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THE LIMITS OF QUANTITATIVE LEGAL ANALYSES: CHAOS IN LEGAL SCHOLARSHIP AND *FDIC v. W.R. GRACE & CO.*

*Royce de R. Barondes***

INTRODUCTION

Quantitative analyses may contribute unique insights into legal issues.¹ Where legal rules produce unanticipated or counter-intuitive results, quantitative analyses may provide an intellectual framework needed to understand the interaction of the relevant factors. The benefits of a quantitative or quasi-quantitative analysis may be particularly helpful where competing forces have conflicting influences on the actors being regulated.

Yet hazards exist in integrating theories of one discipline into another. The elegance of a contained, well-defined theory may suggest more grandiose applications of questionable validity.

Interdisciplinary legal scholarship, by its nature, presents intellectual frameworks unfamiliar to a substantial portion of

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1. *But see* ROBERT C. HILBORN, CHAOS AND NONLINEAR DYNAMICS: AN INTRODUCTION FOR SCIENTISTS AND ENGINEERS 58-59 (1994) (criticizing social scientists who embrace mathematical analyses consisting of (i) selecting the most important features of phenomena being studied, (ii) creating simple quantitative models of those features and (iii) confirming that the models' results agree with observed actions in particular cases, on the basis that the systems studied by social scientists are not simple and reproducible).

its audience. An exhaustive catalog of fallacious quantitative constructs in legal analyses would be endless. It is therefore impracticable to describe fully the entire pattern of erroneous analyses. Nevertheless, it is useful to have a few rudimentary techniques to identify quantitative or quasi-quantitative analyses whose conclusions merit closer scrutiny.

This Article identifies a few of those techniques by examining a number of quasi-quantitative legal analyses that have addressed a range of legal relationships. The methodology of this Article consists of reviewing the relationship between those legal analyses and their associated non-legal disciplines. The unifying theme of the discussed examples is that a useful, well constructed quantitative analysis or approach has been improperly extended into a legal context.

I. QUANTITATIVE ANALYSES AS A METAPHOR

A. *Chaos in Jurisprudence*

Dean Robert Scott recently published an essay analyzing a "Justice Paradox" in light of chaos theory.² Dean Scott defines the Justice Paradox as an inherent tension between a need for a legal system that provides for "justice between the parties to any particular dispute"³ and a desire to implement legal rules that affect future conduct in desired ways by creating appropriate incentives.⁴ Dean Scott calls the first goal "Present Jus-

2. Robert E. Scott, *Chaos Theory and the Justice Paradox*, 35 WM. & MARY L. REV. 329 (1993). That piece is not the only example of the attempt to introduce chaos theory into legal analyses. *E.g.*, Lawrence A. Cunningham, *From Random Walks to Chaotic Crashes: The Linear Genealogy of the Efficient Capital Market Hypothesis*, 62 GEO. WASH. L. REV. 546, 581-608 (1994); Andrew W. Hayes, *An Introduction to Chaos and Law*, 60 UMKC L. REV. 751 (1992); Glenn H. Reynolds, *Chaos and the Court*, 91 COLUM. L. REV. 110 (1991). Other legal commentators have made passing references to chaos theory. *E.g.*, Thomas L. Hazen, *The Short-Term/Long-Term Dichotomy and Investment Theory: Implications for Securities Market Regulation and for Corporate Law*, 70 N.C. L. REV. 137, 158-60 (1991); Andrew R. Simmonds et al., *Dealing with Anomalies, Confusion and Contradiction in Fraud on the Market Securities Class Actions*, 81 KY. L.J. 123, 145-46 (1992).

3. Scott, *supra* note 2, at 330.

4. *Id.*

tice" and the second goal "Future Justice."⁵ He asserts that these two goals "are usually intractably opposed,"⁶ and their conflict results in an observable oscillation in legal rules.⁷ His essay includes a lengthy discussion of the historical development of competing legal doctrines,⁸ which is followed by a brief discussion of chaos theory.⁹

The exact language of the discussion of chaos theory merits quotation (in part):

The first lesson of the whole is the concept of dynamics: all systems are chaotic, in the sense that they are subject to irregularities that make predictions of outcomes in particular cases impossible. A key premise of Chaos Theory, the butterfly effect, states that small changes in initial conditions have fundamental effects on outcomes. Thus, the movement of the wings of a butterfly in Bombay effects [sic] the weather patterns in Williamsburg.

I suggest that *we should look to Chaos Theory as a metaphor* for the way to think about the contradictions and the tensions inherent in the legal system. . . . All systems, including the legal system, are unpredictable and erratic. . . . *By explicitly applying this to law, it becomes clear that even slight differences in the facts of cases result in wildly disparate judicial outcomes.* In both instances, disorder is inevitable.

5. *Id.*

6. *Id.* A similar distinction was expressed by Professor Laurence Tribe in discussing a piece written by a disciple of law and economics:

One salient feature of Professor Easterbrook's distinction is that concern for fairness surfaces principally in the *ex post*, not the *ex ante*, approach. That is, if courts seek to do justice among the parties actually before them by merely slicing up the pie fairly, they must forfeit the opportunity to expand the pie as a whole by formulating an appropriate forward-looking and general legal rule. For, in Professor Easterbrook's opinion, a focus on the equities in the individual case "almost invariably" leads to the promulgation of rules that tend to impoverish people generally, by snatching from them the opportunity to order their activities more efficiently in the future.

Laurence H. Tribe, *Constitutional Calculus: Equal Justice or Economic Efficiency?*, 98 HARV. L. REV. 592, 593 (1985) (footnotes omitted).

7. Scott, *supra* note 2, at 330-47.

8. *Id.* at 331-47.

9. *Id.* at 348-51.

....
 ... It is not only that there is disorder in any physical system. Rather, Chaos Theorists have also come to the conclusion that chaotic (or nonlinear) processes are—because of their unpredictability—more stable than those in equilibrium (linear processes).

....
 ... Each pattern is similar to the past, but different in scale. The system is dynamic. The phenomenon of patterns formed by unpredictable and irregular human behaviors is reality that should give us comfort in accepting the inevitability of paradox in law.¹⁰

If one actually were to give credence to Dean Scott's analysis, the implications would be rather disturbing. The thrust of the discussion is that any legal system over time inevitably will produce alternating, conflicting results. What justice is reflected in a legal system in which "even slight differences in the facts of cases result in wildly disparate judicial outcomes"?¹¹

The core of Dean Scott's analysis relies on metaphor. The discussion does not reduce the analyzed environment to quantitative terms and apply an analysis to those terms; it does not even specify the variables being considered.

Another commentator analyzing the nature of the evolution of legal doctrines in light of chaos theory more explicitly identifies the metaphorical nature of his analysis.¹² That discussion is unsuccessful in adding formalism by postulating a few "metaphorical" assumptions,¹³ because it does not provide coherent, rational analyses of those "metaphorical" assumptions. That commentator asserts, "In short, chaos is essential to understand law."¹⁴ After much confusing discussion, the discourse concludes:

Like any complex dynamical system, the law exists in time as well as in space and constantly evolves as it is applied to new cases. . . . The natural state of the law is one of constant

10. *Id.* at 348-50 (emphasis added) (footnotes omitted).

11. *Id.* at 348.

12. Hayes, *supra* note 2.

13. *Id.* at 765-66.

14. *Id.* at 752.

turbulence as the system maintains itself in a self-organized critical state of steady change punctuated by drastic paradigm shifts at irregular intervals.

Lawyers are well aware of this fact of constant evolution and periodic revolution in doctrine, but the absence of a cultural metaphor for the process has made it seem unintelligible and alienating. The answer lies in the rejection of classical notions of scale and determinism. . . . And maddeningly (for some), this process is non-deterministic: law is forever making progress, but never quite arrives.

This structured disorder and endless complexity is necessary and healthy, but it cannot be fully predicted or controlled, since any linear projections will inevitably be overwhelmed by the butterfly effect.¹⁵

The author admits that this analysis is metaphorical, yet he asserts, "The explanatory power of this theory is not diminished by the fact that it is admittedly a metaphorical description of the legal system."¹⁶

B. Examination of the Existence of a "Justice Paradox"

The fundamental premise of Dean Scott's piece, that there is an inevitable Justice Paradox, is not free from doubt. Present Justice and Future Justice might conflict in at least three ways: *first*, the conflict might refer to some insoluble tension between the goals of Present Justice and Future Justice; *second*, the conflict might be based on considerations of retroactivity; or *third*, the conflict might reflect an inherent human bias that undervalues future consequences relative to current effects.¹⁷ In the first possible conflict, Future Justice requires

15. *Id.* at 767-68.

16. *Id.* at 765.

17. The oscillating legal doctrines described by Dean Scott might seem to be similar to "behavioral strategies" contemplated by game theory. A behavioral strategy is one in which the player selects one of two or more possible plays based on a random selection. ROGER B. MYERSON, *GAME THEORY: ANALYSIS OF CONFLICT* 156 (1991); MARTIN SHUBIK, *GAME THEORY IN THE SOCIAL SCIENCES* 37-38 (1982) (using the term "behavior strategy"). Where the players do not have perfect information, a player may be best served by choosing a behavioral strategy. *See id.* at 37 (identifying as an example a strategy for choosing hands in the traditional method for selecting colors in chess). Nevertheless, the oscillations de-

creation of an incentive system, consisting of penalties and rewards, to encourage individuals to act in certain ways. The conflict would arise from a desire, after the fact, not to impose punishment on some or all individuals who nevertheless did not act in accordance with the incentives. The "paradox" purportedly would arise because withholding punishment would then alter the incentive system. In other words, the conflict might arise out of a desire to provide justice to a particular litigant. Yet a decisionmaker might recognize that such a decision would result in undesirable actions by other parties in the future.

There is no "paradox," however, in this context. Either the value of influencing individuals' actions arising from the imposition of any particular system of incentives outweighs the costs and other disadvantages of the system of incentives, including any distributional effects of the punishment, or the value of the incentive system is outweighed by its costs.¹⁸ Of course, reaching a conclusion may be very complex and may require comparing inherently distinct types of advantages and disadvantages. And one might well wish that certain admirable policies would not produce subsequent changes in the actions of members of society. Yet these problems are not "paradoxes" in the sense of being incapable of resolution. They merely may be difficult to resolve and, as society develops, may be subject to different resolutions at different times.

