0 H_k$ Deny (Easy)	Category 4 $P_0 H_l$ Deny (Easy)
"No Likelihood" P_1	Category 5 $P_1 H_i$ Hard	Category 6 $P_1 H_j$ Hardest	Category 7 $P_1 H_k$ Deny (Easy)	Category 8 $P_1 H_l$ Deny (Easy)
"As much Chance As" or "Likelihood" P_2	Category 9 $P_2 H_i$ Grant (Easy)	Category 10 $P_2 H_j$ Grant (Easy)	Category 11 $P_2 H_k$ Hardest	Category 12 $P_2 H_l$ Deny (Hard)
"Substantial Likelihood" P_3	Category 13 $P_3 H_i$ Grant (Easy)	Category 14 $P_3 H_j$ Grant (Easy)	Caegory 15 $P_3 H_k$ Grant (Easy)	Category 16 $P_3 H_l$ Hard

Where: P_0 implies that $P << (1-P)$
P_1 implies that $P < (1-P)$
P_2 implies that $P > (1-P)$
P_3 implies that $P >> (1-P)$
H_i implies that $H_p >> H_d$
H_j implies that $H_p > H_d$
H_k implies that $H_p << H_d$
H_l implies that $H_p < H_d$

NOTE: The symbol $\approx$ means "approximately equal to"
The symbol $>>$ means "much greater than"
The symbol $<<$ means "much less than"
The symbol P_m (m = 0, 1, 2, 3) is equal to $P/(1-P)$
The symbol H_n (n = i, j, k, l) is equal to H_p/H_d
P = Probability that plaintiff will win the suit
$(1-P)$ = Probability that defendant will win the suit
H_p = Harm to plaintiff if she doesn't get injunction
H_d = Harm to defendant if injunction is granted

noted that the numerical values provided (0, 1, >1, etc.) serve only as points of reference, and that they have relative and not absolute significance.

Second, the PRPHM is not really as daunting as it seems. In order to facilitate the exposition, one diagonal of the matrix is represented by a solid line. The group of preliminary injunction cases falling in the categories along this solid diagonal represent some of the most difficult cases to decide. Why this is so is discussed further below.[178] The next group of cases are hard cases which are in categories that do not fall along the solid diagonal. Another group of cases is represented by the categories falling along the dotted "easy" diagonal. Preliminary injunction cases falling in the categories along the dotted diagonal are relatively easy cases to decide. A final group of categories consists of cases falling off the dotted diagonal that are also relatively easy to decide.

Third, like Newton's equation, the Posner Rule as developed in the format of the PRPHM is a general formulation which allows one to explain exceptions. Specifically, the PRPHM makes it clear that one cannot attempt to formulate a general standard for granting preliminary injunctions based on one isolated case from one of the sixteen categories. It is possible that, in at least some of the circuit court cases discussed above, the courts have attempted to construct a general standard in this fashion. The PRPHM makes it clear that such a case-specific method for determining the proper standard for granting preliminary injunctions necessarily leads to a multiplicity of preliminary injunction standards. Alternatively stated, the Posner Rule is the preliminary injunction standard within which all other standards are subsumed.

Fourth, it should be clear from the PRPHM that the Posner Rule envisions the possibility of a sliding scale. In alternative injunction rule formulations, different variables have been permitted to "slide" with no clear rationale as to why such sliding does or should take place.[179] The PRPHM makes it clear that there is a tradeoff between the *relative* harm between the parties, and the *relative* probability of success on the merits. Since the PRPHM is based on the Posner Rule, the rationale for this tradeoff is the same as the rationale which underlies the Posner Rule.[180]

.   Fifth, it should be clear from the PRPHM that the harm to third parties can easily be incorporated into the analysis. Although the term "public interest" is non-descript, if a harm is identifiable by a judge, and is irreparable, then the harm can enter in on the relevant side of the

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178. *See infra* notes 183-201 and accompanying text.
179. *See supra* notes 120-22, 129 and accompanying text.
180. *See supra* notes 70-84 and accompanying text.

Table 1. Delineation of Categories in the PRPHM

Category	Symbol	Value	Verbal Approximation
1	$P/(1-P)[H_p/H_d]=P_0H_i$	0	"Although the plaintiff will suffer much greater harm than the defendant, there is no likelihood that he will prevail on the merits."
2	$P/(1-P)[H_p/H_d]=P_0H_j$	0	"Although the plaintiff will suffer greater harm than the defendant, there is no likelihood that he will prevail on the merits."
3	$P/(1-P)[H_p/H_d]=P_0H_k$	0	"Although the plaintiff will suffer as much harm as the defendant, there is no likelihood that he will prevail on the merits."
4	$P/(1-P)[H_p/H_d]=P_0H_l$	0	"The plaintiff here will not prevail on the merits or suffer irreparable harm."
5	$P/(1-P)[H_p/H_d]=P_1H_i$	>1	"Although the plaintiff will suffer much greater harm than the defendant, there is no likelihood that she will prevail on the merits."
6	$P/(1-P)[H_p/H_d]=P_1H_j$	<1	"Although the plaintiff will suffer greater harm than the defendant, there is no likelihood that she will prevail on the merits."
7	$P/(1-P)[H_p/H_d]=P_1H_k$	<1	"The plaintiff will suffer just as much harm as the defendant, and there is no likelihood that she will prevail on the merits."
8	$P/(1-P)[H_p/H_d]=P_1H_l$	0	"The plaintiff will not suffer any harm, and there is no likelihood that she will prevail on the merits."
9	$P/(1-P)[H_p/H_d]=P_2H_i$	$\gg1$	"Although the plaintiff will suffer much greater harm than the defendant, he has as much chance as the defendant does of prevailing on the merits."
10	$P/(1-P)[H_p/H_d]=P_2H_j$	>1	"Although the plaintiff will suffer greater harm than the defendant, he has as much chance as the defendant does of prevailing on the merits."
11	$P/(1-P)[H_p/H_d]=P_2H_k$	1	"The plaintiff will suffer as much harm as the defendant, and has as much chance as the defendant does of prevailing on the merits."
12	$P/(1-P)[H_p/H_d]=P_2H_l$	0	"The plaintiff will not suffer any harm, and has as much chance as the defendant does of prevailing on the merits."
13	$P/(1-P)[H_p/H_d]=P_3H_i$	0	"The plaintiff will suffer much greater harm than the defendant, and has a substantial likelihood of prevailing on the merits."
14	$P/(1-P)[H_p/H_d]=P_3H_j$	$\gg1$	"The plaintiff will suffer greater harm than the defendant, and has a substantial likelihood of prevailing on the merits."
15	$P/(1-P)[H_p/H_d]=P_3H_k$	$\gg1$	"The plaintiff will suffer as much harm as the defendant, and has a substantial likelihood of prevailing on the merits."
16	$P/(1-P)[H_p/H_d]=P_3H_l$	0	"Although the plaintiff will suffer no harm, there is a substantial likelihood that she will prevail on the merits."

