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INTRODUCTION

The law on standards for granting or denying preliminary injunctions has never been a model of clarity, either verbal or otherwise.[1] The various courts of appeals have framed the standard in different ways[2] and have deviated significantly in the application of the relevant factors considered on a motion for preliminary relief.[3] Even within a single circuit,

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1. *See* 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, 25 (1984); Castles, *Interlocutory Injunctions in Flux: A Plea for Uniformity*, 34 BUS. LAW. 1359, 1359 (1979); Leubsdorf, *The Standard of Preliminary Injunctions*, 91 HARV. L. REV. 525, 526 (1978); *see also Developments in the Law: Injunctions*, 78 HARV. L. REV. 994, 1055 (1965).

2. For example, in the Seventh Circuit, plaintiffs must show (1) no adequate remedy at law and/or irreparable harm, (2) that the harm the plaintiff will suffer is greater than the harm the defendant will suffer if the injunction is granted, (3) that the plaintiff has a reasonable likelihood of success on the merits, and (4) that the injunction will not harm the public interest. *See* Schultz v. Frisby, 807 F.2d 1339, 1342 (7th Cir. 1986).

In the Sixth Circuit, however, the standard is whether (1) movant has shown a strong or substantial likelihood or probability of success on the merits, (2) whether movant has shown irreparable injury, (3) whether the preliminary injunction would harm third parties, and (4) whether the public interest would be served by issuing the permanent injunction. *See* Frisch's Restaurant, Inc. v. Shoney's Inc., 759 F.2d 1261, 1263 (6th Cir. 1985). *See also* 11 C. WRIGHT & A. MILLER, FEDERAL PRACTICE AND PROCEDURE § 2948, at 430 (1973) (setting forth a general standard).

3. Generally, there are three methods of applying these factors. The strictest, used in the Fifth and Eleventh Circuits, is the "sequential" approach, calling for the plaintiff to independently prove each factor beyond a threshold level. Therefore, if the plaintiff fails to prove only one of the factors, the request for relief will be denied. This approach stems from a policy of extreme caution where granting injunctive relief is considered "the exception rather than the rule." Mississippi Power & Light Co. v. United States Gas Pipe Line Co., 760 F.2d 618, 621 (5th Cir. 1985); *see also* United States v. Jefferson County, 720 F.2d 1511, 1519-20 (11th Cir. 1983); Canal Auth. v. Callaway, 489 F.2d 567, 572-76 (5th Cir. 1974).

Another more permissive approach, the "two alternative tests," is used in the Second Circuit. It requires the plaintiff, after first showing irreparable harm, to show either likelihood of success on the merits or "sufficiently serious questions going to the merits" and a balance of harms "tipping strongly in plaintiff's favor." *See* Hanson Trust PLC v. ML SCM Acquisition, Inc., 781 F.2d 264, 273 (2d Cir. 1986); Jack Kahn Music Co., Inc. v. Baldwin Piano & Organ Co., 604 F.2d 755, ;758 (2d Cir. 1979).

The third approach used by the First, Third, Fourth, Sixth, Seventh, Eighth, Tenth, and D.C. Circuits is the "balancing of factors" test. The courts using this method look at plaintiff's showing on each of the four factors and weigh each against the other. If one factor is extraordinarily strong, for example, it will compensate for a weaker showing of another factor. This test is popular because it requires judges to apply all of the four factors to the analysis which promotes greater caution. Yet, unlike the sequential test, it allows the judge to use greater discretion by balancing the relative

the formulations of the applicable criteria have differed substantially.[4] The result, as one commentator termed it, is "a dizzying diversity of formulations."[5] Another has characterized the situation as one where "the practitioner is doomed to frustration."[6]

The last thing that seemed warranted was yet another attempt at formulation of the standard. But in a series of recent decisions,[7] the Court of Appeals for the Seventh Circuit has added its contribution to the confusion and frustration about the appropriate substantive standard for the issuance of preliminary injunctions. It has even proposed an algebraic formula, which even fewer practicing lawyers will understand.[8] In the process, the court has also engendered a new debate about the nature of appellate review in preliminary injunction suits.[9]

THE SEVENTH CIRCUIT IN SEARCH OF THE STANDARD

The most noteworthy of the new line of Seventh Circuit cases, at least the one that has attracted the most attention, is *American Hospital*

strengths and weaknesses of plaintiff's case. *See generally* Black, *supra* note 1, at 26-43 (discussing the three approaches).

4. For example, in the Seventh Circuit, compare the four traditional factors listed in *Schultz*, 807 F.2d at 1342 with EEOC v. City of Janesville, 630 F.2d 1254, 1259 (7th Cir. 1980) adding a fifth requirement that plaintiff show that the injunction will result in the return to the status quo, and with Omega Satellite Prod. Co. v. City of Indianapolis, 694 F.2d 119 (7th Cir. 1982) proposing a different standard altogether: "the decision to grant or deny a preliminary injunction involves a comparison of the probabilities and consequences (public as well as private), of two types of error: granting an injunction to an undeserving plaintiff, that is, one who will not be able to establish a legal right to an injunction when the case is tried in full . . . , and denying an injunction to a deserving plaintiff." *Id.* at 123. The Seventh Circuit cases are discussed in Roland Mach. Co. v. Dresser Indus., 749 F.2d 380, 382-86 (7th Cir. 1984).

5. Leubsdorf, *supra* note 1, at 526.

6. McLaughlin & Tallon, *Preliminary Injunction Relief in the Federal Courts* in I. ALI-ABA RESOURCE MATERIALS, CIVIL PRACTICE AND LITIGATION IN FEDERAL AND STATE COURTS 877, at 879 (4th ed. 1987).

7. *See* Centurion Reinsurance Co. v. Singer, 810 F.2d 140 (7th Cir. 1987); Schultz v. Frisby, 807 F.2d 1339 (7th Cir. 1986); Illinois Corporate Travel, Inc. v. American Airlines, Inc., 806 F.2d 722 (7th Cir. 1986); Ball Memorial Hosp., Inc. v. Mutual Hosp. Ins., Inc., 784 F.2d 1325 (7th Cir. 1986); Brunswick Corp. v. Jones, 784 F.2d 271 (7th Cir. 1986); Lawson Prods., Inc., v. Avnet, Inc., 782 F.2d 1429 (7th Cir. 1986); American Hosp. Supply Corp. v. Hospital Prods. Ltd., 780 F.2d 589 (7th Cir. 1986); Roland Mach. Co. v. Dresser Indus., 749 F.2d 380 (7th Cir. 1984).

8. In *American Hosp. Supply*, Judge Posner instructed:

> grant the preliminary injunction if but only if $P \times H_p > (1 - P) \times H_d$, or in other words, only if the harm to the plaintiff if the injunction is denied multiplied by the probability that the denial would be an error (that the plaintiff, in other words, will win at trial), exceeds the harm to the defendant if the injunction is granted, multiplied by the probability that granting the injunction would be an error.

780 F.2d at 593.

9. *See Centurion Reinsurance Co.*, 810 F.2d at 143; Proimos v. Fair Automotive Repair, Inc., 808 F.2d 1273, 1275 (7th Cir. 1987); *Illinois Corp. Travel*, 806 F.2d at 730 (Flaum, J., concurring); *Brunswick Corp.*, 784 F.2d at 274-75 n.2; *Lawson Prods.*, 782 F.2d at 1436-39; *American Hosp. Supply*, 780 F.2d at 594; *American Hosp. Supply*, 780 F.2d at 602 (Swygert, J., dissenting); *Roland Mach.*, 749 F.2d at 388-91; *Roland Mach.*, 749 F.2d at 396-400 (Swygert, J., dissenting).

Supply Corp. v. Hospital Products, Ltd.[10] In *American Hospital*, Judge Posner, always equal to the task of introducing numbers where words will usually do,[11] articulated a standard first proposed by Professor Leubsdorf some years earlier.[12] According to this standard, a preliminary injunction should be granted "if but only if $P \times H_p > (1 - P) \times H_d$."[13] Translating for those of us who were never very good at symbolic logic, Judge Posner explained that an injunction should issue

> only if the harm to the plaintiff if the injunction is denied, multiplied by the probability that the denial would be an error (that the plaintiff, in other words, will win at trial), exceeds the harm to the defendant if the injunction is granted, multiplied by the probability that granting the injunction would be an error.[14]

Explaining the formula as the one which best minimizes the cost of error and characterizing it as the "procedural counterpart" to Judge Learned Hand's negligence formula,[15] Judge Posner insisted that he had not of-

10. 780 F.2d 589 (7th Cir. 1986).

11. See Posner's interpretation of the Hand negligence formula in United States Fidelity & Guar. Co. v. Jadranska Slobodna Plovidba, 683 F.2d 1022, 1026 (7th Cir. 1982); *See generally* Landes & Posner, *The Positive Economic Theory of Tort Law*, 15 GA. L. REV. 851, 865-68 (1981); Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29, 32-33 (1972); Posner, *Law and the Theory of Finance: Some Intersections*, 54 GEO. WASH. L. REV. 159 (1986); Posner, *The Summary Jury Trial and Other Methods Alternative Dispute Resolution: Some Cautionary Observations*, 53 U. CHI. L. REV. 366, 368-69 (1986).