Social choice theorists have identified certain assumptions under which group decisionmaking may not produce transitive results (referred to as Arrow's impossibility theorem).¹⁹ Nevertheless, Dean Scott does not mention the impossibility theo-

scribed by Dean Scott do not reflect a typical behavioral strategy, because the choice of legal doctrine at any time is, to some extent, dependent upon the resolution of prior litigation.

18. It is highly unlikely that the advantages of any significant incentive system will be precisely equal to its disadvantages.

19. See generally DUNCAN BLACK, *THE THEORY OF COMMITTEES AND ELECTIONS* (1958); DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* 38-62 (1991) (discussing Arrow's impossibility theorem); AMARTYA K. SEN, *COLLECTIVE CHOICE AND SOCIAL WELFARE* (1970); Saul Levmore, *Parliamentary Law, Majority Decisionmaking, and the Voting Paradox*, 75 VA. L. REV. 971, 984-96 (1989) (discussing the intransitivity of group voting).

rem.²⁰ Moreover, the impossibility theorem draws no distinction between “present” and “future” goals, and therefore the theorem does not support the distinction made by Dean Scott.

The second possible meaning of the purported paradox is that any judicial attempt to impose an incentive-based rule is inherently retroactive.²¹ This thought is not novel. One may

20. Andrew Hayes, in the course of his discussion of chaos, however, did make an indirect reference to the impossibility theorem: “As anecdotal proof of how long ideas can take to cross the barrier between scientific and humanistic circles, consider the lag between Poincare’s three-body theorem [sic] in the 1890’s and Kenneth Arrow’s discovery of the equivalent problem in economic choice theory in the early 1950’s.” Hayes, *supra* note 2, at 757 n.36.

21. Difficult issues arise in the context of deciding whether a decision should be made retroactive. A complete discussion of retroactivity jurisprudence is beyond the scope of this Article. Retroactivity has been the subject of numerous other articles; recent articles include the following: Michael B. Dashjian, *The Prospective Application of Judicial Legislation*, 24 PAC. L.J. 317 (1993) (recounting the jurisprudence of retroactivity generally and discussing its particular application in the context of statutes of limitations for certain actions alleging securities fraud); Richard H. Fallon, Jr. & Daniel J. Meltzer, *New Law, Non-Retroactivity, and Constitutional Remedies*, 104 HARV. L. REV. 1731 (1991) (discussing the concept of “new law” in retroactivity jurisprudence, particularly in the context of the law of remedies); Marshall J. Hartman, *To Be or Not to Be a “New Rule:” The Non-Retroactivity of Newly Recognized Constitutional Rights After Conviction*, 29 CAL. W. L. REV. 53 (1992) (discussing retroactivity in the context of federal habeas corpus); Mary C. Hutton, *Retroactivity in the States: The Impact of Teague v. Lane on State Postconviction Remedies*, 44 ALA. L. REV. 421 (1993) (discussing retroactivity in the context of federal habeas corpus jurisprudence and state postconviction remedies); Lynda Meyer, “*Nothing We Say Matters*”: *Teague and New Rules*, 61 U. CHI. L. REV. 423 (1994) (discussing retroactivity primarily in the context of habeas corpus jurisprudence); L. Anita Richardson & Leonard B. Mandell, *Fairness over Fortuity: Retroactivity Revisited and Revised*, 1989 UTAH L. REV. 11 (discussing retroactivity in the context of criminal law); John G. Crowley, Note, *Retroactive Application of Tennessee v. Garner to Civil Litigation*, 57 FORDHAM L. REV. 855, 860 (1989) (discussing “whether a new fourth amendment limitation on police conduct should be applied retroactively in a civil lawsuit” and in civil litigation generally); Paul E. McGreal, Note, *Back to the Future: The Supreme Court’s Retroactivity Jurisprudence*, 15 HARV. J.L. & PUB. POL’Y 595 (1992) (discussing the Supreme Court’s retroactivity jurisprudence). Retroactivity in the context treated in part III is discussed in David Charny, *Hypothetical Bargains: The Normative Structure of Contract*

well be concerned with a legal system that develops rules on the basis of the incentives the rules create, without affording individuals prior knowledge of the rules. Perhaps, had the parties in a dispute known of the rules that would be developed, they would have acted differently. Yet difficult questions concerning retroactivity cannot justify oscillations in judicial doctrines. It is irrational to conclude that these short-term dislocations are sufficient to prevent adoption of permanent legal doctrines when the proffered alternative contemplates ongoing, fundamental revision of legal principles every few decades. This postulated view therefore does not justify fluctuations in judicial doctrines.

The third possible meaning of Dean Scott's Justice Paradox, that there is some bias causing future consequences to be undervalued, reflects the concept of dynamics. Although this postulate would explain oscillations, it does not condemn all judicial doctrines to alternations; it so condemns only short-sighted ones.

Dean Scott also asserts that this variation in legal doctrines is not only inevitable but also desirable. He states that these oscillations "keep[] our legal system in a dynamic state of continuous renewal and repair."²² This assertion is senseless. That a judicial system produces varying results when there is no change in the relevant parameters does not necessarily imply that it will produce desirable changes in results when there is a significant change in a relevant parameter. The best that can be said of such haphazard results is that the results occasionally will be correct.

Interpretation, 89 MICH. L. REV. 1815, 1849-50 (1991).

The brief discussion above of retroactivity does not purport to be novel. For purposes of this Article, the point is not whether particular decisions should be made retroactive, or whether a "new" rule should not be adopted because its application to actions taken before its adoption is unfair. Rather, the point is that the costs of making wholesale changes in the contours of judicially-created law are orders of magnitude greater than the aggregate costs of one-time changes in legal rules.

22. Scott, *supra* note 2, at 350. See also Reynolds, *supra* note 2, at 115 ("It is at least possible that an inherently fluctuating judicial system is a good thing in a larger sense, by injecting a sort of 'wild card' function into our governmental system as a whole.").

C. *Nonlinear Dynamics*

The preceding analysis, which contradicts the necessary existence of a Justice Paradox, has not considered nonlinear dynamics. Dean Scott's inclusion of the language of nonlinear dynamics suggests that a higher order of thought—chaos theory—irrefutably proves the existence of the Justice Paradox. A brief discussion of nonlinear dynamics rebuts that notion.

“Chaos” and the correlative term “chaotic” are more properly understood as a type of behavior exhibited by certain nonlinear dynamic²³ systems.²⁴ Linear systems have been defined as follows:

Linear systems are ones in which the equations of the model are linear. A differential equation is linear if the coefficients are constants or functions only of the independent variable. The most important property of linear systems is . . . that the response produced by the simultaneous application of two different forcing functions is the sum of the two individual responses.²⁵

The meaning of this definition is not self-evident. The proportionality manifested by a linear system means that where the system has a particular response at a particular time after a specified input is applied, a doubling of the input will produce a doubled output at the same time. Linearity does not specify the characteristics of the response; it does not require that the time response of a system varies proportionately over time. For example, an idealized mass attached to an idealized spring, which may oscillate over time, is a linear system.²⁶

23. A formal definition of a dynamic system is as follows: “A system is defined as a collection of matter, parts, or components which are included inside a specified, often arbitrary boundary. In a dynamic system, by definition, one or more aspects of the system change with time.” J. LOWEN SHEARER ET AL., INTRODUCTION TO SYSTEM DYNAMICS 2 (1967). The importance of the dynamics of a system is discussed in a few legal contexts in Royce de R. Barondes, *Dynamic Economic Analyses of Selected Provisions of Corporate Law: The Absolute Delegation Rule, Disclosure of Intermediate Estimates and IPO Pricing*, 7 DEPAUL BUS. L.J. 97 (1994).

24. HILBORN, *supra* note 1, at 4.

25. KATSUHIKO OGATA, MODERN CONTROL ENGINEERING 70 (1970).

26. HILBORN, *supra* note 1, at 5.

The meaning of linearity has been obscured in at least one other

The term "chaotic behavior" describes responses of systems that are aperiodic, i.e., not precisely repeating, and apparently random.²⁷ This type of response arises in nonlinear systems in which there are forces that cause the results of nearby initial conditions to diverge exponentially.²⁸ If an environment creates such responses and also imposes boundaries on the possible responses, the results may be chaotic. Because the outcomes are bounded, the observed consequences may appear to be random and intertwined as they approach and then withdraw from boundaries.²⁹ It is the surprising result of recent developments in the study of nonlinear dynamics that some aspects of these apparently random responses have quantitative universal characteristics.³⁰

Significantly, this type of response must be distinguished from a system that does not produce a unique response to a

law review article. Professor Lawrence Cunningham recently published an article analyzing the securities markets and certain aspects of corporate and securities law accompanied by a discussion of chaos. Cunningham, *supra* note 2. In a discussion of the efficient capital markets hypothesis, he writes:

Linearity means *proportionality*: a change in one variable produces a proportionate change in another specified variable. . . .

In contrast, *nonlinearity* means the absence of proportionality—changes in one variable will produce a change in another variable but exponentially rather than proportionally. To take a prosaic example, the one-ounce straw that breaks the one-ton camel's back is nonlinear because the cause is utterly disproportionate to the effect.

Id. at 571-72 (footnote omitted). Although a discontinuous response necessarily involves nonlinear behavior, this example of a system manifesting an invariant response except around a single point of discontinuity is not truly representative of nonlinear responses.

27. HILBORN, *supra* note 1, at 7; EDWARD OTT, CHAOS IN DYNAMICAL SYSTEMS 2 (1993).

28. HILBORN, *supra* note 1, at 138-39; OTT, *supra* note 27, at 19. Exponential divergence over time means that the variation over time is proportional to $e^{\lambda t}$, where e equals 2.72 (approximately), λ is a constant and t is time.

29. HILBORN, *supra* note 1, at 138-39.

30. Mitchell J. Feigenbaum, *Foreword* to HEINZ-OTTO PEITGEN ET AL., CHAOS AND FRACTALS: NEW FRONTIERS OF SCIENCE 4-5 (1992); HILBORN, *supra* note 1, at 4.

fully specified set of conditions. A system is “chaotic” when seemingly minuscule or indistinguishable differences in the parameters of interest cause significant changes in effects. The emphasis is on the word “seemingly.” A system that produces two or more possible responses to a single set of identical initial conditions is not chaotic³¹ but random.