Posner Rule inequality. This position was taken by Judge Posner on the "public interest" issue in *American Hospital Supply Corp. v. Hospital*

Products Ltd.[181]

Finally, the odd beauty of the PRPHM is that it is both positive and normative. In its positive sense, it is a system of categorization of the various preliminary injunctions that have come before the courts. In its normative sense, it dictates how preliminary injunctions should be issued and allows an inference as to whether injunctions falling within the various categories are correctly issued.[182]

The reader should note that the following discussion is meant to present a representative case for each of the 16 categories in the PRPHM. Once again, readers are urged to focus on categories that are of particular interest to them.

B. Hard (Solid) Diagonal Cases: Categories 1, 6, 11 and 16

1. Category 1

Cases falling in this category are preliminary injunction cases in which the plaintiff has little chance of success on the merits and yet, if the injunction is not granted, will suffer a harm much greater than the defendant's if the injunction *is* granted. These cases are hard to decide precisely because the difference between the expected harm of the parties is so large. A judge might be concerned that plaintiff will have needlessly suffered great irreparable injury in the event that she actually does win the lawsuit and was not awarded the injunction.

For example, in *Wilson v. Watt*,[183] the defendants did not contest that the plaintiffs would suffer far greater irreparable injury than the defendants if the plaintiffs' general assistance funds were cut off by injunction.[184] The court below found that the plaintiffs had no chance of success on the merits and denied the preliminary injunction.[185] The court of appeals reversed the trial court's holding and ruled that the plaintiffs had demonstrated "a fair chance" of success on the question of whether Congress intended to terminate the general assistance program.[186] *Wilson* demonstrates the difficulty of deciding Category 1 cases. If an appellate court can demonstrate that the probability of success on

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181. 780 F.2d 589, 601-02 (7th Cir. 1986).

182. The PRPHM also suggests a host of research questions which cannot begin to be addressed here. For example, can one make an argument that various types of cases (*e.g.*, contract) do or should fall within various categories? What of statutory preliminary injunctions? Are they confined to various categories? Questions such as these are made possible by the PRPHM.

183. 703 F.2d 395 (9th Cir. 1983).

184. *Id.* at 399.

185. *Id.* at 398-99.

186. *Id.* at 403.

the merits is higher than that assessed by the trial court, because of the magnitude of the plaintiff's injury from denial of the injunction, the court will have a realistic basis on which to reverse a denied injunction.

2. Category 6

Preliminary injunction cases in this category are cases in which the plaintiff can demonstrate that he will suffer greater harm than the defendant if he is not awarded the preliminary injunction. However, the plaintiff has no likelihood of success on the merits. Therefore, a judge must discount the plaintiff's great harm by a probability that is less than 50% and the defendant's lesser harm by a probability that is greater than 50%. These two discounted magnitudes must be compared in order to determine which is greater. Because these two magnitudes are so close in size, there is a great possibility for error in estimation and comparison.

Consider, for example, the case of *McDonough v. Trustees of University System of New Hampshire*.[187] In that case, the plaintiff sought to enjoin the defendant from terminating the plaintiff's contract as a non-tenured professor at Keene State College.[188] The plaintiff alleged that his contract had been terminated because he was a Marxian economist.[189] The district court denied the injunction on the ground that plaintiff had not demonstrated a likelihood of success on the merits.[190]

Although the court of appeals affirmed the decision of the district court, it noted the difficulty of the case.[191] Assessing the plaintiff's probability of success on the merits was made difficult because of the interests involved and the "fact-oriented" nature of the dispute.[192]

3. Category 11

Preliminary injunction cases falling in this category are those cases in which the irreparable harm to be suffered by the parties is almost exactly equal. This situation is exacerbated by the fact that the probabilities of success are also almost exactly equal, or at best, the plaintiff has "a likelihood of success on the merits." Cases falling in this category are difficult to decide for the same reason as for Category 6 cases.[193]

Consider, for example, the case of *Texas v. Seatrain International,*

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187. 704 F.2d 780 (1st Cir. 1983).
188. *Id.* at 781.
189. *Id.* at 781-82.
190. *Id.* at 781.
191. *Id.* at 784.
192. *Id.*
193. *See supra* notes 187-92 and accompanying text.

S.A.[194] In that case, the defendant requested a tariff from the Federal
Maritime Commission.[195] The plaintiff sought to enjoin the use of the
tariff during the administrative process on the grounds that the tariff
would decrease revenues from Texas courts.[196] The court of appeals re-
versed the preliminary injunction on the grounds that the injunction had
merely shifted the "virtually identical injury" which existed between the
parties.[197]

4. Category 16

Preliminary injunction cases in this category are those cases in
which plaintiff has not made a showing of irreparable harm, or will not
suffer irreparable injury if the injunction is denied, yet plaintiff has a sub-
stantial likelihood of succeeding on the merits. Alternatively stated,
these are cases in which the plaintiff's irreparable injury is far less than
that to be suffered by the defendant if the injunction is issued. Like Cate-
gory 1 cases, the difficulty with cases falling in Category 16 is that the
plaintiff may suffer needless irreparable injury. The difficulty here is not
so much with the magnitude of the plaintiff's irreparable injury, but the
needlessness of it. The plaintiff, after all, has a high probability of suc-
ceeding at the end of the lawsuit.

In *Hudson River Sloop Clearwater, Inc. v. Department of the
Navy*,[198] the plaintiffs sought to enjoin the Navy's construction of a port
for battleships pending the Navy's compliance with the National Envi-
ronmental Policy Act of 1969 (NEPA).[199] The district court found that
the plaintiffs had a substantial likelihood of success on the merits, but
denied the injunction since plaintiffs had failed to allege that denial of the
injunction would result in irreparable injury.[200] The court of appeals up-
held the denial of the preliminary injunction, but did so on other
grounds.[201]

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194. 518 F.2d 175 (5th Cir. 1975).

195. *Id.* at 177.

196. *Id.* at 177-78.

197. *Id.* at 181. The court of appeals noted the difficulty of the case. The court observed
that the plaintiffs had a "less-than-overpowering" prospect of success on the merits. *Id.* at 182.
Although the showing was independently sufficient to preclude the denial of a preliminary
injunction, such a denial was warranted in view of the symmetry of irreparable injury between
the parties and deference to the administrative process. *Id.*

198. 836 F.2d 760 (2d Cir. 1988) (per curiam).

199. *Id.* at 761.

200. *Id.* at 761-62.

201. *Id.* at 764.