12. Leubsdorf, *supra* note 1, at 541-49. After illustrating the confused history of the standard for deciding whether to grant or deny a preliminary injunction, Professor Leubsdorf suggests a model that aims "to minimize the probable irreparable loss of rights caused by error incident to hasty decision." Leubsdorf's model is the result of investigating the harm an erroneous decision might incur, and trying to minimize that harm. This investigation requires two inquiries: first, it should appraise plaintiff's likelihood of success on the merits; second, it should "assess the probable loss of rights to each party if it acts on a view of the merits that proves to be erroneous." Putting the two together, Leubsdorf writes that the court

> in theory, should assess the probable irreparable loss of rights an injunction would cause by multiplying the probability that the defendant will prevail by the amount of the irreparable loss that the defendant would suffer if enjoined from exercising what turns out to be his legal right. It should then make a similar calculation of the probable irreparable loss of rights to the plaintiff from denying the injunction. Whichever course promises the smaller probable loss should be adopted.

Id. at 542 (footnotes omitted).

Leubsdorf offers this analysis as a model knowing that reducing factors to hard figures is "impractical." Nevertheless, he offers it as an alternative to the "intuitive approach" that judges often use and stresses that statistical analyses "are familiar tools in decisionmaking theory." *Id.* at 543. The remainder of the Leubsdorf article holds the model up in comparison to other approaches to preliminary injunctions. "Even were its application impossible," he writes, "it provides a coherent analysis that points out the merits of some popular formulas and the defects of others." *Id.* at 544.

13. *American Hosp. Supply*, 780 F.2d at 593.

14. *Id.*

15. *Id.* (citing United States v. Carroll Towing Co., 159 F.2d 169, 173 (2d Ct. 1947) (where Judge Hand's negligence formula first appeared)). In the formula, liability depends on whether $B < PL$, where P is the probability the event potentially causing harm will occur, L is the gravity of the resulting injury, and B is the burden of adequate precautions. *See also* Posner, *A Theory of Negligence*, *supra* note 11, at 32-33; Brown, *Toward an Economic Theory of Liability*, 2 J. LEGAL STUD., 323, 332-35 (1973).

fered any new legal standard but was merely assisting analysis by "distilling the usual four or five factors"[16] that are always taken into account by courts in deciding whether or not to grant a preliminary injunction.

An analysis of *American Hospital*, as well as the Seventh Circuit's other case forays into the land of preliminary injunctions gives rise to three main observations: first, that there is general difficulty in trying to formulate the proper standard to guide district courts in their exercise of the formidable power to issue preliminary injunctions; second, that attempts to broaden the appellate court's scrutiny of the district court's exercise of its discretion over these matters are misguided; and third, that the introduction of Judge Posner's mathematical formula for granting or denying preliminary injunctions does not clarify the standard and emerges as a disguised effort to extend the heavy hand of appellate review.

THE PRIOR SEVENTH CIRCUIT STANDARD

Judge Posner premised his claim that the formula had not changed preliminary injunction analysis by pointing to his earlier opinion in *Roland Machinery Co. v. Dresser Industries*[17] in which he set forth the verbal counterpart to the algebraic formula. Judge Posner's linkage between *Roland Machinery* and *American Hospital* may well be accurate, but *Roland Machinery* itself may have marked a departure from the approach that had previously prevailed in the circuit. In *Roland Machinery*, Judge Posner collected and analyzed the relevant Seventh Circuit authority on the question of what standard was in vogue in the circuit and found substantial inconsistencies:

> Some of our cases imply that although each of the four factors must be considered, the plaintiff need not prevail on all four (citing cases). But other cases say that a preliminary injunction is an extraordinary remedy which is not available unless plaintiffs carry their burden of persuasion as to all of the [four] prerequisites.[18]

On the issue of success, Judge Posner also noted that the cases alternated between requiring the plaintiff to show a "reasonable likelihood of success," "some likelihood of success," and "contentions on the merits . . . so serious, substantial, difficult and doubtful, as to make them a fair ground for litigation and thus for more deliberate investigation."[19]

Notwithstanding the admitted confusion in these cases, Judge Pos-

16. *American Hosp. Supply*, 780 F.2d at 593.
17. 749 F.2d 380.
18. *Id.* at 383 (citations omitted).
19. *Id.* at 384.

ner in *Roland Machinery* suggested that the differences were ones of phraseology and were more apparent than real. Moreover, he claimed that the circuits were virtually uniform in the list of factors to be evaluated in deciding whether or not to issue a preliminary injunction: whether plaintiff has suffered and will continue to suffer irreparable harm, whether plaintiff's harm outweighs that which defendant will suffer if the injunction is granted, whether plaintiff has exhibited a likelihood of success on the merits, and the impact of the decision on third parties.[20] However, Judge Posner failed to acknowledge that there were substantial deviations in the circuits as to how these factors are analyzed. Instead, he indicated the proper approach was to use a "sliding scale" as a means of balancing the various factors and that "the more likely the plaintiff is to win, the less heavily need the balance of harms weigh in his favor; the less likely he is to win, the more need it weigh in his favor."[21]

Although not the only methodology of balancing the factors, the *Roland Machinery* approach does comport with that followed in a majority of the circuits.[22] Nonetheless, it may have marked a departure from prior Seventh Circuit law. Generally, there have been three distinct approaches to analyzing the agreed-upon factors relevant in preliminary injunction cases. At one end of the scale is the "sequential approach", where plaintiff must independently prove each of the four traditional factors beyond a certain threshold level.[23] Because each of the elements must be met individually, the standard for preliminary relief is relatively strict. At the other end of the spectrum is the rule followed in the Second Circuit,[24] where the plaintiff must show irreparable harm and then "either likelihood of success on the merits or sufficiently serious questions going to the merits to make them a fair ground for litigation and a balance of hardships tipping decidedly toward the party requesting the preliminary relief."[25] This standard offers a more permissive approach to

20. *Id.* at 386-88.

21. *Id.* at 387.

22. *Id.*; *see also* Black, *supra* note 1, at 30.

23. *See* Black, *supra* note 1, at 26-29.

24. *See* Hanson Trust PLC v. ML SCM Acquisition, Inc., 781 F.2d 264, 283 (2d Cir. 1986); Jack Kahn Music Co., Inc. v. Baldwin Piano & Organ Co., 604 F.2d 755, 758 (2d Cir. 1979) (for the circuit's current standard).

25. The Second Circuit's "two alternative tests" approach was originally much more permissive than it is today. The method was initiated in Sonesta Int'l Hotels Corp. v. Wellington Assocs., 483 F.2d 247 (2d Cir. 1973). To grant injunctive relief, that court required plaintiff to prove either "probability of success and possible irreparable harm, or sufficiently serious questions going to the merits to make them a fair ground for litigation and a balance of hardships tipping decidedly toward the party requesting the preliminary injunction." *Id.* Since *Sonesta*, however, the test has been revised due to the increasing emphasis on the need to show irreparable harm. Thus today, Second Circuit plaintiffs must show irreparable harm first, and then "either likelihood of success on the merits or sufficiently serious questions going to the merits to make them a fair ground for litigation

the issuance of a preliminary injunction, since there is no need to show a balance of harms in plaintiff's favor at all if irreparable harm and likelihood of success on the merits have been established.

Midway between these two approaches appears to be the "sliding scale" approach, which Judge Posner in *Roland Machinery* argued would best minimize the risk of error in preliminary injunction decisions. He explained that since the "cost" of erroneously denying an injunction increases with the magnitude of the harm the plaintiff will incur from the denial and the probability that the plaintiff will eventually win at trial, and the "cost" of erroneously granting an injunction increases with the harm the defendant will incur from the grant and defendant's probability of eventually prevailing, these elements should be measured against one another.[26]

The risk of error is obviously an important aspect of the preliminary injunction decision, and attention to this factor may well justify the "sliding scale" approach adopted by the Seventh Circuit in *Roland Machinery*. To this extent, whether *Roland Machinery* clarified prior confusion in the circuit or changed the standard altogether is of footnote significance.[27] Indeed, the attention paid to *Roland Machinery* and subsequently to *American Hospital* by other panels in the circuit had little to do with the standard itself, although it bears mentioning here that the precise functional relationship between probability of success and magnitude of harm as reflected in the formula was not necessarily spelled out in *Roland Machinery*.[28] The more significant agenda in both *Roland Machinery* and *American Hospital* relates to the role designated for the appellate court on review of the grant or denial of a preliminary injunction.

and a balance of hardships tipping decidedly toward the party requesting the preliminary relief." *Hanson Trust*, 781 F.2d at 264 (citing *Jack Kahn Music*, 604 F.2d at 758). *See also* Black, *supra* note 1, at 41-42 (discussing the movement away from *Sonesta*).

26. *American Hosp. Supply*, 780 F.2d at 593-94.

27. Before *Roland Mach.* the Seventh Circuit was known to use the sequential test, (that used by the Fifth and Eleventh Circuits) as the standard for preliminary injunctions. *See* Black, *supra* note 1, at 29 n.153. In McDermott, Inc. v. Wheelabrator Frye, Inc., for example, the court vacated an injunction because plaintiff failed to demonstrate the likelihood of success, without looking at any of the other three factors. 649 F.2d 489, 492-93 (7th Cir. 1980). In Jones v. Franzen, the court reversed a lower court injunction because plaintiffs did not show that the balance of harms was in their favor. 697 F.2d 801, 804 (7th Cir. 1983). *See also* Technical Publishing Co. v. Lebhar-Friedman, Inc., 729 F.2d 1136, 1139 (7th Cir. 1984); Shaffer v. Globe Protection, Inc., 721 F.2d 1121, 1123-25 (7th Cir. 1983); Singer Co. v. P.R. Mallory & Co., 671 F.2d 232, 234-36 (7th Cir. 1982); *but see Roland Mach.*, 749 F.2d at 383 (for a list of earlier cases that follow different standards).