A text on nonlinear dynamics states, “All chaotic systems are nonlinear, but not all nonlinear systems are chaotic.”³² For example, quasi-periodic nonlinear systems—systems that simultaneously manifest responses having elements at two or more different frequencies, where the ratio of two frequencies is irrational—appear to manifest irregular responses, but they are not chaotic.³³

An authoritative quantitative analysis includes well-defined assumptions and a rigorous analysis of those assumptions. A recent text on nonlinear dynamics notes the importance of quantifying these analyses:

Nonlinear dynamics and chaos, like most of contemporary physical science and engineering, is intimately tied to mathematics. To apply the concepts of nonlinear dynamics to her or his field, a scientist, engineer, economist, social scientist or physician must come to grips with at least some of the formalism and quantitative formulations of nonlinear dynamics. The concepts without the quantification are fruitless; likewise, quantification without the guide of concepts is blind number shuffling. Both aspects are necessary.³⁴

The two attempts to discuss the development of legal doctrines in terms of nonlinear dynamics illustrate the first type of flaw

31. See HILBORN, *supra* note 1, at 76-77 (identifying this uniqueness characteristic in the form of a “no-intersection theorem”); PEITGEN ET AL., *supra* note 30, at 11.

32. See HILBORN, *supra* note 1, at 8. The language quoted above equating chaotic behavior with the response of a nonlinear system, see *supra* text accompanying note 10, is in error.

33. See HILBORN, *supra* note 1, at 253.

34. *Id.* at vi; see also Robert C. Clark, *The Interdisciplinary Study of Legal Evolution*, 90 YALE L.J. 1238, 1261 (1981) (“[T]he legal scholar that . . . borrow[s] only the bare theoretical concepts and explanatory schemes of another discipline . . . runs the risk of trying to pull rabbits out of an empty hat, and of deluding himself into thinking that he has done so.”).

in quantitative or quasi-quantitative legal analyses—presentation of a simulated analysis suggesting, but lacking, rigor, implying a spurious sense of precision.

Dean Scott attempts to justify oscillatory trends in judicial development on the basis that all systems are chaotic. This conclusion is incorrect for two reasons. *First*, nonlinear dynamics teaches that not all dynamic systems are chaotic for parameter values within ranges of interest. Only those bounded systems that produce exponential divergence in the time response of close initial conditions are chaotic. One need not have any familiarity with the study of dynamics to reach that conclusion. Even the most cursory examination of the complex devices used in our society reveals countless items, such as the computer on which this Article was drafted, that usually perform in a time-dependent yet predictable way to the range of inputs that are actually experienced.³⁵

Perhaps there is a plausible basis for making assumptions necessary to conclude that the American judicial system is chaotic. Yet those assumptions have not been set forth and justified. Unless one can justify those necessary assumptions, any attempt to conclude that a judicial system must produce apparently random results is fundamentally devoid of any foundation.

Second, the process of overruling precedents does not involve the defining characteristic of chaotic behavior—seemingly minor differences in initial conditions producing differing results.³⁶ Rather, those judicial developments create alternative results in identical circumstances. Dean Scott does not describe a chaotic process; he instead describes a non-deterministic one.³⁷

Dean Scott's discussion does not yield results that suggest changes in the legal structure to diminish these oscillations.

35. For the skeptic who notes that his computer occasionally crashes for unknown reasons, the point is that these occasional aberrations do not dominate the item's performance.

36. See *supra* note 28 and accompanying text.

37. "A system is said to be *deterministic* if knowledge of the time-evolution equations, the parameters that describe the system, and the initial conditions . . . , in principle completely determine the subsequent behavior of the system." HILBORN, *supra* note 1, at 7.

Moreover, his discussion is based on misstatements of the results of the study of nonlinear dynamics. The limitation in that discussion to drawing metaphorical links and avoiding a complete quantitative specification permits his discussion to conceal its flaws.³⁸

Large subsets of scientific analyses are inherently quantitative. That quantification is a necessary element in the development of corresponding scientific theories. Competing theories are judged on the basis of the accuracy with which they predict the results of actual items or processes. The proof is in the numerical results.³⁹ In many, and perhaps most, contexts, legal theory has not developed a scale, whether one-dimensional or multi-dimensional, on which to measure, in a quantitative fashion, competing legal propositions.⁴⁰ The absence of such a standard underlies the limitation of many attempts to incorporate quantitative analyses into legal scholarship and accounts for the structure of metaphorical legal analyses. Yet the absence of such a standard prevents the final, necessary step of proper methodology—comparison of results predicted by a theory to results experienced in practice. In an environment lacking such standards, frameworks that organize factors to permit pareto superior results may be powerful. Such an analysis is discussed below.⁴¹

The study of nonlinear dynamics itself represents an attempt to find some order in complex systems, frequently as a precursor to having some control over those systems. If the study of nonlinear dynamics is to have any effect on legal scholarship, it should be to provide inspiration in the pursuit of a rational legal system.

Dean Scott's article illustrates the difficulties that can arise when a sophisticated quantitative analysis is used as a meta-

38. These flaws may well have been exacerbated by Dean Scott's primary reliance, in discussing the conclusions of the study of nonlinear dynamics, on JAMES GLEICK, *CHAOS: MAKING A NEW SCIENCE* (1987), a "[r]ather journalistic and hyperbolic" popularization on chaos. HILBORN, *supra* note 1, at 42.

39. See RICHARD A. POSNER, *THE PROBLEMS OF JURISPRUDENCE* 66-67 (1990).

40. See *id.* at 69.

41. See *infra* part III.

phor. The inherent problem with such metaphorical analyses is not unique to attempts to incorporate nonlinear dynamics into legal scholarship. For example, in constitutional jurisprudence, attempts to weigh in a cost-benefit analysis the advantages and harms of different types are metaphorical and suspect, absent some ability to assign the non-zero costs and benefits to a single scale.⁴² In the absence of plausible corresponding assumptions and a reduction to useful conclusions, the metaphor provides solely an interesting line of thought to be pursued, the support for whose conclusions remains to be provided.

II. MISLEADING QUASI-SCIENTIFIC TERMINOLOGY

A second misapplication of quantitative theory to legal scholarship involves the use of quasi-scientific terminology. For example, the link between relativity and constitutional jurisprudence is not self-evident. Professor Laurence Tribe attempted to fill this void in an essay published in 1989.⁴³ Professor

42. For example, Justice Brennan wrote in dissent:

[T]he Court's decisions over the past decade have made plain that the entire enterprise of attempting to assess the benefits and the costs of the exclusionary rule in various contexts is a virtually impossible task for the judiciary to perform honestly or accurately. Although the Court's language in those cases suggests that some specific empirical basis may support its analyses, the reality is that the Court's opinions represent inherently unstable compounds of intuition, hunches, and occasional pieces of partial and often inconclusive data.

United States v. Leon, 468 U.S. 897, 942 (1984) (Brennan, J., dissenting). A similar sentiment was expressed by Justice Marshall: "The majority now proposes to return to the scales of social utility to calculate whether *Miranda's* prophylactic rule remains cost-effective when threats to the public's safety are added to the balance. The results of the majority's 'test' are announced with pseudo-scientific precision." *New York v. Quarles*, 467 U.S. 649, 681 (1984) (Marshall, J., dissenting). It has been more directly suggested that these attempts to employ cost-benefit analyses reflect malignant attempts to preordain the conclusions of the analyses. See James Boyle, *The Politics of Reason: Critical Legal Theory and Local Social Thought*, 133 U. PA. L. REV. 685, 700 (1985) ("cost-benefit analysts can smuggle in their preferences and thus give their tinkering with the existing distribution of wealth the sham rigor of scientific rationality").

43. Laurence H. Tribe, *The Curvature of Constitutional Space: What*

Tribe notes that there is a long tradition of speaking of legal issues in terminology borrowed from the sciences. He writes, "Early in our nation's history it was commonplace, for example, to say that the 1787 Constitution was Newtonian in design, with its carefully counterpoised forces and counterforces, its checks and balances, structured like a 'machine that would go of itself' to meet the crises of the future."⁴⁴

Professor Tribe does acknowledge the difficulties inherent in applying quantitative analyses in areas where the factors to be weighed cannot be assigned quantitative values on a single scale.⁴⁵ Yet his analysis takes a different, troublesome turn. He states:

Newton's conception of space as empty, unstructured background parallels the legal paradigm in which state power, including judicial power, stands apart from the neutral, "natural" order of things. . . .

. . . .

A parallel conception in the legal universe would hold that, just as space cannot extricate itself from the unfolding story of physical reality, so also the law cannot extract itself from social structures; it cannot "step back," establish an "Archimedean" reference point of detached neutrality, and selectively reach in, as though from the outside, to make fine-tuned adjustments to highly particularized conflicts. Each legal decision restructures the law itself, as well as the social setting in which law operates, because, like all human activity, the law is inevitably embroiled in the dialectical process whereby society is constantly recreating itself.⁴⁶

Lawyers Can Learn from Modern Physics, 103 HARV. L. REV. 1 (1989). That article is not alone in discussing jurisprudence in light of modern physics. E.g., Joan C. Williams, *Critical Legal Studies: The Death of Transcendence and the Rise of the New Langdells*, 42 N.Y.U. L. REV. 429, 444-47 (1987) (placing critical legal studies in the context of modern developments in physics); Elise Porter, Note, *The Player and the Dice: Physics and Critical Legal Theory*, 52 OHIO ST. L.J. 1571 *passim* (1991) (discussing Williams, *supra*, and modern physics).

44. Tribe, *supra* note 43, at 3 (footnote omitted).

45. *Id.* at 1, 2 n.2 (asserting "attempts to reduce human issues to cost-benefit equations, as people in the law and economics movement sometimes do, are bound to be distorting").

46. *Id.* at 7-8.