C.   Hard Off-Diagonal Cases: Categories 2, 5, 12 and 15

1.   Category 2

Preliminary injunction cases in this category are cases in which the plaintiff will suffer greater irreparable injury than the defendant if the injunction is not issued. Here, however, the plaintiff has little or no chance of success on the merits. Although these cases are not as difficult as Category 1 cases,[202] they are difficult for a similar reason. Despite the plaintiff's slight chance of success on the merits, a judge might be concerned about the disparity of harm, and the fact that plaintiff may suffer a relatively large needless harm.

In *Berry v. Bean*,[203] the plaintiff sought to enjoin the defendant from forbidding the plaintiff from living with the members of her family on an Air Force base.[204] The district court granted the injunction, finding that the defendant's irreparable injury was "minimal" in comparison to that of the plaintiff if the injunction were denied.[205] In reversing the grant of preliminary injunction, the court of appeals took great pains to demonstrate that the plaintiff had no chance of success on the merits.[206] The court stated forcefully that great deference had to be given by courts of law to military decisions.[207]

2.   Category 5

Preliminary injunction cases in this Category are cases in which the plaintiff will suffer much greater harm than the defendant, if the injunction is not issued. Yet, here, the plaintiff has no likelihood of success on the merits. The difficulties with deciding these cases represent a combination of the difficulties of Category 6[208] and Category 1[209] cases. Like Category 6 cases, the magnitudes of the Posner Rule variables are close in size. There is, therefore, the possibility of misestimation. Like Category 1 cases, a judge might be concerned with the large irreparable harm which the plaintiff may needlessly suffer.

In *LeBeau v. Spirito*,[210] the plaintiff sought to enjoin the defendant from terminating Aid to Families with Dependent Children (AFDC)

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202. *See supra* notes 183-86 and accompanying text.

203. 796 F.2d 713 (4th Cir. 1986).

204. *Id.* at 714.

205. *Id.*

206. *Id.* at 716-19.

207. *Id.* at 716-17. Despite this deference, however, the court found it necessary to engage in a lengthy discussion justifying the decision of the Air Force Commander. *See id.* at 717-18.

208. *See supra* notes 187-92 and accompanying text.

209. *See supra* notes 183-86 and accompanying text.

210. 703 F.2d 639 (1st Cir. 1983).

benefits based on the defendant's inadequate notice of the termination of benefits.[211] The district court denied the injunction on the grounds that the plaintiff had failed to demonstrate a likelihood of success on the merits.[212] In affirming the district court, the court of appeals noted that welfare recipients had a "substantial" interest in the proper determination of their benefits by welfare agencies.[213]

3. Category 12

Preliminary injunction cases in this category are cases in which the plaintiff will suffer less irreparable harm than the defendant, or for that matter has failed to make a showing of irreparable injury altogether. Here, the plaintiff's chances of success on the merits are equal to those of the defendant, or at best, the plaintiff has demonstrated "a likelihood" of succeeding on the merits. The Posner Rule calls for the denial of the preliminary injunction in this instance. The expected harm to the plaintiff if the injunction is denied is unambiguously less than the expected harm to the defendant if the injunction is granted. Any difficulty that might inhere in these cases comes from a possible misestimation of the magnitude of the plaintiff's harm. This is especially true where the plaintiff has failed to make a showing of irreparable harm.

For example, in *A.O. Smith Corp. v. Federal Trade Commission,*[214] the plaintiffs sought to enjoin the Commission (FTC) from enforcing a regulation which required plaintiffs to file a series of business reports.[215] In vacating the district court's grant of the preliminary injunction,[216] the court of appeals did not address the district court's determination that the plaintiffs had proved a likelihood of success on the merits.[217] However, the court of appeals held that the plaintiffs had failed to establish that the costs of complying with the FTC's regulation constituted an ir-

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211. *Id.* at 640. The disparity of harm is almost exactly equal to the disparity discussed in Wilson v. Watt, 703 F.2d 395, 399 (9th Cir. 1983); *see supra* notes 183-86 and accompanying text. That is, the interests of welfare recipients in *LeBeau* far outweighed any interests the State may have had at stake. *LeBeau,* 703 F.2d at 644.

212. *LeBeau,* 703 F.2d at 642-43.

213. *Id.* at 644. Unlike the court in *Wilson,* however, the court in *LeBeau* did not have to resort to construing Congress' intent in enacting the relevant statute. *Compare LeBeau,* 703 F.2d at 643 *and Wilson,* 703 F.2d at 399-403. The *LeBeau* court applied the statutory language and concluded that the plaintiffs had no likelihood of success on the merits in spite of their "substantial" interests. *LeBeau,* 703 F.2d at 643-44. From the approach of these two courts, it is possible to conclude that Category 6 cases are more difficult to decide than Category 5 cases.

214. 530 F.2d 515 (3d Cir. 1976).

215. *Id.* at 518.

216. *Id.* at 529.

217. *Id.* at 519.

reparable injury.[218] The court of appeals concluded that injury to the plaintiffs would be relatively minimal.[219]

4.   Category 15

Preliminary injunction cases in this category are cases in which the irreparable harms to be suffered by the parties are rather similar. Here, however, the plaintiff is able to establish a substantial likelihood that she will prevail on the merits. The Posner Rule dictates that the court should grant the injunction because the expected harm to the plaintiff outweighs the expected harm to the defendant. Any difficulties arising would come from the misestimation of the magnitude of the harms to the parties.

In *Educational Testing Services v. Katzman*,[220] the plaintiff sought to enjoin the defendant from using the plaintiff's confidential test questions as test-coaching materials.[221] The district court granted the injunction.[222] In affirming plaintiff's preliminary injunction, the court of appeals held that the plaintiff had demonstrated a substantial likelihood of success on its copyright claim.[223] Perhaps it is for this reason that the appellate court did not pay much attention to the plaintiff's irreparable injury. The court of appeals agreed with the district court that the plaintiff's testing program would have been "severely disrupted" in the absence of a preliminary injunction.[224] It is clear, then, that this symmetry of harm was somewhat irrelevant to the court, in view of the plaintiff's substantial likelihood of success on the merits.

D.   *Easy (Dotted) Diagonal Cases: Categories 4, 7, 10 and 13*

1.   Category 4

Preliminary injunction cases in this category are cases in which the plaintiff has demonstrated little or no chance of success on the merits. Moreover, the plaintiff has usually failed to demonstrate either irreparable injury from the denial of the injunction, or less irreparable injury than that to be suffered by the defendant if the injunction is granted. The Posner Rule dictates that the injunction should be denied for cases in this

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218. *Id.* at 527-28.
219. *Id.*
220. 793 F.2d 533 (3d Cir. 1986).
221. *Id.* at 535.
222. *Id.* at 536-37.
223. *Id.* at 538-43.
224. *Id.* at 543-44. Of course, the defendant could have made a comparable argument that its test-coaching program would have been severely disrupted by the granting of a preliminary injunction.

category. Denial of the injunction creates no ambiguity; the expected harm to the plaintiff is far less than the expected harm to the defendant.