28. *See infra* text accompanying notes 125-27.

APPELLATE REVIEW IN *ROLAND MACHINERY* AND *AMERICAN HOSPITAL*

The claim for a broader and more vigorous appellate review was first made in words by Judge Posner in *Roland Machinery*. Acknowledging that the standard articulated by the Supreme Court for review of preliminary injunctions was "abuse of discretion," Judge Posner suggested that the standard itself may not have been at issue in any of the Supreme Court cases articulating the standard[29] and that the "abuse of discretion standard seems to have been assumed rather than examined."[30] Judge Posner argued that preliminary injunctions are supposed to be granted or denied in accordance with a standard and not as a matter of judicial grace. He reasoned that since the district court applies a "legal standard to a state of facts," its determinations can be considered "factfindings for purposes of the clearly erroneous standard."[31] Acknowledging that balancing the various factors to be taken into account in preliminary injunction cases "invites an exercise of judgment by the district judge"[32] to which the court of appeals should defer even more broadly than when applying a substantive standard, Judge Posner nonetheless proposes something more than the limited abuse of discretion scope of review in use for other kinds of case-specific issues. Thus, Judge Posner distinguishes preliminary injunction cases from other categories of cases which invoke the abuse of discretion standard, such as criminal sentences and rulings on discovery and evidentiary questions, where the issues are not based on a standard and are not susceptible of uniform treatment.[33]

Disclaiming the necessity to be "any more precise than this about the meaning of 'abuse of discretion' in the context of appellate review of orders granting or denying preliminary injunctions,"[34] Judge Posner

29. *See* Doran v. Salem Inn, Inc., 422 U.S. 922, 932 (1974); Brown v. Chote, 411 U.S. 452, 457 (1973).

30. *Roland Mach.*, 749 F.2d at 384.

31. *Id.* at 385 (citing 9 C. WRIGHT & A. MILLER, FEDERAL PRACTICE AND PROCEDURE §§ 2580-2590 (1971). Such exercises in characterization and classification are the classic means of manipulating the scope of appellate power. *See* Childress, *"Clearly Erroneous:" Judicial Review Over District Judges in the Eighth Circuit and Beyond*, 51 MO. L. REV. 93, 131-37 (1986); Louis, *Allocating Adjudicative Decision Making Authority Between the Trial and Appellate Levels: A Unified View of the Scope of Review, the Judge/Jury Question and Procedural Discretion*, 64 N.C.L. REV. 993, 1017-38 (1986).

32. *Roland Mach.*, 749 F.2d at 385.

33. *Id.* at 389. Compare Judge Friendly's observation in Noonan v. Cunard S.S. Co., 375 F.2d 69, 71 (2d Cir. 1967) of the reasons for appellate deference to the trial judge's exercise of discretion: "his observation of the witnesses, his superior opportunity to get the 'feel of the case' . . . and the impracticality of framing a rule of decision where many disparate factors must be weighed."

34. 749 F.2d at 390.

rephrases the appropriate appellate inquiry to be whether the district judge "exceeded the bounds of permissible choice"[35] in the circumstances of the case. In *Roland Machinery*, the district court had granted a preliminary injunction to require the defendant manufacturer to continue supplying the plaintiff dealer with its line of construction equipment. Although the dealership agreement provided that it could be terminated by either party with cause on ninety days notice, the plaintiff claimed that the agreement had been unlawfully terminated because it was distributing a competing line of construction equipment and alleged a violation of the antitrust laws. In granting the injunction, the district judge found a likelihood of irreparable harm to the plaintiff in that the plaintiff would probably go out of business without the injunction. However, the district court also took into account defendant Dresser's contention that the plaintiff was likely to promote its competitor's line rather than Dresser's if the injunction were granted, thus subjecting Dresser to irreparable harm. The judge therefore granted the preliminary injunction but conditioned it on Roland's maintaining the approximate market share it had currently obtained for the defendant's products.

In reviewing the district court's decision in accordance with its newly formulated standard of review, the *Roland Machinery* majority disagreed with the district court's assessment of harms. First, it found that the judge erred in too readily assuming that the plaintiff would be likely to go out of business in the absence of an injunction. Second, the panel criticized the district judge in failing to consider the impact on competition of the provision in the injunction that froze Dresser's market share under the injunction, finding that the court had made an error of law in imposing the condition. The court then assumed for itself that there was now no clear balance of hardships that weighed in the plaintiff's favor. Proceeding to apply the "sliding scale" formula, the majority found that the plaintiff was now required to show that it was more likely than not to win. After a lengthy discussion of the competitive and anticompetitive effects of exclusive dealing, the panel determined that the plaintiff had "failed to show that it is more likely than not to prevail at the trial on the merits,"[36] and reversed the grant of the injunction.

One member of the *Roland Machinery* panel, Judge Swygert, dissented from the majority's reversal of the injunction. Commending the majority for its "effort to delineate a coherent standard for the grant of

35. *Id.*
36. *Id.* at 395.

preliminary injunctions"[37] and endorsing the "sliding scale" approach, Judge Swygert faulted the majority for its attempt at wholesale revision of the appellate standard in the law of preliminary injunctions. Judge Swygert argued that despite the reliance on a so-called standard, the balancing and flexibility that are necessary for determination of the issuance of the injunction must rest with the district court, not the appellate court. He stressed the need to have the district judge tailor relief to the individual circumstances of the case and the superior opportunity of the district court to "get the feel of the case." Indeed, on the specific facts of *Roland Machinery*, Judge Swygert illustrated how the majority's revision of appellate review enabled it to usurp for itself the ultimate power of decision in a preliminary injunction case. Even assuming the appellate court was correct in concluding that the district court overestimated the likelihood that the plaintiff would go out of business, Judge Swygert emphasized that the estimate of harms between the plaintiff and the defendant in this case was still a close one, and not necessarily one that the appellate court could make better than the district judge. The balancing undertaken by the majority merely substituted its judgment for that of the district court and was an inappropriate exercise of appellate review.

Judge Posner's translation of the *Roland Machinery* standard into an algebraic formulation in *American Hospital* reinforced the agenda of a broader role for appellate courts in preliminary injunction cases. Without addressing for the moment whether the formula accurately reflects the *Roland Machinery* test of when an injunction should be granted, or whether the formula has introduced its own set of functional equivalents,[38] the use of a formula certainly enhances the claim that injunctions are issued according to a measurable standard, which should then be capable of appellate review. It carries the sense that the decision to issue a preliminary injunction has precision and is more than a mere discretionary judgment. If decisions to grant or deny preliminary injunctions are susceptible of measurement by a formula, those determinations appear closer to a legal rule or standard capable of *de novo* review.[39]

At first glance, of course, the Seventh Circuit's action in *American Hospital*—which was to affirm the district court's grant of the injunction—does not seem to point to an enhanced role for the appellate court. Indeed, curiously, that it is Judge Swygert—who argued against the heightened standard of review in *Roland Machinery*—who urges that the

37. *Id.* at 396 (Swygert, J., dissenting).

38. *See infra* text accompanying notes 125-27.

39. 749 F.2d at 388-89.

district court's grant of the injunction be reversed. However, a careful look at the majority and dissent in *American Hospital* reveals that both Judge Posner and Judge Swygert have remained faithful to the positions they articulated in *Roland Machinery*.

In *American Hospital*, the district court had granted a preliminary injunction to plaintiff American Hospital Supply, the largest distributor of hospital supplies in the United States, forcing its supplier Hospital Products to continue its contract with the plaintiff. Hospital Products, a substantially smaller business which produces surgical stapling systems, had cancelled the contract despite an automatic renewal clause in the contract that became operative in the absence of a notice to terminate by the distributor. Hospital Products claimed that American Hospital had engaged in various conduct constituting a repudiation of the distribution agreement and thus treated the contract as terminated.

The district court had issued the injunction because it found that the plaintiff had no adequate remedy at law and would suffer irreparable harm because the defendants were on the brink of insolvency and the losses, including that of the plaintiff's good will, were not immediately calculable. The court also found that the plaintiff had "some likelihood of success on the merits." In applying the "sliding scale" approach enunciated in *Roland Machinery*, the district judge then engaged in balancing the harm between the parties and measuring it against the parties' probabilities of success. The district court noted, but discounted, the harm to the defendant from the insolvency the defendant claimed would be induced if an injunction were issued. It found that the plaintiff's loss of market and good will exceeded the potential harm to the defendant and that the plaintiff, unlike the defendant, had more than enough resources to compensate the defendant by way of damages should the defendants ultimately prevail.

The district court conceded that each of the parties accused the other of breaches and that it was "unclear who will prevail."[40] However, having found the balance of harms strongly in plaintiff's favor, the court observed that the plaintiff need only show that it have some likelihood of success on the merits. Finding this requirement met, the district court granted the injunction.

Writing on appeal, Judge Posner continued on the path he had begun to chart in *Roland Machinery*. First, he reiterated the standard for the grant of a preliminary injunction established in *Roland Machinery*

40. *American Hosp. Supply*, 780 F.2d at 613 (Appendix).

and set it forth in algebraic terms.[41] Second, while paying lip service to the "abuse of discretion standard," he indicated, as he did in *Roland Machinery*, that an appellate court should give some but not too much deference to the district court's determination.[42] Interestingly, the panel (Judge Posner and Judge Pell in the majority and Judge Swygert in dissent) was unanimous in finding that the district court had erred in failing to give sufficient consideration to the effect of a preliminary injunction in precipitating the insolvency of the defendant. The majority then itself evaluated the balance of harms, with the defendant's insolvency now added into the equation. Concluding that the district court was "on solid ground"[43] in finding that the plaintiff had some likelihood of success, the majority stated that such a finding was sufficient for the issuance of the injunction. Even with the defendant's insolvency factored into the assessment of harms, the majority was not persuaded that the district court had erred in concluding that the balance of harm sloped in favor of the plaintiff.[44] The appellate court applied the formula and found that a weighting of the factors—harm to the parties and probability of success—justified the injunction.