He then extends his analysis in the context of *DeShaney v. Winnebago County Department of Social Services*.⁴⁷ *DeShaney* concerned a child who had received repeated beatings from his father, which left him with permanent brain damage.⁴⁸ The child and his mother brought suit under 42 U.S.C. § 1983 against various state actors, claiming that their failure to protect the child deprived him of his liberty in violation of the Due Process Clause of the Fourteenth Amendment.⁴⁹ The Court held that the State did not endanger the child and therefore had no constitutional duty to protect the child.⁵⁰ Professor Tribe criticizes the Court's focus on whether the State directly abused the child.⁵¹ He suggests that the Court should have considered whether the State's law, "taken in its entirety, warp[s] the legal landscape so that it in effect deflected the assistance otherwise available to [the child]."⁵² He terms this type of insight "post-Newtonian."⁵³

His question may raise productive lines of constitutional analysis. To the extent the question was raised in Professor Tribe's mind in whole or in part as a result of his exposure to relativity, those who find the question to be useful might well feel some gratitude towards physicists. Yet the application of "Newtonian" and "post-Newtonian" labels is inherently misleading. These labels lead to an enticingly easy conclusion that any analysis labeled "post-Newtonian" is preferable.

This categorization suggests that a "Newtonian" analysis is inherently materially incorrect. Yet appraisals relying on older, more traditional techniques can produce accurate results, in both the study of mechanics and legal scholarship. And that a line of inquiry is novel does not assure its sufficiency. In the context of physics, an analysis of a system employing Newtonian mechanics may provide straightforward results of adequate accuracy.⁵⁴ Depending on the particular context, consideration

47. 489 U.S. 189 (1989).

48. *Id.* at 191-93.

49. *Id.* at 193.

50. *Id.* at 201.

51. Tribe, *supra* note 43, at 10.

52. *Id.*

53. *Id.* at 11.

54. See ALBERT EINSTEIN, RELATIVITY: THE SPECIAL AND THE GENERAL

of refinements from relativity may not be necessary.

Similarly, understanding the validity of Professor Tribe's "post-Newtonian" perspective requires careful consideration of whether the relevant legal context justifies his approach. It is not controversial to assert that the contours of legal rules may affect the conduct of members of society. Yet merely asserting that a complex, counterintuitive relationship exists does not prove the point. In *DeShaney*, the State's actions may have been too remote from the injury suffered to impose liability on governmental actors.⁵⁵

The harm of this terminology extends beyond its invitation of scorn for imbedding meaningless comparisons in the language of legal scholars. In an environment where the meaning and the limitations of the distinctions between Newtonian and relativistic mechanics are not commonly well understood, the application of scientific labels may substitute for a considered analysis of the materiality of these secondary effects. Furthermore, misleading labels frame the inquiry in a manner that biases the conclusions and deceives scholars into disregarding certain lines of thought that have been characterized as reflecting antiquated principles. Such terminology facilitates lexical legerdemain, obfuscating logical leaps.⁵⁶ In addition to distorting the answers, the use of such language engenders in the reader a false sense of understanding the scientific area. Curi-

THEORY 13 (Robert W. Lawson trans., 15th ed. Crown Trade Paperbacks 1961) (1952) ("Even though classical mechanics does not supply us with a sufficiently broad basis for the theoretical presentation of all physical phenomena, still we must grant it a considerable measure of 'truth,' since it supplies us with the actual motions of the heavenly bodies with a delicacy of detail little short of wonderful.").

55. Of course, this thought is not unique to relativistic mechanics. The same concept, proximate causation, plays an integral part in the law of torts. See, e.g., W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 44 (5th ed. 1984) (discussing the "intervening causes" element of proximate causation).

56. See Charny, *supra* note 21, at 1837 n.84 (questioning the analogy drawn by Professor Tribe); Pierre Schlag, *The Brilliant, the Curious, and the Wrong*, 39 STAN. L. REV. 917, 917-18 (1987) ("For some reason, when that foreign terminology is commandeered and applied to law, all our legal artifacts and problems mysteriously seem to fall into place—leaving us in complete wonder as to why no one has thought of doing this before.").

ously, Professor Tribe himself, in criticizing the use of another quantitative theoretical approach in legal scholarship, law and economics, identified a strikingly similar concern:

[T]he Supreme Court's failure to take . . . concerns [bearing on distribution of wealth and power] seriously is no less troubling if the cost-benefit patina is but a mask for substantive judgments arrived at through other means, than it is if the cost-benefit imagery genuinely mirrors what the Court understands itself to be doing.⁵⁷

The division of the discussion above into parts I and II is not intended to imply that the parts discuss discrete, unrelated issues. Each part discusses a point on a spectrum of analyses lacking necessary elements for completeness. Thus, through its omissions, each discussion remains confined to the realm of speculation.

III. QUANTITATIVE TECHNIQUES ADRIFT FROM ANCHORING ASSUMPTIONS—*FDIC v. W.R. GRACE & Co.*

A. Background

The preceding parts address abstract applications of quantitative theories that are at most tangentially related to the legal issue analyzed. Yet quantitative theories can be more directly applied to legal issues. *FDIC v. W.R. Grace & Co.*⁵⁸ is a fertile source for discussion of the manipulation of quantitative analyses.

57. Tribe, *supra* note 6, at 598 (footnote omitted); see also *id.* at 608, 620 & n.164 (describing the cost-benefit discussion in one Court opinion as a "charade"; interpreting another author as "noting the deceptive nature of legal rhetoric that draws upon the abstractions of bureaucratic theory, such as 'expertise'"; and stating, "Perhaps this analytic escape hatch is simply the latest in a series of accountability-avoiding devices—one ideally suited to a judiciary . . . dazzled by the scientist's mastery of mathematical techniques . . ."); cf. Laurence H. Tribe, *Seven Deadly Sins of Straining the Constitution Through a Pseudo-Scientific Sieve*, 36 HASTINGS L.J. 155, 168 (1984) ("[A]bdicating responsibility for choice . . . is the great appeal of all fundamental faiths, including faith in technical expertise and in methods like cost-benefit analysis. . . . They create an illusion, a comforting illusion, of inexorability.").

58. 877 F.2d 614 (7th Cir. 1989), *cert. denied*, 494 U.S. 1056 (1990).

FDIC v. W.R. Grace & Co. concerned a \$75 million non-recourse loan facility extended by Continental Illinois National Bank to W.R. Grace, the proceeds of which were used to finance part of the \$87 million purchase price for an interest in three natural gas fields.⁵⁹ The interest in the natural gas fields constituted the sole security for the loan facility.⁶⁰ On March 14, 1980, Continental Illinois issued a commitment letter, stating that it was "pleased to commit to provide \$75,000,000 in a production payment loan for the benefit of W.R. Grace & Co."⁶¹ The commitment letter stated that it was "subject to satisfactory documentation."⁶² At the beginning of April 1980, Continental Illinois sent W.R. Grace two five-page, single-spaced letters, each setting forth summaries of the major terms of the loan.⁶³

Before receiving the loan commitment, W.R. Grace had delivered to Continental Illinois a reserve report concerning the fields, prepared by an independent firm. The report was reviewed by Continental Illinois' own engineer.⁶⁴ After the commitment letter was delivered, W.R. Grace continued to receive additional information concerning the ongoing activity to determine the quantity of gas in the fields.⁶⁵ By May 18, 1980, W.R. Grace learned that one of the three fields, which W.R. Grace had previously valued at \$15.5 million, would produce

59. *Id.* at 617-18. The opinion describes the loan being extended to, and the purchase being made by, W.R. Grace and/or its wholly owned subsidiary, Grace Petroleum Corporation. *Id.* at 618. This description in the opinion simplifies the actual fact pattern. In fact, W.R. Grace had assigned its rights to the interest to The Leadership Foundation, Inc., a non-profit organization. Conveyance of Production Payment, dated as of July 1, 1980, between Grace Petroleum Corporation and The Leadership Foundation, Inc. (on file with author); Loan Agreement, dated as of July 1, 1980, between The Leadership Foundation, Inc., and Continental Illinois National Bank and Trust Company of Chicago (on file with author). Because the opinion in *FDIC v. W.R. Grace & Co.* refers to W.R. Grace as the borrower, this Article retains that simplification.

60. *W.R. Grace*, 877 F.2d at 617.

61. *Id.* at 618 (quoting the commitment letter).

62. *Id.*

63. *See id.*

64. *Id.* at 617.

65. *Id.* at 618.

no gas.⁶⁶ W.R. Grace first tried not to close the acquisition. Ultimately W.R. Grace agreed to proceed with the transaction, which was structured to include a covenant that allowed W.R. Grace to bring an action against the seller alleging improper failure to disclose information concerning the non-producing field.⁶⁷ The purchase closed on that basis on May 27.⁶⁸

Although the definitive loan agreement was executed July 1, 1980, and W.R. Grace drew funds shortly thereafter,⁶⁹ W.R. Grace did not disclose the new information concerning the value of the fields until three years later.⁷⁰ Continental Illinois subsequently filed suit against W.R. Grace, alleging that Continental Illinois had been fraudulently induced into extending the loan.⁷¹

The opinion, written by Judge Posner, raises several issues concerning the practical application of quantitative analyses by judges. The case presents two fundamental legal issues: (i) the extent of any binding obligation created by a preliminary instrument and (ii) the extent to which parties to contracts are required to disclose material information to the other party in the absence of an express contractual provision unambiguously addressing the matter. The second of these issues, the scope of the duty to disclose, was resolved by the court on the basis of economic theory. A review of the underpinnings of the court's analysis yields useful insights into the limitations of quantitative legal analyses.

The facts of *FDIC v. W.R. Grace & Co.* relevant to these two legal issues are interrelated. Without a complete discussion of the extent to which preliminary instruments create binding obligations, it is difficult to appreciate fully Judge Posner's economic analysis concerning the duty to disclose. Before turning to that economic inquiry, therefore, the scope of the binding obligations created by preliminary instruments is reviewed.

66. *Id.*

67. *Id.* The suit subsequently was settled for \$13 million. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.* at 616. Continental Illinois subsequently assigned the loan to the FDIC. *Id.* at 616-17.

B. The Extent to Which Preliminary Documents Are Binding

Obligations Under Preliminary Instruments. Preliminary instruments signed before definitive documentation may create a variety of contractual relationships.⁷² *First*, the instrument may create a binding substantive agreement, with secondary or customary additional terms to be supplied by a court in the case of litigation.⁷³ *Second*, the instrument could create a rela-

72. This subpart III.B emphasizes recent cases concerning preliminary documents. A discussion of the issues addressed in this subpart III.B, with a detailed identification of cases that are not referenced in this Article, including older cases, is contained in 1 E. ALLAN FARNSWORTH, FARNSWORTH ON CONTRACTS §§ 3.8-3.8c, 3.26, 3.26b-c (1990 & Supp. 1994).