In *IU International Corp. v. NX Acquisition Corp.*,[225] the plaintiff, a target corporation, sought to enjoin a tender offer by the defendant by arguing that the Williams Act[226] imposed certain financing constraints on the defendant.[227] The court of appeals affirmed the district court's denial of the injunction on the grounds that the plaintiff had no chance of success on the merits and had failed to establish irreparable injury.[228]

2. Category 7

Preliminary injunction cases in this category are cases in which there is a symmetry of irreparable harm as between the parties. Here, however, the plaintiff has no likelihood of success on the merits. The Posner Rule dictates that the preliminary injunctions falling in this category should be denied.

Consider, for example, the case of *Cintron-Garcia v. Romero-Barcelo*.[229] In this case, the plaintiff sought to enjoin the defendant from filling a between-elections vacancy in the Puerto Rico House of Representatives.[230] The district court granted the injunction.[231] The court of appeals vacated the injunction, holding that the irreparable injury to the parties was exactly balanced.[232] Additionally, the plaintiff had failed to show a likelihood of success on the merits.[233]

3. Category 10

Cases in this category represent the most standard and typical of preliminary injunction cases. In these cases, the plaintiff has demonstrated that she will suffer greater irreparable harm than the defendant if she is not awarded the injunction. She has also usually demonstrated a likelihood of success on the merits. The Posner Rule dictates that the injunction should be granted in this instance. Courts usually have no difficulty in awarding these injunctions.

In *Teradyne, Inc. v. Mostek Corp.*,[234] the plaintiff sought to have the

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225. 840 F.2d 220 (4th Cir.), *aff'd en banc,* 840 F.2d 229 (1988).
226. 15 U.S.C. §§ 78m, 78n (1988).
227. *IU Int'l,* 840 F.2d at 221.
228. *Id.* at 223-24.
229. 671 F.2d 1 (1st Cir. 1982).
230. *Id.*
231. *Id.*
232. *Id.* at 1-3.
233. *Id.* at 7.
234. 797 F.2d 43 (1st Cir. 1986).

defendant set aside an amount to satisfy the plaintiff's judgment in view of the defendant's sale of substantially all of its assets.[235] The district court held that the plaintiff had a likelihood of success on defendant's U.C.C. and duress claims.[236] The district court also held that the plaintiff had demonstrated greater irreparable injury by virtue of defendant's liquidation of its assets.[237] The court of appeals affirmed the injunction.[238]

4.   Category 13

Preliminary injunction cases in this category are perhaps the easiest of cases in which to grant a preliminary injunction. In these cases, the plaintiff has succeeded in showing not only that she will suffer much greater irreparable injury than the defendant if the injunction is not awarded, but she has also succeeded in demonstrating a substantial likelihood of succeeding on the merits.

In *United States v. Odessa Union Warehouse Cooperative*,[239] the federal government sought to enjoin the defendant's sale and movement of wheat which was "moldy and contaminated with live and dead insects, insect larvae and rodent excreta."[240] The district court denied the injunction claiming that "this Court has developed [its] own list of conditions and feels that a preliminary injunction should issue only when the circumstances truly permit no other course . . . ."[241] The circuit court had no difficulty in reversing the district court.[242] The appellate court held that plaintiff had a substantial likelihood of success on the merits.[243]

E.   Easy Off-Diagonal Cases: Categories 3, 8, 9 and 14

1.   Category 3

Preliminary injunction cases in this category present situations in which the irreparable harm to the parties is symmetrical, yet the plaintiff has little or no chance of success on the merits. The Posner Rule dictates

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235. *Id.* at 44-45.
236. *Id.* at 55-57.
237. *Id.* at 53.
238. *Id.* at 57.
239. 833 F.2d 172 (9th Cir. 1987).
240. *Id.* at 174. The evidence of the defendant's violation of the Food, Drug, and Cosmetic Act was uncontested. *Id.*
241. *Id.* at 175 (quoting lower court opinion).
242. *Id.* at 177.
243. *Id.* at 176. The Ninth Circuit also noted that the district court had not adequately considered the irreparable injury to the public that could result from the denial of the injunction. *Id.*

that preliminary injunctions should be denied in cases falling in this category.

In *Higbee v. Starr*,[244] the plaintiff sought to enjoin the defendant from evicting the plaintiff from her residence.[245] The court of appeals noted that plaintiff's deprivation of a place to live constituted irreparable harm.[246] Yet, the court denied the injunction finding that the plaintiff had little chance of success on the merits.[247] The court did not explicitly consider the irreparable harm to the defendant.[248]

2. Category 8

Preliminary injunction cases in this category are cases in which the plaintiff has not demonstrated a likelihood of success on the merits. In addition, the plaintiff has not made a showing of irreparable injury, or at best will suffer less harm than the defendant if the plaintiff is not awarded the injunction. Courts usually have no difficulty in denying these injunctions; an application of the Posner Rule warrants such an outcome.

For example, in *Adamsons v. Wharton*[249] the plaintiff sought to enjoin the defendant from suspending the plaintiff from a state medical school faculty after the plaintiff had refused to participate in a clinical program that would have limited the extent of his income from private practice.[250] The court of appeals agreed with the district court that the first amendment does "not protect a faculty member's quest for outside income."[251] Accordingly, the appellate court said the plaintiff had no likelihood of success on the merits and had made no showing of irreparable injury that could not be compensated by money damages.[252] The appellate court affirmed the district court denial of the injunction.[253]

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244. 698 F.2d 945 (8th Cir. 1983).

245. *Id.* at 946. The plaintiff alleged that the eviction was in retaliation for a prior complaint that she had filed against the defendant. *Id.* The district court found that the plaintiff had no chance of success on the merits since she could not establish a connection between her complaint and the termination of her lease. *Id.* at 946-47.

246. *Id.* at 947.

247. *Id.*

248. *Id.* However, one might make a plausible argument that the defendants would have suffered just as much had the injunction been issued. The defendant had alleged that it was necessary to evict the plaintiff because the plaintiff kept a "large number of uncontrolled animals . . . on the property," which damaged the house and caused problems with neighbors. *Id.*

249. 771 F.2d 41 (2d Cir. 1985).

250. *Id.* at 42.

251. *Id.* at 43.

252. *Id.* at 43-44.

253. *Id.* at 44.

3. Category 9

Preliminary injunction cases in this category are cases in which it is relatively easy to grant the injunctions. In these cases, the plaintiff is able to demonstrate that she will suffer a much greater irreparable harm than the defendant if she is not awarded the injunction. The plaintiff is also able to show a likelihood of success on the merits. The Posner Rule suggests that the court award the injunction.