In a bristling dissent, Judge Swygert criticized the majority for its transformation of the usual appellate role. In the course of his opinion, he also described the formula as a "homeric siren,"[45] offering a "seductive but deceptive security,"[46] which in the end he argued was misapplied. On the central debate over what is the appropriate standard of appellate review, Judge Swygert found the majority's affirmance of the injunction "inexplicable"[47] under these circumstances where the entire panel agreed that the district court had ignored a critical factor in the balance of harm equation: the impact of a preliminary injunction on the defendant Hospital Product's insolvency and the importance of that issue in calculating the balance of harms.

In Judge Swygert's view, the district court's failure to consider this factor was a "crucial aspect" of the district court's decision to grant the preliminary injunction, and amounted to a clear error of law. Review of the district court's action on this ground was the classic and appropriate standard for review of the district court's issuance of the preliminary injunction and could only justify reversal; affirmance of the injunction by

41. *Id.* at 593.
42. *Id.* at 594-95.
43. *Id.* at 599.
44. *Id.* at 598.
45. *Id.* at 605 (Swygert, J., dissenting).
46. *Id.* at 595-96.
47. *Id.* at 604.

the *American Hospital* majority was yet another example of an unjustified appellate role. The majority itself articulated a new set of justifications that would now support the grant of the injunction. Thus, they speculated that without the injunction, the plaintiff might suffer a series of additional harms, such as potential loss of good will, misinterpretation of the termination by plaintiff's customers, and potential jeopardy to plaintiff's investment dealers who might not want to get enmeshed in a legal dispute.[48] In effect, they found that according to their own assessment and evaluation, an injunction should issue—not that the district court had properly granted one. Judge Swygert argued that not only was there no support in the record for these "imagined harms,"[49] but also that the majority had inappropriately moved from simply reviewing the findings of the district court to constructing new findings of fact as they saw fit.[50]

To the extent that the algebraic formula was an incentive for the appellate court to offer its own assessments of probabilities, its use has aggrandized appellate power. Of course, Judge Swygert, although no fan of the mathematical version, faults the majority for failing to apply the formula's sliding scale premise, which calls for the plaintiff to show a probability of winning commensurate with the degree of parity of the harm.[51] After factoring in the defendant's insolvency, Judge Swygert claimed that the record in *American Hospital* only reflected a parity of harms, and thus the plaintiff should have to "show that it is more likely than not to win."[52] But the majority, after inconclusively discussing the merits of the charges and counter-charges of wrongful termination and anticipatory breach, could only characterize the dispute as "legal badminton."[53] That determination might have supported the district court's conclusion that the plaintiff had shown "some likelihood of success," but, according to Judge Swygert, since there was no clear balance of hardships in favor of the injunction, a more substantial probability of winning was required.[54]

As noted above, the majority was able to approve the injunction because it reassessed for itself the parity of harms, and, despite the consensus that the defendant's insolvency had been overlooked, the majority determined anew that the balance of harms strongly favored the plaintiff. Ironically, the court could have more closely examined the conduct of

48. *Id.*
49. *Id.* at 610.
50. *Id.*
51. *Id.* at 607.
52. *Id.* at 598.
53. *Id.* at 599.
54. *Id.* at 607.

the parties to determine whether the distributorship agreement had been breached, since this was a legal question subject to full-scale review. However, it refrained from attention to that task and instead intruded on a *de novo* basis into the area of harms balancing, where traditionally deference is required.

SUBSEQUENT RESPONSES IN THE CIRCUIT

The reformulation of the standard for the issuance of preliminary injunctions set forth in *Roland Machinery* and *American Hospital* and the revisionist standard of appellate review adopted in those cases did not go unnoticed by other members of the court. Although the "sliding scale" approach as the standard for issuance of injunctions has generally met with favor, there has been little enthusiasm for conceptualizing its content in an algebraic formula. In addition, several judges expressly took issue with any express or disguised attempts to broaden the scope of appellate review in preliminary injunction cases.

In one of the first cases to discuss both the formula and the "revised" appellate standard, *Lawson Products, Inc. v. Avnet, Inc.*,[55] a unanimous panel affirmed a district court denial of a preliminary injunction and expressly invoked a limited scope of appellate review. Judge Flaum, writing for the court, did offer a weak endorsement of the Posner formula as it pertained to the standard for issuing preliminary injunctions, acknowledging that it provided an "effective shorthand method of expressing . . . the important relationship between the likelihood of success on the merits and the degree of the harm to the non-prevailing party."[56] At the same time, however, he emphasized the danger of creating a false impression that there could be a single correct result and highlighted the inconsistency between a mathematical formula and the flexibility and discretion that should be entrusted to the district court in a preliminary injunction case.[57] Turning specially to that discretion and the appropriate standard of review to be exercised by the appellate court, the *Lawson* panel insisted that deference must be given to the district judge's weighing and balancing of the equities,[58] and reaffirmed that the standard of review of the grant or denial of a preliminary injunction is abuse of discretion. Interestingly, *Lawson* actually presented a stronger case for invocation of a heightened scope of review than either *Roland Machinery* or *American Hospital* since the case was submitted on affidavits without a

55. 782 F.2d 1429 (7th Cir. 1986).
56. *Id.* at 1439.
57. *Id.* at 1439-40.
58. *Id.* at 1434.

hearing and there were no issues of credibility to detract from a *de novo* review of the record.[59] However, in affirming the denial of the *Lawson* plaintiff's attempt to enjoin one of its competitors from engaging in activities to lure away sales people and interfere with customer relationships, this Seventh Circuit panel reaffirmed the traditional abuse of discretion standard of appellate review.[60]

A different Seventh Circuit panel's affirmance of a preliminary injunction denial in *Ball Memorial Hospital v. Mutual Hospital Insurance Co.*[61] provided another opportunity for explicit commentary on the standard for issuance of injunctions and the appropriate scope of appellate review. In *Ball Memorial*, the court affirmed the district court's denial of plaintiff's request for a preliminary injunction to prevent defendant providers of health care financing from adding a preferred provider plan. Judge Easterbrook, writing for the court, cited *Roland Machinery* and *American Hospital* and referred to the "costs" of issuing the injunction. Judge Easterbrook also discussed at length various "public interest" costs in terms of pro and anti-competitive effects on the market which he believed justified the district court decision.[62] This independent analysis may have been the catalyst for the special concurrence by Senior District

59. *Id.* at 1434-36. Recently, however, in Anderson v. City of Bessemer City, 105 S. Ct. 1504 (1985), the Supreme Court refused to relax the "clearly erroneous" test of FED. R. CIV. P. 52(a) to a trial judge's findings of historical fact that did not depend on assessments of credibility. The Court reasoned that "duplication of the trial judge's efforts in the court of appeals would very likely contribute only negligibly to the accuracy of the fact determination at a huge cost in diversion of judicial resources." *Id.* at 1512. *See also* Pullman-Standard v. Swint, 456 U.S. 273, 287 (1982); 1985 amendment to FED. R. CIV. P. 52(a) (expressly adopting the "clearly erroneous test" to findings of fact "whether based on oral or documentary evidence.").

60. *Id.* at 1437.

61. 784 F.2d 1325 (7th Cir. 1986).

62. In *American Hosp. Supply*, the "public interest disserved" factor of earlier opinions was not mentioned in the decision until the very end when Posner addressed Hospital Product's last argument that the injunction is against the public interest. "All such an argument means," Posner writes, "is that the injunction has effects on nonparties. . . ." 780 F.2d at 601. In terms of the formula as applied in *American Hosp. Supply*, Posner explains that harm to nonparties is part of the harm to H_d.

Despite *American Hosp. Supply's* cursory treatment of the public interest argument, the public interest is given much greater weight in the sliding scale analysis in other Seventh Circuit cases involving constitutional rights. Darryl H. v. Coler, 801 F.2d 893 (7th Cir. 1986), a case where plaintiffs asserted fourth and fourteenth amendment rights in an effort to enjoin a state agency from conducting physical examinations on possible child abuse victims, is one example. The court says that the "wild card" is the public interest which "takes on special importance in constitutional cases where the outcome will undoubtedly affect countless persons." *Id.* at 898.

In accordance with the weighting described in *American Hosp. Supply*, the public interest figures into the harm factor of the defendant in *Darryl H.* The court considers the state agency to be the "protector of the concerns of human life and safety." *Id.* at 894. However, in ACLU v. City of St. Charles, 794 F.2d 265 (7th Cir. 1986), *cert. denied*, 107 S. Ct. 458 (1986), the public interest factor tips the balance of harms in favor of plaintiffs who assert a violation of the establishment clause, but cannot prove irreparable harm to themselves. Posner writes, "the trivial inconvenience suffered by one of the plaintiffs is only a small fraction of the potential harm inflicted by the defend-

Judge Will sitting by designation. Judge Will endorsed the court's opinion because it was "consistent with the traditional standards for granting or denying a preliminary injunction";[63] in addition, he allied himself with the *Lawson* court's reading of *Roland Machinery* and *American Hospital* as leaving the "traditionally flexible and discretionary responsibilities"[64] of preliminary injunction matters with the district judge. Finally, Judge Will opined that the use of the *American Hospital* formula was an unnecessary diversion. Complimenting the district judge on the thoughtful consideration of each of the traditional four factors for issuance of the injunction, Judge Will observed that the quality of justice would hardly have been improved had the district court invoked the formula and its use would only have diverted the court from the equitable tasks at hand. Cautioning that "if it ain't broke, don't fix it,"[65] Judge Will emphasized that the traditional standards had functioned well for the district judge in this case. He expressed the hope that the opinion in *Ball Memorial*, along with Judge Flaum's opinion in *Lawson*, had buried "with kindness"[66] the legal revisionism undertaken in *Roland Machinery* and *American Hospital*.