73. E. Allan Farnsworth, *Precontractual Liability and Preliminary Agreements: Fair Dealing and Failed Negotiations*, 87 COLUM. L. REV. 217, 250-51 (1987); see *Newport Ltd. v. Sears, Roebuck & Co.*, 6 F.3d 1058, 1065 (5th Cir. 1993) (applying Louisiana law in the context of a letter agreement setting forth the terms of a lease that were to be documented subsequently), *cert. denied*, 114 S. Ct. 2710 (1994); *Computer Sys. of Am., Inc. v. IBM*, 795 F.2d 1086, 1087, 1089-91 (1st Cir. 1986) (holding, under Texas law, that it was a jury question to decide whether a binding agreement to lease a computer, at an annual rate of \$801,660, was created by a five sentence letter identifying the computer, the term and the lease rate, which also stated, "This lease is dependent upon satisfactory contractual arrangement."); *Arnold Palmer Golf Co. v. Fuqua Indus., Inc.*, 541 F.2d 584, 589 n.3, 590-92 (6th Cir. 1976) (holding, under Ohio law, that it was a question of fact to decide whether a contract had been formed by a detailed memorandum of intent, notwithstanding that the memorandum stated, "The obligations of [the parties] shall be subject to fulfillment of the following conditions: . . . preparation of the definitive agreement for the proposed combination in form and content satisfactory to both parties and their respective counsel [and certain other conditions]."); *V'Soske v. Barwick*, 404 F.2d 495, 499 n.3, 500 (2d Cir. 1968) (holding under New York law that correspondence constituted a binding agreement for the purchase of a business), *cert. denied*, 394 U.S. 921 (1969); *I.R.V. Merchandising Corp. v. Jay Ward Prods., Inc.*, 856 F. Supp. 168, 173 (S.D.N.Y. 1994) (stating, under New York law, "The fact that the parties had not resolved all of the terms of the contract weighs in favor of a finding that no contract existed. However, it does not preclude the existence of a contract."); *Weinreich v. Sandhaus*, 850 F. Supp. 1169, 1177-78 (S.D.N.Y. 1994) (holding that, under New York law, a preliminary agreement created binding substantive obligations, stating, "[T]he existence of open terms does not per se defeat a finding of a contract. Indeed, 'a court should find an agreement too indefinite only as a

"last resort" when it is "satisfied that the agreement cannot be rendered reasonably certain by reference to an extrinsic standard that makes its meaning clear."') (citation omitted); *Teachers Ins. & Annuity Ass'n of Am. v. Coaxial Communications, Inc.*, 799 F. Supp. 16, 18 (S.D.N.Y. 1992) (holding that a commitment letter for a \$55 million loan, which stated that it created a binding obligation to lend and borrow, constituted a binding obligation to lend and borrow); *Sav-a-Stop Inc. v. Jaydon, Inc.* (*In re Sav-a-Stop Inc.*), 124 B.R. 356, 359 (Bankr. M.D. Fla. 1991) ("[T]he fact that an agreement may provide that a further more specific agreement will be entered into later does not affect the enforceability of the original agreement. . . . The agreement to agree is enforceable if it is sufficiently specific to be capable of implementation and all the essential elements are set forth.") (citations omitted); *Teachers Ins. & Annuity Ass'n of Am. v. Butler*, 626 F. Supp. 1229, 1231-32 (S.D.N.Y. 1986) (holding in a bench trial, under New York law, that a commitment letter for a loan was binding, obligating the respective parties to borrow and lend money, and that the prospective borrower breached that agreement by failing to negotiate in good faith a penalty payable on default on the loan), *appeal denied*, 816 F.2d 670 (2d Cir. 1987); *Quake Constr., Inc. v. American Airlines, Inc.*, 565 N.E.2d 990, 994 (Ill. 1990) ("[A]lthough letters of intent may be enforceable, such letters are not necessarily enforceable unless the parties intend them to be contractually binding."); *id.* at 992-94, 996 (holding that it was a question of fact to decide whether a detailed letter of intent that stated (i) that the sender of the letter had elected to award the contract to the recipient and (ii) that it "authorizes the work," was binding, notwithstanding a statement that the other party "reserves the right to cancel this letter of intent if the parties cannot agree on a fully executed subcontract agreement"); *Heritage Broadcasting Co. v. Wilson Communications, Inc.*, 428 N.W.2d 784, 787 (Mich. Ct. App. 1988) ("A contract to make a subsequent contract is not per se unenforceable; in fact, it may be just as valid as any other contract. To be enforceable, a contract to enter into a future contract must specify all its material and essential terms and leave none to be agreed upon as the result of future negotiations.") (citations omitted); *id.* at 785-87 (holding that a letter of intent for a purchase and sale that stated that the obligation of the purchaser to purchase was subject to execution of a definitive agreement within 45 days, that the seller would exclusively deal with the purchaser within that 45 days and that "[i]t is intended that the [letter of intent] will be incorporated into a definitive agreement," was an agreement binding on the seller, notwithstanding the failure to execute a definitive agreement within 45 days, since "[t]he definitive agreement would have added only the mechanics necessary to accomplish the conveyance"). See generally Joanna Schmidt, *Preliminary Agreements in International Contract Negotiation*, 6 HOUS. J. INT'L L. 37, 48 (1983) (referring to such agreements as "provisional contracts" designated to last only for the duration of the negotiation).

tionship in which some terms are resolved, only in the sense that they will be a part of any definitive agreement that is reached, coupled with a contractually binding undertaking to negotiate the remainder of the terms in good faith.⁷⁴ This type of instrument creates no contractually binding, complete agreement concerning the substance of the primary transaction. *Third*, the resulting document could be a framework for further negotiations, with no binding contractual obligation imposed on any party.⁷⁵

In the case of preliminary letters concerning the sale of goods under the Uniform Commercial Code, the code specifies that the parties may enter into a binding agreement, notwithstanding the failure to state a price, in which case the price is a reasonable price at the time for delivery. U.C.C. § 2-305, 1 U.L.A. 47-48 (1989); see Harvey L. Temkin, *When Does the "Fat Lady" Sing?: An Analysis of "Agreements in Principle" in Corporate Acquisitions*, 55 FORDHAM L. REV. 125, 131 n.25 (1986).

74. Channel Home Ctrs., Div. of Grace Retail Corp. v. Grossman, 795 F.2d 291, 298-99 (3d Cir. 1986) (construing Pennsylvania law); Commercial Mktg., Inc. v. Atlantic Computer Sys. Inc. (*In re Atlantic Computer Sys., Inc.*), 154 B.R. 166, 168, 170-71 (S.D.N.Y. 1993) (holding that no such agreement was reached, where (i) the document made no reference to a "binding agreement"; (ii) the subject matter, a portfolio of assets, was not specified; (iii) a definitive agreement remained to be executed; and (iv) the document stated that the agreement was subject to board approval); *In re Allegheny Int'l, Inc.*, 117 B.R. 171, 177 (W.D. Pa. 1990) (holding that a commitment letter that stated, "If you accept and agree to this proposal, please so indicate by signing in the space provided below," was a binding preliminary commitment, even though the letter reserved rights of approval; and stating that such a reservation permitted a party to demand customary protection); Teachers Ins. & Annuity Ass'n of Am. v. Tribune Co., 670 F. Supp. 491, 498 (S.D.N.Y. 1987) ("For the parties can bind themselves to a concededly incomplete agreement in the sense that they accept a mutual commitment to negotiate together in good faith in an effort to reach final agreement within the scope that has been settled in the preliminary agreement."); Farnsworth, *supra* note 73, at 251; Charles L. Knapp, *Enforcing the Contract to Bargain*, 44 N.Y.U. L. REV. 673, 684-86 (1969) (naming such an agreement a "contract to bargain"); see Wendell H. Holmes, *The Freedom Not to Contract*, 60 TUL. L. REV. 751, 786 (1986) ("[O]ne seeking the shelter of a no-binding-effect clause must observe the overriding demands of good faith.").

75. See Beck v. American Health Group Int'l, Inc., 260 Cal. Rptr. 237, 239 n.1, 242 (Ct. App. 1989) (holding that a letter that stated, "It is a pleasure to draft the outline of our future agreement," recited basic terms and stated, "If this is a general understanding of the agreement, I

There are practical reasons why sophisticated parties may wish to segment the process of reaching a definitive agreement by creating one or more intermediate steps.⁷⁶ The expenses involved in reaching a definitive agreement may be sufficiently large that the parties desire to receive at least a nebulous assurance before proceeding.⁷⁷ The parties may wish to agree on some basic terms before undertaking the negotiation of a plethora of other issues.⁷⁸ One party may seek to obtain some assurance that a definitive agreement can be reached, or reached within specified limits, prior to delivering a bid to, or contracting with, another party. A transaction may require the participation of a governmental entity, for example as a guarantor. In such a case, the governmental entity may be unwilling to consider whether the proposed transaction is the type of transaction in which it will participate, unless all private parties have agreed to participate.⁷⁹ To achieve these goals, parties may employ a preliminary instrument that imposes an

ask that you sign a copy of this letter, so that I might forward it to Corporate Counsel for the drafting of a contract," did not constitute a binding agreement). This tripartite taxonomy of these arrangements is not unique to this Article. *See, e.g.,* Temkin, *supra* note 73, at 127-30.

76. *See* 1 FARNSWORTH, *supra* note 72, § 3.8c, at 205; Juliet P. Kostritsky, *Bargaining with Uncertainty, Moral Hazard, and Sunk Costs: A Default Rule for Precontractual Negotiations*, 44 HASTINGS L.J. 621, 647 n.84 (1993); *see, e.g.,* Magallanes Inv., Inc. v. Circuit Sys., Inc., 994 F.2d 1214, 1220 (7th Cir. 1993) (identifying this mechanism in ship sales).

77. *Feldman v. Allegheny Int'l, Inc.*, 850 F.2d 1217, 1221 (7th Cir. 1988) (enumerating the benefits of a letter of intent prior to costly negotiations); Holmes, *supra* note 74, at 776-77 (discussing preliminary agreements in the context of public offerings).