For instance, in *Selchow & Righter Co. v. McGraw-Hill Book Co.*,[254] the plaintiff sought to enjoin the defendant from publishing a dictionary which infringed on the plaintiff's trademark "Scrabble."[255] The district court found that use of the plaintiff's trademark might render it generic.[256] The court of appeals agreed that the plaintiff had demonstrated irreparable injury stating that "[t]hreatened destruction or serious dilution of the mark may well be found substantially to outweigh any possible loss to [the] defendant during the pendency of this litigation."[257]

4. Category 14

Preliminary injunction cases in this category are also rather easy cases in which to grant the injunction. In these cases, plaintiff successfully shows that she will suffer greater irreparable harm than the defendant if she is not awarded the injunction. Moreover, the plaintiff has a substantial likelihood of success on the merits. A very good case in point is *American Hospital Supply Corp. v. Hospital Products Ltd.*[258] That case need not be discussed again at this juncture. The reader is invited to consult the discussion above as evidence that *American Hospital* is indeed a Category 14 case.[259]

VI. SELECTED CRITICISMS OF THE MODEL

The potential criticisms of the Posner Rule are various and sundry.[260] They include observations which represent general opposition to the economic and statistical analysis of the law, as well as differences regarding intricacies of the analysis. This section attempts, without be-

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254. 580 F.2d 25 (2d Cir. 1978).

255. *Id.* at 26.

256. *Id.* at 27.

257. *Id.* at 28.

258. 780 F.2d 589 (7th Cir. 1986).

259. See *supra* notes 37-69 and accompanying text for a discussion of *American Hosp.*

260. Some examples of criticisms of the economic approach to legal analysis include: Priest, *The New Scientism in Legal Scholarship: A Comment on Clark and Posner*, 90 YALE L.J. 1284 (1981); Roberts, *Beaches: The Efficiency of the Common Law and Other Fairy Tales*, 28 UCLA L. REV. 169 (1981); Note, *The Inefficient Common Law*, 92 YALE L.J. 862 (1983).

ing exhaustive, to further specify and address some of the issues raised.[261] The criticisms discussed below have the greatest potential for damaging the analysis.

A. Quantification and the Posner Rule

The first criticism that one might make is that the Posner Rule is of no use to legal practitioners because the Rule clearly requires that all magnitudes be quantifiable. Moreover, the Posner Rule can be turned on its head: if everything is quantifiable, then damages are quantifiable, and therefore, the litigants' harms are not irreparable. Therefore, it is impossible for the Posner Rule to address the granting of preliminary injunctions. This latter argument misses the point that was made in *American Hospital Supply Corp. v. Hospital Products Ltd.*[262] Specifically, a reference to the irreparability of the harm of a litigant is mainly a reference to the fact that damages are unavailable, not unquantifiable.[263] The case of a bankrupt defendant is the clearest illustration of this. In the case of environmental damages, one can argue that damages are of such a large magnitude that they are in fact unavailable.[264]

In an interesting piece which challenges the legitimacy and propriety of the Posner Rule, Professor Linda Mullenix has fashioned a criticism which is a variant of the quantification criticism.[265] Professor

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261. One might argue that the Posner Rule does not consider:

a) the argument that the standard on appeal is that of reviewing the lower court's abuse of discretion. *See, e.g.,* American Hosp. Supply Corp. v. Hospital Prods. Ltd., 780 F.2d 589, 594 (7th Cir. 1986). Under the Posner Rule, however, this inquiry into a court's abuse of discretion is in reality an examination of that court's deviation from the proper application of the Rule. *See* Roland Mach. Co. v. Dresser Indus., Inc. 749 F.2d 380, 390-93 (7th Cir. 1984) (en banc).

b) that the standard should differ when a Temporary Restraining Order (TRO) is the instrument under discussion. The rationale underlying the argument would be that the decision as to whether or not to grant a TRO involves even less time than a regular injunction. However, the Posner Rule is broad enough to cover this situation. One could argue, for example, that the TRO simply represents a case where the perceived immediacy of the pending harm is greater than in the preliminary injunction case. One would conclude that the estimates of all of the variables and especially the probabilities, *see supra* note 84, should be subject to wider bands of uncertainty, *see supra* note 69. *See also* FED. R. CIV. P. 65(b).

262. 780 F.2d 589 (7th Cir. 1986).

263. *Id.* at 595-96.

264. Yet, even if one does not subscribe to the sophistry that everything in the universe is ultimately quantifiable (a sophistry to which this author subscribes), such non-subscription does not offer a defensible basis on which to criticize the Posner Rule. The Posner Rule remains valuable even for those who do not see the world quantitatively. For example, surely any judge can get an intuitive sense for the assertion that only one fifth of the harm alleged by the plaintiff is to be weighed against four fifths of the harm alleged by the defendant. The harms in question need not be quantified.

265. *See* Mullenix, *Burying (With Kindness) the Felicific Calculus of Civil Procedure,* 40

Mullenix's variation has three strands. The first strand is that lawyers will be able to manipulate the mathematical calculation very easily.[266] However, successful manipulation is probably the very essence of good lawyering. Therefore, Professor Mullenix surely cannot be objecting to manipulation in the abstract. It follows then that her objection is probably that the Posner Rule is more manipulable than the alternative rule(s).

Having defined the issue in this manner, the real problem becomes one of defining the standard by which "manipulability" is determined. Regardless of the standard selected, there can be little debate that the multiplicity of available preliminary injunction standards affords an attorney remarkable opportunities for manipulation.[267] Such opportunities are significantly reduced given the singularity and the intellectual clarity of the Posner Rule.

The second strand of Professor Mullenix's argument is that with "quantification as the operational standard," the attorney who is able to summon the best figures will ultimately prevail.[268] Practically, the resulting "contest" between "academic economists" in litigation will increase the "direct costs of litigation and will make basic procedural motions more complex and inscrutable."[269]

This strand of Professor Mullenix's criticism is essentially a speculation which, like all speculations, invites a counter-speculation. Specifically, one might imagine a statute which limits the number of experts each litigant may present at an injunction hearing. Under such a statute, the total costs of litigation would decrease rather than increase. First, fewer injunction motions would be filed, since prospective litigants and their attorneys would merely have to consult the Matrix (PRPHM)[270] to ascertain their chance of success in an injunction motion. Second, given the clarifying effect of the Posner Rule, the length of documents submitted and hearings conducted would decrease dramatically. Limiting the number of experts testifying would probably eliminate such excessive testimony as a source of higher litigation costs.