Other appellate cases in the circuit have seemed content with the *Roland Machinery-American Hospital* "sliding scale" approach but have not attempted to invoke the algebraic counterpart or to introduce any numerical assessments.[67] Moreover, there is evidence of a slight retreat

ant's alleged violation of the establishment clause." Id. at 275. *See generally* Shreve, *Federal Injunctions and the Public Interest*, 51 GEO. WASH. L. REV. 382 (1983).

It is also of interest to note that preliminary injunction cases involving constitutional issues are also distinguishable, aside from the public interest factor, in that they appear to produce a more vigorous appellate review. This is probably because in considering the likelihood of success on the merits factor, appellate judges apply well-established legal standards derived from constitutional law which they have the right to review *de novo*. *Cf. Brunswick Corp.*, 784 F.2d at 274 n.2. Therefore, in both *Darryl H.* and *City of St. Charles*, the appellate judge writes a very detailed discussion of the merits issue. *See also* Schultz v. Frisby, 807 F.2d 1339 (7th Cir. 1986).

63. 784 F.2d at 1346 (Will, J., concurring).

64. *Id.* at 1346 (quoting *Lawson*, 782 F.2d at 595).

65. *Id.*

66. *Id.*

67. To date, no numbers have been used in appellate preliminary injunction decisions after *American Hosp. Supply*. In fact, with the exception of *Lawson*, the formula in its algebraic language has not yet to be repeated except in a footnote distinguishing it from the accepted traditional standard. *See Brunswick Corp.*, 784 F.2d at 274 n.1.

Similarly, no numbers have been used at the district court level with the exception of one case that analyzed the likelihood of success factor in terms of percentages. In MidCon Corp. v. Freeport McMoran, Inc., 625 F. Supp. 1475 (N.D. Ill. 1986), the court said that if the harms balanced out, then "under Judge Posner's formula, plaintiff must show 'a better than 50 percent change of winning the case.' " *Id.* at 1479-80.

Most other district court judges, however, have either ignored the formula or have distinguished it as did Judge Eschbach in *Brunswick* and Judge Flaum in *Lawson*. In Nagy v. Custom Hoists, Inc., for example, the court said that Judge Posner's formula does not require "impossible mathematical precision" but rather is "an attempt to clarify conceptually the district court's technique in deciding

from Judge Posner's claim for a heightened standard of review. For example, in *Dynamics Corp. of America v. CTS Corp.*,[68] a takeover case in which the panel unanimously affirmed the district court's denial of an injunction, Judge Posner himself, though using the "sliding scale" analysis to determine the propriety of whether an injunction should issue, never mentioned the *American Hospital* "formula." Moreover, although this appellate panel did assess the balance of harms without any express reference to the balancing undertaken by the district judge, it found that the "harms are very difficult to quantify and it seems best to treat them as offsetting."[69] On the question of the likelihood of success, the panel did make a *de novo* judgment, but this review was on the merits of the legal claim where the appellate court's role is very much like that in an appeal from a final judgment and where deference should not be required.[70]

A similar tack was taken by Judge Eschbach, writing for a unanimous panel in *Brunswick Corp. v. Jones*,[71] where the court affirmed a grant of preliminary relief to enforce a covenant not to compete. The court appeared to defer significantly to the district court's assessment of the harms, which it had said weighed heavily in the plaintiff's favor. The appellate court noted that as a result the plaintiff need establish only a modest likelihood of success and that determination depended upon the legality of the restrictive covenant under state law. On that question of law the proper standard of review is *de novo*[72] and the court of appeals could independently review the district judge's legal conclusions upon which the preliminary injunction was based.

However, two other cases in the circuit appear to more directly

motions for preliminary injunctions." 629 F. Supp. 675, 678-79 (E.D. Wis. 1986). In a recent decision another district court said, "The Seventh Circuit had insisted that this algebraic formula does not represent a new standard for granting preliminary injunctions. . . . In application, the formula is more unwieldy than its clean, algebraic expression suggests. Thus with great interest (and some relief) the court heeds the Seventh Circuit's admonition in [*Brunswick* and *Lawson*]." Means Servs. Inc. v. Rental Uniform Servs., 639 F. Supp. 208, 212 n.1 (C.D. Ill. 1986). *See also* Laidlaw Acquisition Corp. v. Mayflower Group Inc., 636 F. Supp. 1513 (S.D. Ind. 1986); Stove, Furnace & Allied Appliance Worker's Int'l Union, Local 185, AFL-CIO v. Weyerhaeuser Paper Co., 650 F. Supp. 431 (S.D. Ill. 1986); Frank v. Ducy, No. 85 C 9642, slip op. (N.D. Ill. July 24, 1986).

68. 794 F.2d 250 (7th Cir. 1986).

69. *Id.* at 252.

70. *Id.* at 253; *See also* Friendly, *Indiscretion About Discretion*. 31 EMORY L.J. 747, 773-78 (1982).

71. 784 F.2d 271 (7th Cir. 1986).

72. *See* Brennan, *Standards of Appellate Review*, 33 DEF. L.J. 377, 406 (1984); Jaffe, *Judicial Review: Questions of Law*, 69 HARV. L. REV. 239 (1955); Rosenberg, *Appellate Review of Trial Court Discretion*, 79 F.R.D. 173 (1978) [hereinafter *Appellate Review*]; Rosenberg, *Judicial Discretion of the Trial Court, Viewed from Above*, 22 SYRACUSE L. REV. 635, 646 (1971) [hereinafter *Judicial Discretion*].

question the "sliding scale" approach, at least to the extent that "measurements" of success and harm seem to be required. In *Beermart v. Stroh Brewery*,[73] the circuit panel made no reference to the comparative assessments required by the *Roland Machinery* and *American Hospital* verbal and mathematical formulations of the standard for issuing preliminary injunctions. Instead, a more traditional analysis was invoked which considered each of the four elements more or less individually. Although the appellate court reversed the grant of a preliminary injunction preventing Stroh from terminating its agreement with the plaintiff for the sale of beer, it did so on its review of the merits of plaintiff's ultimate success. The district court had relied on an Indiana statute prohibiting the "unfair" termination of a contract between a beer wholesaler and a brewer for the sale of beer to support the injunction, but the appellate court pointed to express language of the agreement prohibiting certain conduct in which the plaintiff had engaged. The striking aspect of *Beermart* is that the court of appeals never suggested that the plaintiff's likelihood of success was in any way relevant to the degree of relative harms existing between the parties.[74] The implication is that, regardless of harm, the plaintiff must show some absolute prospect of success, which the *Beermart* plaintiff did not meet.

In contrast, the panel majority in *Illinois Corporate Travel v. American Airlines*[75] affirmed the denial of a preliminary injunction but only after it engaged in an exhaustive analysis of the "strength" of the plaintiff's claim. The district court had rejected plaintiff travel agency's claim that American Airlines' policy of preventing travel companies from writing tickets if they advertised discounts was *per se* illegal and violated the antitrust laws, finding the claim "weak" on the merits.[76] On appeal, the court approved the district court's assessment of the balance of harms apparently in defendant's favor. But presumably taking the percentage calculations of the Posner formula seriously (although no specific men-

73. 804 F.2d 409 (7th Cir. 1986).

74. Stroh had terminated its agreement with Beermart because Beermart had sold overaged beer in violation of § 11 of its contract with Stroh. On the merits issue, the appellate court held that the district court's use of the Indiana statute "superceding" the plain language of the contract was erroneous and was therefore an abuse of discretion. *Id.* at 411. The court also looks at and refutes Beermart's other arguments on the merits in support of upholding the injunction. Unpersuaded, the court says that because Beermart committed fraud by selling the overaged beer "[they] deserved termination. . . . [E]quitable relief is not available to parties who came to the court with unclean hands." *Id.* at 412. For this reason alone, without discussion of any of the other factors, the appellate court reverses. Compare Andreas Proimos v. Fair Automotive Repair, Inc., 808 F.2d 1273 (7th Cir. 1987) where Judge Easterbrook said a franchiser who may have engaged in fraud against consumers might still be entitled to equitable relief against its franchisees.

75. 806 F.2d 722 (7th Cir. 1986).