78. Holmes, *supra* note 74, at 777 ("to memorialize the substance of their agreement at its current stage and to provide an impetus to consummate the bargain"); Mark K. Johnson, Note, *Enforceability of Precontractual Agreements in Illinois: The Need for a Middle Ground*, 68 CHI.-KENT L. REV. 939, 941 (1993); *see* 1 FARNSWORTH, *supra* note 72, § 3.8c, at 205; Farnsworth, *supra* note 73, at 258; Schmidt, *supra* note 73, at 51.

79. Holmes, *supra* note 74, at 777; Johnson, *supra* note 78, at 941; *e.g., Newport*, 6 F.3d at 1061 (considering a letter agreement for a lease, which the Department of Housing and Urban Development required to demonstrate the prospective lessee's actual commitment as a condition to the processing of a grant request).

obligation of some type on the parties. Other preliminary instruments may serve as mechanisms by which the parties disseminate potential terms as a basis for further negotiations, with no intention of creating binding obligations.

It may be complex and difficult to decide which of these three types of documents any particular preliminary instrument represents. Courts have identified various factors, including the following: (i) the language of the agreement;⁸⁰ (ii) the context of the negotiations;⁸¹ (iii) whether there are open material terms;⁸² (iv) whether there has been partial perfor-

80. *Arcadian Phosphates, Inc. v. Arcadian Corp.*, 884 F.2d 69, 72 (2d Cir. 1989); *Knight v. Sharif*, 875 F.2d 516, 523 (5th Cir. 1989) (construing Mississippi law); *Atlantic Computer Sys.*, 154 B.R. at 170; *Tribune*, 670 F. Supp. at 499. The language is the most important factor. *Arcadian Phosphates*, 884 F.2d at 72; *Weinreich*, 850 F. Supp. at 1177 (following New York law); *Atlantic Computer Sys.*, 154 B.R. at 170; *Tribune*, 670 F. Supp. at 499. In *Schwanbeck v. Federal-Mogul Corp.*, 592 N.E.2d 1289 (Mass. 1992), the court construed a letter of intent that stated:

[T]his letter is not intended to create, nor do you or we presently have any binding legal obligation whatever in any way relating to such sale and purchase other than [certain specified items]. No further obligation will arise until a definitive agreement is reduced to writing and executed. . . .

However, it is our intention, and, we understand, your intention immediately to proceed in good faith in the negotiation of such binding definitive agreement

Id. at 1291 n.2. Construing that letter, the court stated:

It is also elementary that an unambiguous agreement must be enforced according to its terms. There is no ambiguity in the letter of intent The parties clearly stated certain contractual commitments to which they were binding themselves and, just as clearly, they followed those commitments with an expression of their intention to proceed to negotiate in good faith. That this expression of intent follows the parties' disclaimer of binding effect and begins with the word "however" does not elevate its status from a mere expression of intent into a binding obligation.

Id. at 1292 (citation and footnote omitted). Other cases identifying this factor and other factors are collected at 1 FARNSWORTH, *supra* note 72, § 3.8.

81. *Arcadian Phosphates*, 884 F.2d at 72; *Atlantic Computer Sys.*, 154 B.R. at 170; *see Tribune*, 670 F. Supp. at 500-02.

82. *Arcadian Phosphates*, 884 F.2d at 72; *Knight*, 875 F.2d at 523 (construing Mississippi law); *Weinreich*, 850 F. Supp. at 1176-77 (constru-

mance,⁸³ (v) “the necessity of putting the agreement in final

ing New York law); *Atlantic Computer Sys.*, 154 B.R. at 170; *Quake Constr.*, 565 N.E.2d at 997; *Carmon v. Soleh Boneh Ltd.*, 614 N.Y.S.2d 555, 556 (App. Div. 1994) (“where an agreement contains open terms, calls for future approval, and expressly anticipates future preparation and execution of contract documents, there is a strong presumption against finding a binding and enforceable obligation”); Johnson, *supra* note 78, at 943. However, “[t]he fact that some matters may have been left for future agreement does not necessarily preclude a finding of intent to contract during preliminary negotiations.” *A/S Apothekernes Laboratorium for Specialpraeparater v. I.M.C. Chem. Group, Inc.*, 873 F.2d 155, 157 (7th Cir. 1989) (construing Illinois law); see *Tribune*, 670 F. Supp. at 502; 1 FARNSWORTH, *supra* note 72, § 3.8, at 181-82; cf. Andrew R. Klein, Comment, *Devil's Advocate: Salvaging the Letter of Intent*, 37 EMORY L.J. 139, 145 (1988) (“whether the agreement was sufficiently definitive to be enforced”). *But see Butler*, 626 F. Supp. at 1234-35 (holding that, under New York law, a prospective borrower breached its obligation to negotiate in good faith under a commitment letter, where the prospective lender insisted that a prepayment penalty identified in the commitment letter be given full effect in the definitive documentation by providing for payments due on default to include a penalty).

83. *Arcadian Phosphates*, 884 F.2d at 72; *Knight*, 875 F.2d at 523; *Weinreich*, 850 F. Supp. at 1176-77; *I.R.V. Merchandising Corp.*, 856 F. Supp. at 172-73 (applying New York law); *Atlantic Computer Sys.*, 154 B.R. at 170; *Sand Creek Country Club, Ltd. v. CSO Architects, Inc.*, 582 N.E.2d 872, 874-75 (Ind. Ct. App. 1991) (affirming a trial court's findings of fact and conclusions of law that a letter from an architectural firm to a client, that (i) stated, “[N]othing contained in this letter shall bind either until [an AIA contract] is executed,” (ii) stated that billings would be delayed until financing was secured and (iii) was signed as “accepted” by the client, obligated the client to pay for services rendered, notwithstanding absence of a final agreement); *Holmes*, *supra* note 74, at 782 (“Regardless of the common understanding of the effect given to letters of intent, . . . such expressions are significant only to an essentially executory agreement. Once one side has rendered substantial performance, parties cannot safely rely upon expressions of intent to effect a return to the status quo ante. . . . [E]ven where a writing may be understood in ordinary usage not to represent a legal obligation, it will acquire increasingly binding characteristics as performance overlaps intention.”) (footnotes omitted); Johnson, *supra* note 78, at 943. *But cf. Murray v. Abt Assocs.*, 18 F.3d 1376, 1377-79 (7th Cir. 1994) (affirming the district court's holding on summary judgment that, under Illinois law, where the parties continued to pursue the goals of a binding term sheet after the express termination date, the parties had no implied duty to negotiate in good faith toward each other); *Quake Constr.*, 565 N.E.2d at 998 (indicating that a letter of intent could authorize actions in reliance without

form, as indicated by the customary form of such transactions";⁸⁴ (vi) whether the parties are sophisticated and represented by counsel;⁸⁵ (vii) the amount of money involved;⁸⁶ (viii) the scope of the details inherent in the transaction;⁸⁷ (ix) the reasons for the ultimate abandonment of negotiations;⁸⁸

waiving a condition precedent to the formation of a contract).

However, a court may hold that where there has been partial performance of an agreement, but a provision that leaves terms open for future agreement has not yet been performed, the provision with open terms is void for indefiniteness. *MCB Ltd. v. McGowan*, 359 S.E.2d 50, 53-54 (N.C. Ct. App. 1987) (holding void a provision in a deed of trust under which the beneficiary agreed to subordinate the lien of the deed of trust "in such amount as may be reasonably requested by the [g]rantors" to secure permanent financing (quoting the deed of trust)).

84. *Arcadian Phosphates*, 884 F.2d at 72; *accord Knight*, 875 F.2d at 523; *Atlantic Computer Sys.*, 154 B.R. at 170; *Tribune*, 670 F. Supp. at 503 ("it would better be put in terms of whether in the relevant business community, it is customary to accord binding force to the type of informal or preliminary agreement at issue"); *Quake Constr.*, 565 N.E.2d at 994 ("whether the type of agreement involved is one usually put into writing"); *Carmon*, 614 N.Y.S.2d at 556; *cf.* *Gel Sys. Inc. v. Hyundai Eng'g & Constr. Co.*, 902 F.2d 1024, 1027 (1st Cir. 1990) (stating, under Massachusetts law, that reference to a future document creates a "strong inference" of an intention not to be bound); *Viking Broadcasting Corp. v. Snell Publishing Co.*, 497 N.W.2d 383, 386 (Neb. 1993) (citing the absence of detail in a 1-3/4 page letter of intent for a \$14 million acquisition in holding that the letter of intent, as a matter of law, did not create a binding obligation to sell/purchase).

85. *Kinko's Graphics Corp. v. Townsend*, 803 F. Supp. 1450, 1456-57 (S.D. Ind. 1992) (construing Indiana law); *see Coaxial Communications*, 799 F. Supp. at 18; 1 FARNSWORTH, *supra* note 72, § 3.8, at 183; *Holmes*, *supra* note 74, at 790 ("One would expect that among parties of the same status, courts would be more willing to respect expressions of intent than when dealing with parties of unequal bargaining power. In the ordinary case, sophisticated parties dealing at arm's length could be expected to abide by the rules they impose upon themselves. Only in the event of some superseding flaw in the bargaining process should a court intervene to impose obligations not voluntarily assumed.").

86. *Knight*, 875 F.2d at 523 (construing Mississippi law); *Quake Constr.*, 565 N.E.2d at 994; *Temkin*, *supra* note 73, at 132; *see* 1 FARNSWORTH, *supra* note 72, § 3.8, at 183.

87. *Knight*, 875 F.2d at 523; *Quake Constr.*, 565 N.E.2d at 994; *Johnson*, *supra* note 78, at 943; *see Skycom Corp. v. Telstar Corp.*, 813 F.2d 810, 816 (7th Cir. 1987) (construing Wisconsin law).