The third strand of Professor Mullenix's argument is that the nature of the Rule may induce attorneys to "ignore selected unquantifiable fac-

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VAND. L. REV. 541 (1987). Technically, Mullenix's criticism is primarily levied against the Leubsdorf Rule and not the Posner Rule. For purposes of this discussion, however, they will be treated as being similar. *See infra* note 300.

266. Mullenix, *supra* note 265, at 565.

267. *See supra* notes 101-77 and accompanying text (Part IV).

268. Mullenix, *supra* note 265, at 565.

269. *Id.*

270. *See supra* notes 178-259 and accompanying text (Part V) (providing Matrix and discussion thereon).

tors such as litigant's risk-taking disposition."[271] Indeed, this last strand
is in effect a thorough validation of the practicality of the Rule. In view
of the arguments discussed above,[272] Professor Mullenix cannot mean by
her criticism that the Rule encourages attorneys to ignore factors that are
literally unquantifiable. Presumably, Professor Mullenix means that the
Rule encourages attorneys to ignore factors which are difficult (and
costly) to quantify yet yield no commensurate benefit from quantifica-
tion. This result is in accord with Professor Mullenix's legitimate goal of
minimizing litigation costs.

B.   Statistical Assumptions and the Law [273]

A clear assumption of the Posner Rule is that the participants in the
litigation process are capable of estimating probabilities.[274] Therefore,
the Posner Rule might be subjected to a common criticism that is ad-
vanced in discussions of statistics and the law—that it is unrealistic to
assume that this estimation of probabilities is possible.[275] Such a criti-
cism ignores the existence of the "subjective probability" school of
probability theory, a school which has existed formally for the past fifty
years.[276] The modern relevance of that school is reflected in the observa-
tion that "[t]he numbers jurors might supply if asked to quantify their
personal beliefs can therefore be viewed as approximations of the theoret-
ically satisfactory probabilities. In this way, the probabilities at work in
a legal factfinding can be given a conceptually meaningful subjective
interpretation."[277]

Those who take issue with this observation assume that jurors are
incapable of estimating the magnitudes of probabilities. However, since
it is a fact that the American jurisprudential system is premised on the

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271. Mullenix, *supra* note 265, at 565.

272. *See supra* notes 265-70 and accompanying text.

273. The discussion of these assumptions in the literature focuses on the relevance of
Bayesian statistics in the legal setting. *See* E. MANSFIELD, *supra* note 84, at 93-98; Kaye, *The
Laws of Probability and the Law of the Land*, 47 U. CHI. L. REV. 34, 42 n.31 (1979). Baye's
Theorem assigns to each factor that is weighed in a decision a numerical value in a probability
formula. *See, e.g.*, Kaye, *supra*, at 49-51, for examples of the Bayesian equation. Although the
Posner Rule assumes a posterior probability and is therefore Bayesian in its approach, it is
nonetheless true that the use of classical hypothesis testing is a superior way of explicating the
Rule.

274. *See generally* Mullenix, *supra* note 265, at 562-63. This assumption appears to be the
engine of the Posner Rule analysis. A failure of this assumption implies that it is wholly
inappropriate to discuss the use of statistics by the parties involved in the litigation process.

275. *See generally id.* at 566-69.

276. A brief history and bibliography of subjective probability can be found in Kaye, *supra*
note 273, at 42 n.31.

277. *Id.* at 47.

juror's ability to differentiate at a minimum between probabilities above and below fifty percent, it follows that the probability estimations required by the Posner Rule are not at all unrealistic.[278]

In challenging the statistical bases of the Posner Rule, Professor Mullenix argues that the Rule "suffers from three major flaws."[279] The first flaw, demonstrated by way of example, is that a change in the probability of success on the merits by one percentage point would cause an otherwise victorious plaintiff to lose the injunction.[280] How it is that such an example demonstrates a "flaw" is not clear. As discussed above, in *American Hospital Supply Corp. v. Hospital Products Ltd.*,[281] the occurrence of these situations can be minimized by using high and low probability estimates.[282] This practice is not different from the "confidence interval" estimation practice of professional statisticians.[283] Once again, the relevant standard must be a relative one. It is far more preferable that the justice system have a number of judges using the Posner Rule who commit an estimation error than to have an equivalent number of judges who issue injunction rulings which are fundamentally flawed yet magically consistent with an unintelligible "traditional" standard.

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278. Indeed, there are many standards in American jurisprudence which, though not immediately "quantifiable," nonetheless demonstrate probabilities from 0 to 100%. For example, the terms "colorable," "prima facie," "preponderance of the evidence," and "beyond a reasonable doubt," in order of least to greatest "percentage" required by the law, demonstrate that quantifying does take place in American courts.

It should be noted here that a second, more esoteric statistical criticism relevant to the Posner Rule is that the statistical axioms which hold that the probability of A and the probability of not-A sum to one are axioms inapplicable to a legal setting. *See* E. MANSFIELD, *supra* note 84, at 73-74. This criticism is one which has been asserted by Cohen who claims to have identified six anomalies that demonstrate the validity of his criticism. *See* L.J. COHEN, THE PROVABLE AND PROBABLE 116 (1977). Professor Kaye's rebuttal to Cohen is as follows:

> Whatever puzzlement is produced by Cohen's "anomalies" is, I think, attributable to an underlying misconception about the role of probability theory in legal proof. Conventional probability theory does not purport to describe the structure of current legal doctrine. Rather, it prescribes how probabilistic evidence should be handled if one is to make the fewest mistakes in predicting the outcome of uncertain events.

Kaye, *supra* note 273, at 38. Professor Kaye illustrates this statement by showing that probability theory can be used to predict the probability that the first two cards of a deck will be red. *Id.* at 38-39. It follows that probability "theory should be no less accurate for making 'postdictions,' or findings of fact." *Id.* at 39. In summarizing, Professor Kaye states, "[t]hat the present rules of evidence and procedure do not invariably appear to promote this ideal of accuracy does not impugn the accuracy of probability theory as a tool in legal factfinding." *Id.*

279. Mullenix, *supra* note 265, at 566.

280. *Id.* at 566-67. Mullenix is referring to the probability of winning the injunction which, for purposes of this discussion, is treated as being the same as the probability of winning the suit on the merits. *See infra* note 300.

281. 780 F.2d 589 (7th Cir. 1986).

282. *See supra* note 69 (providing example).

283. *See generally* E. MANSFIELD, *supra* note 84, at 241-63.

The second major flaw identified by Professor Mullenix is the Rule's reliance on a probability estimation process that depends on an "intuitive guess by the judge."[284] This, however, is no flaw. Indeed, what Professor Mullenix has succeeded in doing is identifying one of the irrefutable strengths of the Rule. The Rule demands that judges stop implying that they are engaged in generating anything but an intuitive guess. The Rule demands that judges disabuse their decision-making process of bland generalizations and rationalizations. With guesses clearly exposed, litigants and reviewing courts get an opportunity to comment on the accuracy of the judge's guess.