76. *Id.* at 724.

tion is made of the mathematical formula), the court thought it necessary to "measure" the plaintiff's likelihood of success on the merits. Finding that the district court was correct in assessing both the plaintiff's likelihood of success as "slight" and the balance of harms in defendant's favor, the court affirmed the denial of the injunction.[77]

In a separate concurring opinion, Judge Flaum criticized the majority's approach to appellate review and indicated disenchantment with the notion that the appellate court could assign weights to any of the relevant factors. Judge Flaum pointed out that the district court found that the plaintiff had met its "threshold burden" to establish likelihood of success,[78] but denied the injunction because of insufficient irreparable harm and a balance of equities in defendant's favor.[79] All the appellate court should do, he argued, was to review the district court's finding of a balance of harms in defendant's favor. If that finding is approved, as it was,[80] the denial of the injunction must be affirmed. Because the weighing and balancing of the "success" and "harm" factors involve a "highly discretionary" evaluation and one to which the appellate court must give substantial deference,[81] the court's review of the "entire spectrum of contested issues raised by plaintiff's complaint"[82] was, Judge Flaum argued, unwarranted.[83] Certainly at the appellate level, Judge Flaum appears to resist the Posner formula, which would seem to require—as the panel majority apparently thought—an investigation of the strength of the plaintiff's claim.[84]

77. *Id.* at 729.

78. *Id.* at 730.

79. *Id.*

80. After finding that the district court was right in its assessment that plaintiff's likelihood of success on the merits is slight, Judge Easterbrook says that this conclusion entitles him to follow the district court's method and "discuss irreparable injury only briefly." 806 F.2d at 729. Discussing points raised in the record, (like McTravel's association with other airlines allowing advertising of discounts), and reiterating the district court judge's conclusions, the court "defers to her judgment," citing *Lawson* and *American Hosp. Supply*, and writes: "It is enough for now that we concur in the district court's conclusion that McTravel is unlikely to prevail on the merits." Other factors weighing into the balance of harms, it concludes, "are questions for the district court in any further proceedings." *Id.* at 729-30.

81. *Id.* at 731 (Flaum, J., concurring) (quoting *Lawson*, 782 F.2d at 1437).

82. *Id.* at 731 (Flaum, J., concurring).

83. *Id.* at 730. Judge Flaum's view appears to be that the appellate courts limited role is to (1) assure that the correct standard for the issuance of a preliminary injunction has been employed and (2) review the district court's determination as to whether the threshold requirements have been correctly determined as a matter of fact and law. The question of balancing these factors is committed to the district court's discretion. Thus, in *Illinois Corporate Travel*, once it appeared that the district court had correctly assessed a low but threshold level of success but inadequate harm, the balance of those factors was not one for the appellate court to re-evaluate.

84. Indeed, Judge Flaum notes that even the district court was not required to "measure" whether plaintiff's probability of success balanced against the harm it would suffer if the injunction were denied would exceed the defendant's probability of success balanced against the harm it would

A very recent circuit opinion reviewing the denial of a preliminary injunction may reflect a shift in Judge Easterbrook's position slightly toward Judge Flaum's approach. In *Proimos v. Fair Automotive Repair, Inc.*,[85] the district court denied a preliminary injunction because it found that the party seeking the injunction could be compensated by damages at the end of the case and that the party resisting the injunction would suffer irreparable injury to loss of reputation value if the injunction issued. Although noting that the district court did not have an "airtight case for the denial of an injunction,"[86] the Seventh Circuit affirmed the district court's denial of the preliminary injunction because the "balancing of the equitable factors is a task in which the district court possesses great discretion because there is no 'right' answer."[87]

A review of these Seventh Circuit cases tells an interesting story of judicial dialogue within a single court. In *Lawson*, Judge Flaum reached a strained conclusion in holding that the opinions in *Roland Machinery* and *American Hospital* were "in harmony with the traditionally flexible and discretionary responsibilities of the district judge, sitting as a chancellor in equity."[88] In another recent decision,[89] Judge Swygert, who in *Roland Machinery* and *American Hospital* offered strong criticism of both a quantitative approach and heightened appellate review, seemed ready to now read those cases as "not [changing] any of the law governing preliminary injunctions"[90] and that "concerns about the continuing validity of the traditional approach to preliminary injunctive relief in this circuit are misplaced."[91]

For his part, Judge Posner has not attempted to push the point, but on the other hand, has not completely retreated. In a somewhat unusual context—review of a district court's determination of whether to dissolve a preliminary injunction[92]—Judge Posner continued to press his "cost

suffer were the injunction granted. Although he concedes a district court might consider these factors as part of its weighing of the equities, "it is not required to do so." 806 F.2d at 731 n.1.

85. 808 F.2d 1273 (7th Cir. 1987).

86. *Id.* at 1277.

87. *Id.* However, the appellate court reversed the district court's further grant of "summary judgement" and the denial of a permanent injunction because there was not proper notice of a consolidation of a full trial on the merits under FED. R. CIV. P. 65(a)(2).

88. *Lawson*, 782 F.2d at 1432-33.

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

90. *Id.* (quoting *Lawson*, 782 F.2d at 1441).

91. *Id.*

92. This case involved an appeal of an order by a district court dissolving a four-year-old injunction. The injunction had frozen $200,000 worth of Centurion's (the original plaintiff's) assets which Singer (the original defendant) had transferred into his own personal account fearing Hiatt, the majority shareholder of Centurion, was diverting the company's premium income to his personal use. The district court dissolved the injunction because Centurion was short on funds and wanted access to the money in the Singer account. Singer appealed the order because he still feared Hiatt

minimization" approach in at least verbal form. In *Centurion Reinsurance Co., Ltd. v. Singer*,[93] Judge Posner wrote that the district judge must ask, "[I]s the expected cost of dissolving the injunction—considering the probability that dissolution would be erroneous because the plaintiff really is entitled to injunctive relief, and consequences of such an error—greater or less than the expected cost of not dissolving the injunction?"[94] "If greater," he writes, "the injunction should not be dissolved; if less, it should be."[95] However, Judge Posner now appears to limit the circumstances in which balancing is necessary to confirm the existence of certain threshold requirements: "No matter how strongly the balance of irreparable harms may incline in favor of the party asking for a preliminary injunction, it is error to grant the injunction if the party has no chance or only a very slight chance of prevailing on the merits."[96]

Interestingly, Judge Flaum, who in *Lawson* had diplomatically praised the Posner formula as providing "an effective shorthand method of expressing the important relationship between the likelihood of success on the merits and the degree of harm to the non-prevailing party,"[97] later emphasized that such an approach is only one aspect of the general discretion entrusted to the district court:

> While a district court has discretion to consider these factors as part of its effort to weigh the equities, it is not required to do so. The circuit continues to adhere to the traditional equitable doctrines governing preliminary injunctions. We have not adopted "a new legal standard . . . intended . . . to force analysis into a quantitative straight jacket."[98]

The judges of the circuit appear to have made a deliberate attempt to avoid a direct showdown on the issue of the correct standard for issuance of a preliminary injunction, the scope of appellate review, and the wisdom of a mathematical formula. The latest opinions strive to reconcile the dissension that appeared in the earlier cases at least to the extent of limiting exposure of a clash of formally articulated standards. Nonetheless, beneath the mantel of judicial civility and collegiality remains a fundamental and important question concerning the relationship between the district and appellate courts in preliminary injunction cases.

would squander the money. Because there was a lack of law on the issue, Posner analogized the standard for dissolving a preliminary injunction with the standard for granting or denying one. Later in the decision, he views Singer's appeal contesting the dissolution of the injunction as an application for a new preliminary injunction limiting what Hiatt could do with the funds.

93. 810 F.2d 140 (7th Cir. 1987).

94. *Id.* at 143.

95. *Id.*

96. *Id.* at 145.

97. *Lawson*, 782 F.2d at 1434.

98. *Illinois Corporate Travel*, 806 F.2d at 731 n.1 (Flaum, J., concurring) (quoting *American Hosp. Supply*, 780 F.2d at 593).

DISCRETION AND THE SCOPE OF APPELLATE REVIEW IN PRELIMINARY INJUNCTION CASES: THE DEBATE ASSESSED

The claim for heightened appellate review over the decision of whether or not a preliminary injunction should issue was first made by Judge Posner in *Roland Machinery*[99] without any direct reference either to his verbal or to his mathematical formula. Therefore, although his later attempt in *American Hospital* to articulate a quantitative formula can be viewed as serving the purpose of identifying a rule-based standard capable of full appellate review, the argument for broader review is here analyzed independently of the formula itself.

Judge Posner is correct, as others have pointed out, in observing the confusion around the "abuse of discretion" standard for review of preliminary injunctions.[100] Certain aspects of the decision of whether to issue a preliminary injunction have always been open to more vigorous scrutiny. For example, the question of a party's likelihood of success on the merits is based largely on issues of law, and although the resolution may turn on a specific set of facts that are played out at the preliminary injunction hearing, the appellate court is in an exceptionally good position to evaluate the issue of success on the merits. The role of the appellate court in that situation is not much different from its ordinary review powers after a completed trial.[101] This is because the success on the merits factor is usually evaluated by legal standards which the appellate court can review *de novo*. Here the appellate court stands on equal, if not superior, footing to the district court, compared to situations where factual issues are concerned, or where the balance of equities is being considered. In those contexts the district court is in the better position to evaluate, and the appellate court should defer to their discretion since decisions on those factors are often determined on the basis of intangibles and rely on a complete perspective of the case at hand.

Second, as Judge Posner emphasizes—indeed it is the heart of his argument for a broader standard of review—that preliminary injunctions are based on a "legal standard" and are not issued as a matter of "judicial grace."[102] Therefore, he argues that determinations by the district court can be considered findings of fact and reviewed at least under a

99. *Roland Mach.*, 749 F.2d at 390-92.

100. *Id.* at 390; *see also American Hosp. Supply*, 780 F.2d at 594; Christie, *An Essay on Discretion*, 1986 DUKE L.J. (1986); FRIENDLY, *supra* note 70, at 764, 784; *Judicial Discretion*, *supra* note 72 at 650-53.