88. *Quake Constr.*, 565 N.E.2d at 994.

and (x) whether the agreement indicates that it is subject to future approvals.⁸⁹

The decisions both among jurisdictions and within particular jurisdictions are inconsistent.⁹⁰ At one extreme, some jurisdictions, frequently terming these documents "agreements to agree," hold that preliminary instruments that leave material terms to be negotiated are not enforceable agreements concerning their subject matter.⁹¹ Other jurisdictions hold that such

89. *Arcadian Phosphates*, 884 F.2d at 73; *Atlantic Computer Sys.*, 154 B.R. at 170; *Tribune*, 670 F. Supp. at 500 (stating that such a reservation tends to indicate, but does not conclusively establish, an intention not to be bound); see *Gel Sys.*, 902 F.2d at 1028 (citing the required approval of a third party in applying Massachusetts law). Separate issues involving fiduciary duties arise where the transaction ultimately requires the approval of the shareholders. See Farnsworth, *supra* note 73, at 249 n.125; Klein, *supra* note 82, at 150-69; Temkin, *supra* note 73, at 126. Those additional issues are not discussed here.

90. Farnsworth, *supra* note 73, at 259-60 ("It would be difficult to find a less predictable area of contract law."); Temkin, *supra* note 73, at 131 n.24; Stephen R. Volk, *The Letter of Intent*, 16 INST. ON SEC. REG. 143, 145 (1985); see *Quake Constr.*, 565 N.E.2d at 1009 (Stamos, J., specially concurring) ("in these fact-intensive cases the decisions have varied widely"). For example, the *Arcadian Phosphates* court stated that an agreement to negotiate can be enforceable. *Arcadian Phosphates*, 884 F.2d at 72. Yet it held that a document termed an "agreement" that provided that both parties agreed "to cooperate fully and work judiciously in order to expedite the closing date and consummate the sale of the business" did not create a binding obligation to negotiate. *Id.* at 70-72. The factual support for this holding was that (i) the agreement specified that certain amounts to be paid by the prospective purchaser would be refunded if no agreement were reached and (ii) a sales agreement remained to be negotiated. *Id.* It is not clear why one party's prudence in specifying that advances be returned should negotiations fail is inconsistent with agreeing to negotiate in good faith.

91. The following cases are recent examples: *Consolidated Grain & Barge Co. v. Madgett*, 928 F.2d 816, 817 (8th Cir. 1991), concerned a letter agreement between parties who were co-defendants in a class action suit. The letter agreement provided that the parties "will negotiate in good faith" the parties' shares of funds to be received under a contract to which one of the co-defendants became a party by virtue of a settlement of the class action suit. *Id.* The parties had determined to enter this agreement in lieu of postponing settlement of the class action until a definitive agreement was reached on this issue. *Id.* The plaintiff complained that the monies that it had been receiving were inadequate and that the other co-defendant refused to negotiate, as required by the letter

agreement, except in the context of negotiating other matters. *Id.* The court held that this agreement to negotiate was unenforceable, noting that the court had no basis to determine the correct amount and could not realistically compel negotiations. *Id.* at 817-18 (construing the laws of Minnesota and Missouri, which the court held to be the same on this point). The court expressly declined to apply federal labor law precedents to the issue. *Id.* at 818 n.2.

In *Knight v. Sharif*, 875 F.2d 516, 525 (5th Cir. 1989), the court affirmed in part a magistrate's order appended to the opinion, which stated, "Mississippi . . . has never recognized contracts to negotiate nor contracts to make a contract."

Feldman v. Allegheny Int'l, Inc., 850 F.2d 1217 (7th Cir. 1988) (construing Illinois law) concerned a letter of intent for the sale of certain subsidiaries. The court described the letter as follows:

[The letter of intent] committ[ed] [the seller] not to "hold discussions or negotiate with any person other than [the plaintiff]" on the sale of the food companies "while the proposed acquisition is being pursued." The letter specified that the sale price would involve a minimum cash component of \$11 million, but otherwise left open the details of the transaction. It also stated that "[i]t is understood that this is not a binding agreement and that the obligations and rights of the parties shall be set forth in the definitive agreement executed by the parties."

Id. at 1219 (quoting the letter in part). It appears that the seller may have been negotiating with a third party during the last three weeks of the negotiations under the letter of intent; the seller solicited and received a proposal from a third party to whom the subsidiaries were ultimately sold. *See id.* at 1219-20. The court reasoned:

The proper recourse is to walk away from the bargaining table, not to sue for "bad faith" in negotiations. . . . Both parties were free to end the arrangement and move on if they felt that discussions were progressing too slowly or they had reached a stalemate and believed they had better prospects elsewhere.

Id. at 1223. *But cf. id.* at 1224 ("The letter may give rise to some enforceable obligations, in particular, the right to some degree of exclusive bargaining for some time."). As in many opinions, the meaning of this case is obscured by the court's omission of the full text of the letter of intent. The exclusive dealing language is in conflict with the language stating that no binding obligation is made. The relative location of the sentences might have indicated that no binding obligation to sell was made, but the parties intended to negotiate exclusively.

In *Skycom Corp. v. Telstar Corp.*, 813 F.2d 810, 814 (7th Cir. 1987) (construing Wisconsin law), the court stated, "The letter could be treated as an 'agreement to agree' on the open terms. . . . As an 'agreement to agree', however, it is not enforceable."

Kinko's Graphics Corp. v. Townsend, 803 F. Supp. 1450, 1452-53

(S.D. Ind. 1992), concerned an oral agreement on the term, rental rate and payment of utilities of a commercial lease of identified premises, which was followed by a fax from the potential landlord's agent. The fax stated, "Agreement is effective per verbal communication with [the potential landlord]. Details to follow." *Id.* at 1453. The court stated:

If it seems implausible that a few scribbled lines on a FAX would lead a reasonable party to believe that [the potential tenant] was licensed to take the actions that he ultimately took, [which included taking possession,] the possibility is even more remote that the FAX embodies the terms of their compact. These circumstances indicate that if the FAX was anything, it probably was little more than an agreement to agree. In Indiana, agreements to agree are not enforceable.

Id. at 1457 (citation and footnote omitted).

In *Beck v. American Health Group Int'l, Inc.*, 260 Cal. Rptr. 237, 242 (Ct. App. 1989), the court stated that an "agreement to agree" is unenforceable, without indicating whether the parties may bind themselves in the types of contracts described *supra* at text accompanying notes 73-74.

In *Crowe-Thomas Consulting Group, Inc. v. Fresh Pak Candy Co.*, 494 N.W.2d 442, 444-45 (Iowa Ct. App. 1992), the court in construing a letter that stated that it was a "letter of interest only and is subject to the negotiation and execution of a definitive agreement," affirmed the trial court's finding that the letter was not an offer and acceptance for purposes of determining whether a business brokerage fee became due and payable. The court did not discuss duties to negotiate in good faith (which the letter of intent expressly disclaimed); rather, it recited that an agreement to enter a contract is unenforceable where any terms are left to future negotiation. *Id.*

The court in *Hansen v. Phillips Beverage Co.*, 487 N.W.2d 925, 927 (Minn. Ct. App. 1992) (citation omitted), stated, "This letter creates merely an agreement to negotiate in good faith. Under Minnesota law, such an agreement is unenforceable where the agreement evidences nothing more than an intention to negotiate in the future."

In *Carmon v. Soleh Boneh Ltd.*, 614 N.Y.S.2d 555, 556 (App. Div. 1994) (citations omitted), the court stated:

It is well settled that an agreement to agree, in which material terms are left for future negotiations, is unenforceable unless a methodology for determining the material terms can be found within the four corners of the agreement or the agreement refers to an objective extrinsic event, condition, or standard by which the material terms may be determined.

The court did not discuss an implied duty to negotiate in good faith.

In *Danton Constr. Corp. v. Bonner*, 571 N.Y.S.2d 299, 300 (App. Div. 1991), the court held that an option to purchase real property was an unenforceable agreement to agree, because the agreement specified

that one party reserved the right to "reformat" the terms to maximize potential tax advantages.

A letter of intent concerning the formation of a joint venture to develop property was at issue in *Bernstein v. Felske*, 533 N.Y.S.2d 538, 539 (App. Div. 1988). The letter of intent identified material terms that would be resolved and addressed in the definitive documentation and specified that it would cease to be binding unless a formal contract was executed by a specified date. *Id.* The court held that the letter of intent did not impose on the parties even a duty to negotiate in good faith, because no objective standards for that conduct were specified in the letter. *Id.* at 540.

Professor Shell refers to the unenforceability of agreements to negotiate as being the traditional rule. G. Richard Shell, *Opportunism and Trust in the Negotiation of Commercial Contracts: Toward a New Cause of Action*, 44 VAND. L. REV. 221, 243 (1991). Some earlier cases are collected in Temkin, *supra* note 73, at 140 n.66. The cases cited in this footnote 91 are related to cases in which an agreement provides for possible extension on terms subject to future negotiation, with no express grant of a right of first offer and with no restriction on the future terms. Some courts have held that such a provision is not binding. *E.g.*, *Muscle Shoals Aviation, Inc. v. Muscle Shoals Airport Auth.*, 508 So. 2d 225, 228 (Ala. 1987); *Air Host Cedar Rapids, Inc. v. Cedar Rapids Airport Comm'n*, 464 N.W.2d 450, 453 (Iowa 1990); *cf.* *Ohio Calculating, Inc. v. CPT Corp.*, 846 F.2d 497, 501 (8th Cir. 1988) (holding unenforceable under Minnesota law a paragraph in a dealership agreement that required the manufacturer to negotiate to purchase the dealer's business should the dealership be terminated); *Farnsworth, supra* note 73, at 243-44 (stating that parties renegotiating an existing agreement are obligated to negotiate in good faith). For example, in *Yan's Video, Inc. v. Hong Kong TV Video Programs, Inc.*, 520 N.Y.S.2d 143, 144-45 (App. Div. 1987), the court held that a contract that set forth a licensor's "intention to negotiate in good faith a renewal 'upon terms and conditions to be negotiated,'" *id.* at 144 (quoting the agreement in part), was an unenforceable agreement to agree. *Id.* at 145. The original licensee's position was particularly strong, as it appears that the licensor licensed the property to a third party, for a term commencing upon the expiration of the original license, prior to any contact with the original licensee. *See id.* at 144.

The language of these decisions is at times confusing, because some state that such a contract is unenforceable unless it states all material terms. *E.g.*, *Heritage Broadcasting*, 428 N.W.2d at 787. Yet inclusion of the term "agreement to agree," without additional description, to categorize an agreement as unenforceable is ambiguous absent any indication whether the open issues are limited to material matters.