The third major flaw identified by Professor Mullenix is that the Rule places a "religious faith" in probability theory.[285] Professor Mullenix asserts that such a faith is inappropriate, because the probabilities under discussion are not "assessable."[286] She claims that this unassessability obtains because each legal case is unique, and additionally, because judges have a limited number of statistical samples.[287] Professor Mullenix's observations are, unfortunately, a denial of reality. Attorneys in practice often must engage in the business of assessing probabilities of litigation success for clients, or discussing those probabilities with their partners and associates. The issue therefore is not a question of the assessability of probabilities.[288] Furthermore, that each legal case should be unique in some faraway epistemological sense is a truism. Yet the noble endeavor in which Professor Mullenix is engaged, that of legal scholarship, is premised on the foundational assumption that commonalities exist among these otherwise unique cases. *Stare decisis* is also premised on this foundational assumption, and so therefore is the assessment of litigation probabilities.

It should be noted, however, that Professor Mullenix does raise a very valid point about the judge's limited statistical sample size.[289] One might argue that a judge's litigation sample is not limited to the cases that come before her. Indeed, each case to which a judge is exposed, either through reading or listening, becomes an effective sample in her

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284. Mullenix, *supra* note 265, at 567.

285. *Id.*

286. *Id.* at 568.

287. *Id.* at 569. See *supra* note 3 and accompanying text for a discussion of the determinism-indeterminism argument which is a redux of this argument.

288. Assessability is a moot point: probabilities are natural objects existing in time and space independent of our knowledge of their existence. The relevant issue is our ability to correctly estimate those probabilities. We know of our accuracy after the events in question have come to pass.

289. Mullenix, *supra* note 265, at 569.

statistical sampling.[290]

In sum, it seems that the assumptions of statistical analysis are not necessarily invalid in a legal setting. A decisive argument in support of this assertion is that the falsification of statistical assumptions within a legal setting appears to be a sport pursued for its own sake. Professor Kaye has noted that:

> The equations of the axiomatized theory of probability—like the rules of logic and arithmetic—work admirably in other contexts .... [T]he mathematical theory provides more useful and more accurate predictions of important phenomena than any alternative methods. Surely the probability axioms work sufficiently well for objectively estimated probabilities. Why should they not serve as well when applied to thoughtful, subjective estimates? Perhaps the laws of probability really are suspended in the courtroom, but the burden of proof should fall on those who claim that other ways of reasoning about probabilities may be more accurate.[291]

C. Implicit Subjectivity and Illusory Objectivity

Using these two headings, Professor Mullenix makes two arguments.[292] First, she argues that the Posner Rule gives "the false impression that [it] eliminate[s] subjectivity in the injunctive process."[293] In contrast, she asserts the "traditional" standard deals with this subjectivity, since the judge "mediates these [subjective] values and renders justice in a flexible manner."[294] This, it is argued, is tantamount to "intellectual honesty."[295]

There are flaws in Professor Mullenix's argument. First, her claim that the Rule eliminates subjectivity is unsound. No credible human intellectual endeavor can lay claim to fully eliminating subjectivity. Indeed, the Posner Rule's only claim, implicit or otherwise, is that it exposes and delimits subjectivity.[296] That this should be a noble goal is

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290. For example, a judge's sampling can be and is increased by the litigants who often will cite non-controlling but precedent-setting cases from other jurisdictions in their pleadings.

291. Kaye, *supra* note 273, at 55.

292. Mullenix, *supra* note 265, at 569-72.

293. *Id.* at 570.

294. *Id.*

295. *Id.*

296. See generally American Hospital Supply Corp. v. Hospital Products Ltd., 780 F.2d 589, 593-94 (7th Cir. 1986), for the proposition that the preliminary injunction case law is in a state of confusion. It follows that when the law is in a confused state, judges are in a position to exercise a high degree of subjectivity in their rulings. Accordingly, the Posner Rule's objective

clear from Professor Mullenix's implicit claim that the "traditional" standard(s) is (are) more successful than the Posner Rule in delimiting subjectivity in the injunctive process.

The second flaw in Mullenix's argument, therefore, is that it is difficult to determine precisely which "traditional" standard she is referring to.[297] Assuming that this difficulty can be surmounted, there is a third flaw: it is not easily determinable precisely how it is that a judge "mediates" the various subjective values in the injunctive process using the "traditional" standard. The Posner Rule delineates the precise manner in which this mediation unwittingly does occur and ideally should occur.[298] Indeed, it is the Posner Rule which strikes a blow for intellectual honesty.

Professor Mullenix's argument regarding "illusory objectivity" suffers from problems similar to those found in her argument regarding implicit objectivity. She states: "[t]he central evil of illusory objectivity is that it conceals the true basis for decision and, therefore, increases the possibility of manipulation," and that the "final objection to a calculus of civil procedure is simply that it is fraudulent."[299] Mullenix's criticism begs the question of how it is that logical symbolism (calculus) once used in the domain of legal analysis, suddenly confers upon that analysis an appearance of objectivity. One would be hard-pressed to find a reputable social scientist who honestly believes that the use of logical symbolism makes inherently subjective analysis less subjective. A symbolic logician of such a persuasion would be even harder to find. The putative cost of a symbolic analysis is likely present only in the minds of those who oppose the analysis. The benefits of such an analysis however, are clear: relevant factors are delineated; the relationship among them is demonstrated; an overarching framework is postulated; and, discussion and argumentation are made remarkably more efficient.[300]

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of minimizing or eliminating the confusion in the preliminary injunction case law carries with it an implicit objective of delimiting judicial subjectivity.

297. See *supra* notes 101-77 and accompanying text for a discussion of various "traditional," multi-part standards (Part IV).

298. *See supra* notes 178-259 and accompanying text (Part V) (providing Matrix and discussion thereof).

299. Mullenix, *supra* note 265, at 572.

300. There remains one rather esoteric issue or criticism regarding the Posner Rule. That issue turns on the nature of the probability to be used in evaluating the potential harm to the litigants. It has been assumed throughout this Article that a litigant's probability of success on the merits of the case is the same probability to be used in evaluating the potential harm to the litigant. The Leubsdorf Rule asserts that the relevant probability is the probability that the litigant will prevail on the injunction and not the merits of the actual case. Leubsdorf, *supra* note 43, at 557.

Indeed, there are at least five arguments which could be made that the Posner Rule's

VII. SUMMARY/CONCLUSION

It has been argued in this Article that the Posner Rule should be the

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probability usage is incorrect. First, it could be argued that use of the merit probability assumes that the judge has already estimated this probability. Such an assumption implies that the judge has prejudiced the outcome of the case by prejudging on the basis of what little evidence is available during the hearing on the motion for preliminary injunction.