101. *See Lawson*, 782 F.2d at 1437.

102. *Roland Mach.*, 749 F.2d at 385.

"clearly erroneous standard."[103] Here, too, I think Judge Posner will not find too many dissenters if what he means is that, because there is a standard which requires, for example, a balance of harms, the district court can be reversed if it fails to take a particular factor into account. Indeed, in *American Hospital* itself, Judge Swygert, who objects to a broad standard of appellate review in general, embraces the view that the district court was wrong in failing to consider the potential insolvency of the defendant in calculating the balance of harms between the parties.[104]

However, the existence of a standard or of identifiable elements on which to make a discretionary judgment does not inevitably lend support for review of the exercise of the discretion itself. Once the district court has identified all of the factors, the question is whether the assessments of parity of harms and probabilities of success and their relative balance ought to lie ultimately with the trial or the appellate court. Surely Judge Posner would concede that such determinations—even if not standardless—call for individualized and case specific analysis.

Nonetheless, there may be a specialized claim that, in the context of preliminary injunctions, broader appellate review is justified. Preliminary injunctions have traditionally been seen as "drastic" remedies[105] and exercises of "far-reaching power[s]."[106] Often, the decision of whether to issue the injunction turns out to be the only disposition in the case because preliminary relief is, as a practical matter, the heart of the matter. In those circumstances, at least, the grant of such preliminary relief should be very carefully scrutinized.[107] Moreover, because of the preliminary nature of the relief and the expedited nature of the proceeding, there is often not a fully developed factual record. The district judge

103. *Id.*

104. Two months after the injunction was ordered by the district court, Hospital Products Ltd. filed for bankruptcy. In the majority opinion, Posner asserts that Hospital Product's insolvency was apparent to the district judge, despite the fact that they had not yet filed for bankruptcy, and that this should have been considered as irreparable harm to defendant. *American Hosp. Supply*, 780 F.2d at 596-97. Judge Swygert, in his dissent, explains that the district court refused to consider the insolvency issue because the district court concluded that "defendants may not excuse their unlawful actions by their actual or threatened insolvency." *Id.* at 605 (Swygert, J., dissenting). He calls the district court's dismissal of the insolvency issue "a clearly erroneous conclusion of the law." *Id.* In doing so, he makes a stronger statement than the majority, who merely disapproved of their "overlook[ing]" the issue. *Id.* at 598.

105. Canal Auth. v. Callaway, 489 F.2d 567, 573 (5th Cir. 1974); *See also* Black, *supra* note 1, at 27; Leubsdorf, *supra* note 1, at 525. *See generally Developments in the Law: Injunctions*, 78 HARV. L. REV. 994 (1965).

106. Warner Bros. Pictures, Inc. v. Gittone, 110 F.2d 292, 293 (3d Cir. 1940) (per curiam).

107. Though there are cases that stand for the proposition that there should be a broader scope of appellate review on orders granting preliminary injunctions, *e.g.*, Milsen Co. v. Southland Corp., 454 F.2d 363, 369 (7th Cir. 1971), other cases indicate that the practice is to use the same standard to review judgments granting as those denying injunctions. *Roland Mach.*, 749 F.2d at 384.

is often acting more on hunch, probability, and speculation than he would be in a full-scale trial for permanent relief. Thus, we are less confident of either the "assessments" or the "balancing" that is reached by the district judge. Because the balancing of the various factors is likely a "judgment call," the appellate tribunal may be in as good a position as the district court to make the determinations.

Finally, since a critical factor in the equation is a less than hard-edged judgment based on a balancing of harms and a weighing of probabilities of success and harms to the parties, there is a claim that three judges rather than one should make the assessments.[108] A consensus of three judges about the comparability of harms to the parties, particularly in the context of projecting what harms are likely to result, is somewhat more assuring than that of a single district judge. Indeed, because Congress itself has provided for interlocutory review of grants or denials of preliminary injunctions,[109] it might be said that a more meaningful power of appellate review had been envisioned by Congress in these cases.

However, any such transfer of basic control over the issuance of preliminary injunctions to the appellate court comes with significant costs. Traditionally, substantial deference is given to the district court's weighting and balancing of the equitable factors that govern the issuance of an injunction, because the trial judge is in the best position to have a complete perspective of the case.[110] Whatever the limitations of a less than fully developed record, the district court nonetheless has had the opportunity to hear the testimony of witnesses and to evaluate the credibility about issues of fact and even projections of harm; its perspective is obviously different from that of a cold appellate record.[111] As the circuit panel in *Lawson* observed, "while an appellate court can distinguish a good injunction decision from a bad one, the appellate process is not well suited to an appreciation of the subtle shadings of a case that may lead to a judgment which lies between the extremes."[112]

Another untoward aspect of greater appellate control is the potential for an overcommitment of judicial resources to the preliminary injunction case. That allocation imbalance results from a variety of

108. *See Judicial Discretion*, *supra* note 72, at 642, "[S]ince most trial courts are manned by a single judge and appellate courts are collegial, our fondness for appellate review may also reflect a feeling that there is safety in numbers."

109. 28 U.S.C. § 1292(a) (1982).

110. *See* Wright, *The Doubtful Omniscience of Appellate Courts*, 41 MINN. L. REV. 751, 780-82 (1957).

111. *Lawson*, 782 F.2d at 1437.

112. *Id.* at 1438.

factors. Ordinarily, the request for a preliminary injunction advances to the head of the civil case queue;[113] thus, the present calendaring rules give the preliminary injunction case a priority on the generally backlogged district court dockets. Because the grant or denial of a preliminary injunction is, unlike most other interlocutory orders, immediately appealable,[114] the preliminary injunction case has also been allocated an appellate priority within the judicial system. If broader powers of appellate review are exercised by the courts of appeals, the litigants in a preliminary injunction case have every incentive to appeal and to have their very fact-specific claims of harm re-evaluated by the appellate court. The combined effect of accelerated judicial intervention, interlocutory appeal, and heightened judicial review arguably result in an overcommitment of appellate resources. The concomitant incentive for relitigation of the whole range of issues at stake in preliminary injunction cases also threatens to impose an unwarranted burden on the judicial system. Indeed, it is ironic that Judge Posner, who, in other contexts, has written about the general crisis in the federal courts and the resulting burdens upon the courts of appeals,[115] has been inattentive to the additional administrative costs his "new" formulation for issuance of preliminary injunctions is likely to produce.

The relationship between the prevailing legal norms and the balance of harms should also support the more traditional scope of review regarding the district court's evaluation and weighing of its factors. Of course, as Judge Friendly observed in his thoughtful essay on judicial discretion,[116] review of the legal merits by appellate courts is a "favorite method" to avoid the discretion rule in preliminary injunction cases. As noted earlier, the issue of probable success lends itself to broader review, and thus the appellate court should have *de novo* power over the propriety of the applicable legal standard. However, it is less likely that Judge Friendly was endorsing similar scrutiny on the issue of the balancing of harms, where meaningful standards do not exist and highly individualized determinations are necessary. In addition, when the appellate court asserts its own views of comparable harms and the balance of equities, it

113. 28 U.S.C. § 1657 (1982).

114. 28 U.S.C. § 1292(a) (1982). This is because the preliminary injunction is traditionally thought of as an extraordinary and far-reaching remedy and therefore should be subject to immediate checking for error. If the injunction was in error, the aggrieved party should not have to continue suffering the oftentimes irreparable harm caused by the decision. *See* Comment, *Civil Procedure—Interlocutory Appeal*, 63 MASS. L. REV. 85 (1978).

115. R. POSNER, THE FEDERAL COURTS: CRISIS AND REFORM (1985). *See also* Hellman, Book Review, 39 STAN. L. REV. 297 (1986)

116. Friendly, *supra* note 70, at 777.

may be in fact "double-counting" because its focus is speculative harms intertwined with legal norms rather than individual facts of the case. For example, in antitrust and other economic harms cases, the balance of harms may be confused with the abstract harms that justified the substantive legal rule—in part because the appellate court is working from a cold appellate record and not from a set of individualized facts for which it has a "hands on" feel.

The Seventh Circuit's dialogue has been instructive in separating out three quite separate sets of issues which are subject to review in preliminary injunction cases. A strong argument can be made that the standard for review on each of them should be quite different. The element of likelihood of success implicates a legal issue, and therefore, appellate review is close to the *de novo* standard. The question of irreparability of harm and the harms existing for each of the parties are based on facts presented at the hearing and may be reversed only if "clearly erroneous." Finally, the *weighing* of harms—i.e., who suffers the more significant harm—and the balancing of the factors according to a "sliding scale"—i.e., measuring success against harm—should remain within the district court's discretion. The appellate court should maintain only a superintending role whereby it remains a check on whether the district court has issued a "good" or "bad" injunction.[117] In order to assure that these quite distinct review powers are appropriately exercised, the district court should be required to set forth separate findings on each of the elements of the preliminary injunction standard. Thus, on appeal, the court of appeals will be able to direct its attention to each of the issues with no confusion as to the scope of its review powers. Although district courts presently make findings of fact and conclusions of law under Rule 52(a) in all cases, including those involving preliminary injunction,[118] a more specific requirement would aid the process and perhaps help sort out for the litigants and the court those cases that truly call for an appellate look.[119]

117. *Lawson*, 782 F.2d at 1438.

118. FED. R. CIV. P. 52(a).

119. If the district court is required to set forth separate findings on each of the elements required for issuance of a preliminary injunction, the appellate court would no longer have to make the time-consuming effort of sorting out which findings apply to which issues, and which standard of review applies to which findings. The result would be that the appellate court would know, at a glance, whether an in-depth or merely "superintending" review is necessary depending on whether, for example, the district court's finding on the likelihood of success, or the balance of harms is the pressing issue on appeal. Recognition that certain complex procedural determinations might involve separate standards of review of individual component parts has been recognized in other contexts. See Louis, *Allocating Adjudicative Decision Making Authority Between the Trial and Appellate Levels: A Unified View of the Scope of Review, The Judge/Jury Question, and Procedural Discretion*, 64 N.C.L. REV. 993, 1030-46 (1986).

SQUARING THE CIRCLE: THE FUTILITY OF A FORMULA

As I have previously indicated, the attention directed to the algebraic formula set forth in *American Hospital*[120] has been somewhat of a diversion and not particularly essential to the more critical debate about the appropriate standard for appellate review of preliminary injunction determinations. Nonetheless, it would be remiss not to comment upon the relationship of the formula both to the traditional criteria employed for issuance of injunctions and to the proper appellate standard for review of district court decisions.

Judge Posner has insisted that the formula merely represents a "distillation" of the traditional factors that a court generally considers when it decides whether to grant or deny the preliminary injunction. But unless the symbolic formulation of $P \times H_p > (1 - P) \times H_d$ clarifies or enhances for lawyers and judges the decision of whether to grant a preliminary injunction, there is no need to bother.[121] Judges and lawyers, for the most part, function comfortably in a world of language and words, not algebraic formulae and numerical assessments of probability.[122] Thus, the burden of persuasion is on Judge Posner to show that analysis is somewhat enhanced by reliance on the formula.

Moreover, the formula has introduced a measure of confusion into the law of preliminary injunctions, notwithstanding Judge Posner's assertion that he has merely "translated" the standard previously announced in *Roland Machinery*. For example, the traditional requirement that a plaintiff must establish that there is no adequate remedy at law before an injunction may issue does not seem to be reflected in the formula itself, which considers only probability of success and the balance of harms to each party. Judge Eschbach commented on this apparent disparity in a

120. *E.g.*, Riley, *Has Judge Posner Gone Too Far? (Ideology and Precedent in the Seventh Circuit)*, 8 NAT'L L.J., Sept. 1, 1986, at 3, col. 1; Rubenstein & Reskin, *Posner's Mathematical Formula for Injunctions*, 72 A.B.A. J. May, 1986, at 96(1); Moore, *You Say You Want an Injunction? Practice Your Math*, 8 LEGAL TIMES, Mar. 17, 1986, at 1, col. 2.

121. *American Hosp. Supply*, 780 F.2d at 609 (Swygert, J., dissenting). Judge Swygert writes:

> I question the necessity and wisdom of the court's adoption of a mathematical formula as the governing law of preliminary injunctions. The majority claims that its formula is merely a distillation of the traditional four-prong test. But if nothing is added to the substantive law, why bother? The standard four-prong test for determining whether a preliminary injunction should issue has survived for so many years because it has proven to be a workable summation of the myrial factors a district court must consider. . . .

See also Ball Memorial Hosp., 784 F.2d at 1346 (Will, J., concurring).

122. Judge Swygert also writes, "The majority disavows any effort to force the district courts into a 'quantitative straitjacket,' but I suspect that today's decision may lead to just that. . . . Like a Homeric Siren the majority's formula offers a seductive but deceptive security. Moreover, [it] invites members of the Bar to dust off their calculators and dress their arguments in quantitative clothing. . . . I do not envy the district courts of this circuit and I am not proud of the task we have given them." 780 F.2d at 609-10 (Swygert, J., dissenting). *See also Brunswick Corp.*, 784 F.2d at 274 n.1.

footnote in *Brunswick Corp. v. Jones*,[123] observing that the formula, of necessity "cannot incorporate all of the elements of the traditional test."[124] Further elaboration might reveal that in balancing the harms to the parties—arguably irreparable harms[125]—the "adequate remedy" factor has been incorporated into the formula. But the need for additional explanation certainly undercuts the value of the short-hand symbolic formulation.

Another surface difference between the traditional standard for issuance of preliminary injunctions and that set forth in the *American Hospital* formula is the apparent omission of concern for the potential harm to third parties and the public, a factor not expressly accounted for in the formula. However, Judge Posner in *American Hospital* itself, quickly explained that the harms suffered by third parties could be considered as part of H_p or H_d, as the case may be.[126] Once again, if this type of additional explanation must be given, it is hard to understand the value of the formula.

Moreover, there are indications that when the "sliding scale" concept in *Roland Machinery* is translated into a rule implicating numerical equivalents for $P \times H_p > (1 - P) \times H_d$, the standard for issuance of the injunction has been slightly altered. As an example, the formula does not suggest that any threshold amount of harm or probability of success is necessary. Traditionally, however, an injunction would not issue if the plaintiff could not show a sufficient likelihood of success—notwithstanding a substantial imbalance of harms between the parties. Indeed, Judge Posner, in a later opinion,[127] seems to have accepted this view of the law and states that a certain threshold level of success must be met before an injunction may issue.[128] This later embellishment, however, is certainly not self-evident from the formula itself.

Not only may the formula err in depicting the functional relationship between success and harm and in ignoring lower bound threshold

123. 784 F.2d at 274 n.1.

124. *Id.*

125. Judge Posner uses the term "harm" alone in *American Hosp. Supply* when describing the factor "balancing of harms," and in fact "harm" alone is used in his formula. 780 F.2d at 593. However, since the first element that must be proved according to the traditional standard referred to by Judge Posner is "irreparable harm" if the injunction is denied, it is likely (but arguable) that the harm referred to by Judge Posner in the balancing of harms is irreparable harm. Other judges insist that the balancing is of "irreparable harms." *See Brunswick Corp.*, 784 F.2d at 274, n.1.

126. *American Hosp. Supply*, 780 F.2d at 601.

127. *Centurion Reinsurance Co.*, 810 F.2d 140 (7th Cir. 1987).

128. Judge Posner wrote, "[n]o matter how strongly the balance of irreparable harms may incline in favor of the party asking for a preliminary injunction, it is error to grant the injunction if the party has no chance or only a very slight chance of prevailing on the merits." *Id.* at 145.

levels of success and harm, but it may also be incorrect in equating the differentials between success and harm i.e., by failing to take account of upper bound thresholds. In some instances, for example, the magnitude of harm to the plaintiff (although only slightly greater than harm to the defendant) may be such that it outweighs the "slight" differential in probability of success favoring the defendant. If this discussion of such functional relationships partakes of a certain abstract quality, the flaw lies in the attempted use of the formula itself. Even if the functional relationships in the formula were correct, there is no practical way of articulating precisely what those measures are. Both probability of success and harms to plaintiff and defendant are highly complex assessments, not reducible to a simple numerical measurement.

The best that can be said about the *American Hospital* formula is that it helps to conceptualize the notion of relativity between harm to the parties and likelihood of success once initial requirements are met. The limitations of the formula are both its implication that there is only this particular relationship between harm and success and the suggestion that the relationship can be described, not merely in a broad discretionary way, but through a more precisely weighted measurement. Finally, there is also the subtle but implicit link that if assessments can be made, the appellate court may exercise broad reviewing powers over the findings by the district court since it may itself make these new assessments of harm and probability of success.

Like the circle that cannot be squared,[129] the discretion and fact-specific analysis for the issuance of preliminary injunctions cannot be quantified. The magnitude of harms, the balance of harms, and the likelihood of success do not readily translate into numbers. For that reason, the introduction of this formula into the law of preliminary injunctions is misleading. The symbols themselves, such as H_p and H_d, need additional explanation. The formula creates the illusion of a rule where none exists and conveys a false impression of precision. The false sense of precision also gives rise to the misguided claim for broader appellate review by implying that assessments of harm and success are quantifiable and are subject to review like other rule-based measures.

The value of a formula is either to assist in making a prediction or to help in explaining a result.[130] In this instance, the formula does neither. It can never incorporate all the fact-specific and individualized circum-

129. In 1882, C.L.F. Lindemann proved the impossibility of construction of a square whose area is that of a given circle. I ENCYCLOPEDIA DICTIONARY OF MATHEMATICS 182 (S. Iyanga & Y. Kawada eds. 1980).

130. Brilmeyer & Kornhauser, *Review: Quantitative Methods and Legal Decisions*, 46 U. CHI. L.

stances that are before the district court when it is asked to rule on a request for a preliminary injunction; and it oversimplifies a set of difficult and intricate assessments that by their nature are speculative to begin with.

The formula set forth in *American Hospital* is one that equals less than the sum of its parts and is of no utility. Hopefully, the days of a formula for the issuance of preliminary injunctions are numbered.

REV. 116, 120-30 (1978). The conclusion of the authors in discussing mathematical modeling is well worth heeding:

> since legal problems are subtle and complex, the unquantifiable variables may well dwarf the quantifiable ones and make numerical modelling futile. It is therefore understandable that courts have been reluctant to enter into a quixotic chase after precision. . . . [b]efore we throw ourselves into a frenzy of measurement, we should stop to think about what and why we measure. Our results will be less "precise," but more faithful to the legal setting.

Id. at 153.

For a critique of mathematical formulae in other contexts, see Tribe, *Trial by Mathematics: Precision and Ritual in the Legal Process*, 84 HARV. L. REV. 1329 (1971); Walker, *Mathematical Models of Legal Rules: Application, Exploitation, and Interpretation*, 13 CONN. L. REV. 33, 37-51 (1980).

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COMMENTS