This first argument fails because it seems to reverse the clear purpose of judicial estimation of the merit probability. One must begin by recognizing that the court's early opinion of the case is a natural phenomenon and indeed, a phenomenon which is essential to the analysis. The nature of the preliminary injunction is such that an early and estimated probability is indispensable to its effective utilization. It follows therefore that in this regard the Posner Rule is very realistic; not only does the Rule recognize the inescapable reality of a court's probability estimation, but it actively encourages that a judge reveal her bias regarding the nature and magnitude of the merit probability.

Second, it could be argued that there would almost never be a case where the probability estimated at the start of the suit equals the actual merit probability. Since a changing estimate is an estimate that could not have been correct in the first instance, this implies that there is a permanent wedge between the initially and subsequently estimated merit probability. Therefore, use of the initially estimated probability cannot be correct.

This second argument is erroneous because it does not necessarily follow that because the merit probability is misestimated, that there is a permanent wedge between the estimated and actual merit probabilities. The existence of a permanent wedge implies that judges consistently make the same estimation mistakes or that they have "adaptive expectations." Under the more modern "rational expectations hypothesis," over time judges learn from their misestimations and correct them, thereby eliminating the possibility of a permanent wedge. *See generally* R. DORNBUSCH & S. FISCHER, MACROECONOMICS 509-10 (4th ed. 1987).

Third, it could be argued that the merit probability cannot be the correct probability to use since the correct probability is the probability that the litigant will win the *injunction* not the lawsuit. Substitution of the probability that the injunction will issue in the place of the merit probability is sensible so long as the injunction's merits are a microcosm of the case's merits. Additionally, it could be argued that the harm to be experienced by one of the parties is conditional upon the judge's injunction decision.

However, such a solution is second-best. The injunction is concerned with the needless loss borne by a litigant who *does* ultimately prevail at trial. As between the merits probability and the injunction probability, the merits probability is the more accurate barometer of the degree of needlessness of the loss suffered. The merits probability therefore, should be used to evaluate the loss. One can consult any judge to discover that the merit probability and the probability of winning the injunction are different numbers although similar in magnitude.

Under no circumstances should the preceding comment be construed as a trivialization of the path-breaking work of Professor Leubsdorf in the field of preliminary injunction law. This author is appreciative of, and intellectually indebted to, the work of Professor Leubsdorf in this regard.

Fourth, it could be argued that use of the merit probability is incorrect because such use is inconsistent with the "preponderance of the evidence" and "beyond a reasonable doubt" burden of proof standards. That is, cases with merit probabilities of less than 50% would always be dismissed by judges since the value of their merit probabilities would suggest that burden of proof standards of greater than 50% could never be met. Since in reality judges do not actually dismiss such suits, the argument proceeds, then it cannot be true that the merit probability is the probability actually used by judges who are in effect using the Posner Rule.

This fourth argument is also unavailing since it seems to embody the classically erroneous assumption that the merit probability has a significance apart from its usefulness in making the

uniform standard for granting preliminary injunctions. It has also been asserted that the Posner Rule minimizes the social loss resulting from judicial errors which attend the issuance of preliminary injunctions.[301] The PRPHM provides a means of demonstrating the Rule's universality in this regard. As a heuristic and analytical device, this Matrix captures the tradeoff between the relative probability of irreparable harm and the relative magnitude of irreparable harm to the litigants given the issuance or denial of the injunction. The Matrix can be used, and indeed was used in this Article, to categorize the results of the many kinds of preliminary injunction decisions handed down by the federal courts.

Regretfully, it is now time to close our momentary time warp. Newton's theories are again as they once were. Twenty-first century law may or may not be again as we have foreseen it.[302] It can only be hoped that the closing of this time warp is not coincidental with a closing of the

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decision on whether or not to grant the preliminary injunction. The difficulty is one of distinguishing the probabilistic analysis in a regular trial setting from the analysis in a preliminary injunction setting. In a trial, the evidence adduced must satisfy a criterion level of credibility. However, in the preliminary injunction setting, the probability is a way of weighing the irreparable harm of the parties. It must be conceded that if "preponderance of the evidence" is the burden of proof standard that the litigant has failed to meet in the hearing on the motion for preliminary injunction, then such a failing may be tantamount to not having a likelihood of succeeding on the merits. The insight afforded by the Posner Rule, however, is that even if a party has a small probability of succeeding on the merits, this fact alone should not lead to a denial of the preliminary injunction. This probability must be assessed in conjunction with the harm to which it is attached, and it is this resultant quantity that must be balanced against the expected harm to the opposing litigant.

Finally, it could be argued that, assuming *arguendo* that the merit probability is the correct probability to use, it is still true that the Posner Rule model is erroneous since the merit probability is inconsistently applied in the model. That is, the probability of the single event that one party will win should be the single probability used to discount the harms of both parties since these harms will flow from that single event.

This fifth argument is erroneous because it is based on a misunderstanding of statistical axioms. If an event is defined to be that outcome which is the only possible outcome of an experiment, it cannot be true as assumed by the fifth argument that the trial itself is the event. The trial has two possible outcomes: the plaintiff can win or the defendant can win. These are the relevant events. Further, under the statistical definition of the compliment of an event as that which occurs when the event itself does not occur, it follows that judgment for the plaintiff is a compliment of judgment for the defendant. Since the probability of the compliment of an event and the probability of the event itself must sum to one, this implies that the probability of judgment for the plaintiff plus the probability of judgment for the defendant must sum to one. Symbolically, this implies that if the probability of judgment for the plaintiff is P, the probability of judgment for the defendant must be 1-P.

In sum, the Posner Rule cannot be defeated with the argument that the merit probability is the inappropriate probability to use in the analysis.

301. *See supra* notes 74-77 and accompanying text.

302. As Heisenberg has pointed out by means of his Uncertainty Principle, observation is not necessarily passive. *See generally* D. BOHM, *supra* note 3, at 81-84 (discussing Heisenberg's Uncertainty or Indeterminancy Principle). It is indeed possible that this Article

reader's mind. Such an unhappy event harks back to a time when lawyers, judges and legal scholars "[concealed] the difficulties of the preliminary injunction decision under bland generalizations."[303] Now, hopefully "all of these matters [have] come into the light"[304] of the Posner Rule. It is indeed "easier to find and follow the injunctions of reason."[305] Welcome, reader (perhaps) to twenty-first century law.

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may have altered the reader's perception of the Posner Rule, the PRPHM, Law and Economics, or any combination thereof. Such change might affect the path of the law.

303. Leubsdorf, *supra* note 43, at 566.

304. *Id.*

305. *Id.*