Where the agreement is subject to the statute of frauds, more definiteness may be required. *See, e.g.*, *Schwanbeck*, 592 N.E.2d at 1293-94.

agreements may be binding obligations as to their subject matter.⁹² In some jurisdictions, agreements to negotiate in good faith may be the basis for liability on an alternative theory of promissory estoppel, even if a contract action is not available (because such a contract is not enforceable in the jurisdiction or because the facts do not establish the existence of a contract).⁹³ Other jurisdictions hold that preliminary agreements may, either expressly or by implication, create an enforceable contractual obligation to negotiate.⁹⁴

92. See *supra* note 73.

93. *Newport*, 6 F.3d at 1068-69 (construing Louisiana law); see *Budget Mktg., Inc. v. Centronics Corp.*, 927 F.2d 421, 427 (8th Cir. 1991) (construing Iowa law, where the facts did not establish the existence of a contract), *judgment on remand aff'd*, 979 F.2d 1333 (8th Cir. 1992); *Arcadian Phosphates*, 884 F.2d at 73 (to the same effect under New York law); *Skycom*, 813 F.2d at 817 (construing Wisconsin law, not clearly stating whether a contract action on an agreement to negotiate would be enforceable); cf. *Hansen*, 487 N.W.2d at 927 n.1 (stating that while under state law an agreement to negotiate is not enforceable, liability on a theory of promissory estoppel could not be rejected, although that theory was not asserted by the parties).

Still other courts will not permit such a recovery. See generally *Temkin*, *supra* note 73, at 143-47 (discussing promissory estoppel in this context, concluding that most courts have rejected the theory). For example, *Murray v. Abt Associates*, 18 F.3d 1376, 1377 (7th Cir. 1994) (construing Illinois law), involved an executed Proposed Term Sheet concerning a corporation's formation of a new subsidiary. The term sheet stated, "Unless the definitive Agreements are executed and delivered . . . [by a set deadline,] neither party shall have further rights against the other, excepting existing agreements of employment. . . ." *Id.* Although the deadline passed without execution of a definitive agreement, and the corporation's board had voted not to proceed under the Proposed Term Sheet, the parties continued to work for three years to establish the business the subsidiary would have conducted. *Id.* at 1377-78. In holding against the plaintiff-employee, the court stated:

Although [the plaintiff-employee] insists that [the defendant] pledged to work in good faith toward establishing [a new subsidiary], and that [the defendant] did not (and never intended to) do so, we have concluded that Illinois does not permit recovery under the banner of fraud for promises to negotiate a contract.

Id. at 1379.

94. See *Arcadian Phosphates*, 884 F.2d at 72; *A/S Apothekernes*, 873 F.2d at 158 (7th Cir. 1989) (Illinois law); *Channel Home Ctrs.*, 795 F.2d at 299 ("Although no Pennsylvania court has considered whether an

Cases holding that an obligation to negotiate in good faith is enforceable have been criticized on the basis that the contours of such an obligation are difficult to define.⁹⁵ Yet some readily

agreement to negotiate in good faith may meet these conditions[—whether both parties have manifested an intention to be bound and whether the terms are sufficiently definite to be specifically enforced—]the jurisdictions that have considered the issue have held that such an agreement, if otherwise meeting the requisites of a contract, is an enforceable contract. We are satisfied that Pennsylvania would follow this rule.”) (citations omitted); *Chase v. Consolidated Foods Corp.*, 744 F.2d 566, 567, 571 (7th Cir. 1984) (construing Illinois law); *Atlantic Computer Sys.*, 154 B.R. at 170; *Tribune*, 670 F. Supp. at 498-99; *Quake Constr.*, 565 N.E.2d at 1007 (Stamos, J., specially concurring) (stating that a letter might be viewed as “only binding the parties to efforts at achieving a construction contract on the terms outlined” (citing *Evans, Inc. v. Tiffany & Co.*, 416 F. Supp. 224 (N.D. Ill. 1976))). *But see* Farnsworth, *supra* note 73, at 264 (“Courts have often balked at enforcing agreements to negotiate even if the parties have made it clear that they want to subject themselves to this regime.”). *See generally* Temkin, *supra* note 73, at 147-53 (arguing that this theory is preferable to promissory estoppel).

95. *E.g.*, Klein, *supra* note 82, at 158-59. *But see* Farnsworth, *supra* note 73, at 267-69 (rejecting that criticism); Temkin, *supra* note 73, at 153-61 (favorably discussing such a duty to negotiate). *See generally* Milex Prods., Inc. v. Alra Lab., Inc., 603 N.E.2d 1226, 1234 (Ill. App. Ct. 1992) (stating that the contours of the duty “can only be determined . . . from the terms of the letter of intent itself”), *appeal denied*, 612 N.E.2d 515 (Ill. 1993).

This contractual obligation to negotiate in good faith is distinguishable from the covenants of good faith and fair dealing implied in all contracts. *Channel Home Ctrs.*, 795 F.2d at 299 n.8; *cf.* Johnson, *supra* note 78, at 945-46 (stating the proposition less definitively). *But cf.* *Coaxial Communications*, 807 F. Supp. at 1159 (stating that the implied covenants of good faith apply to a binding contract to negotiate); Nicola W. Palmieri, *Good Faith Disclosures Required During Precontractual Negotiations*, 24 SETON HALL L. REV. 71, 75, 106-07 (1993) (stating that there is a duty of good faith prior to contract formation). Those implied obligations have been described as turning on whether the parties “would have agreed to proscribe the act later complained of . . . had they thought to negotiate with respect to that matter.” *Katz v. Oak Indus. Inc.*, 508 A.2d 873, 880 (Del. Ch. 1986); Charny, *supra* note 21, at 1816 (quoting *Katz*). Yet the covenants are applied in a more limited manner than this language may suggest. *See* Kenneth Lehn & Annette Poulsen, *Contractual Resolution of Bondholder-Stockholder Conflicts in Leveraged Buyouts*, 34 J.L. & ECON. 645, 657 (1991) (stating that the covenants do not create separate substantive rights); *cf.* Clayton P. Gillette, *Limitations on the*

identifiable conduct is clearly inconsistent with negotiating in good faith.⁹⁶ Examples of such conduct include the following: attempting to renegotiate previously agreed terms or adding other terms of the same magnitude as those addressed in the preliminary document;⁹⁷ raising additional material issues as a pretext;⁹⁸ and engaging in simultaneous, undisclosed discussions with another party concerning a mutually exclusive transaction.⁹⁹ Subsequent acceptance of an alternative realizing substantially greater consideration also offers evidence of a motive suggesting that a party may have failed to negotiate in good faith.¹⁰⁰

FDIC v. W.R. Grace & Co. In *FDIC v. W.R. Grace & Co.*, the

Obligation of Good Faith, 1981 DUKE L.J. 619, 619 ("Scholarship addressed to the good faith provisions of the Uniform Commercial Code primarily discusses the intractable difficulty of defining the scope of the obligation to perform and enforce one's contract in good faith.") (footnotes omitted).

96. These and other factors are discussed in 1 FARNSWORTH, *supra* note 72, § 3.26c.

97. *Millex Products*, 603 N.E.2d at 1234 (considering negotiations governed by the UCC); *see Tribune*, 670 F. Supp. at 506 (holding that the breaching party's insistence on a condition not within the scope of the original agreement was not excused by the existence of other open points); *cf. Gillette*, *supra* note 95, at 628 ("In one series of cases, courts have used the good faith clause [implied in contracts] to prevent obligors from altering situations that they lulled obligees into believing would remain constant."); Farnsworth, *supra* note 73, at 280-81. *But see Bernstein*, 533 N.Y.S.2d at 540 (holding that there was no implied duty to negotiate in good faith binding on a party who was to contribute property to a joint venture contemplated by a letter of intent, even though that party allegedly raised issues previously decided in the letter of intent after determining that he could secure a better return from the property by a sale to a third party); 1 FARNSWORTH, *supra* note 72, § 3.26c (stating that parties should be free to make "creative proposals").

98. *A/S Apothekernes*, 873 F.2d at 158.

99. *See Butler*, 626 F. Supp. at 1232 (citing evidence that a prospective borrower engaged in negotiations with other lenders shortly after executing a commitment letter, in an environment of declining interest rates, in holding that the borrower's agreement to negotiate in good faith had been violated). *But see* 1 FARNSWORTH, *supra* note 72, § 3.26c; Farnsworth, *supra* note 73, at 279 (stating that because parallel negotiations are common and important, they are permissible absent an express understanding of exclusivity).

100. Temkin, *supra* note 73, at 142.

court of appeals noted its understanding that W.R. Grace's position was that it had no duty to disclose the omitted information on the following basis:

Continental had made a firm commitment by April 7 (if not earlier)—a commitment that it could not have backed out of even if Grace had come to it on May 8 and told it that the Loch Ness monster had swallowed the entire state of Mississippi If the commitment was *that* firm, the fraud was immaterial.¹⁰¹

The issue was framed in that fashion at the district court, which stated:

It would appear therefore that the best that could be said in behalf of Grace is that the commitment letter was ambiguous and the intent as to whether the commitment letter was binding as of [the date it was executed], or as amended subsequently . . . , was a question of fact that was properly left to the jury to decide. The jury was instructed by the court that "the borrower's duty to disclose ceases when a bank is obligated to lend the money." The jury obviously decided that the parties did not intend to enter into a binding commitment prior to the time that Grace learned of the bad news.¹⁰²

On appeal, the court of appeals stated:

The only question for us is whether the agreement was so plainly a commitment by Continental to make a nonrecourse loan of \$75 million to Grace come what may that the jury would have been irrational to find that Grace's failure to inform Continental about the disaster that befell [one of the fields] was material. This we cannot say. The jury was entitled to conclude that the commitment fee (a modest one-half of one percent per annum on the unused portion of the loan . . .) was to compensate Continental for agreeing to make the loan at the agreed interest rate, and other terms and conditions, *provided nothing new and material came to light between the commitment and the closing*.¹⁰³

101. *W.R. Grace*, 877 F.2d at 620.

102. *FDIC v. W.R. Grace & Co.*, 691 F. Supp. 87, 93 (N.D. Ill. 1988), *aff'd in part and rev'd in part*, 877 F.2d 614 (7th Cir. 1989), *cert. denied*, 494 U.S. 1056 (1990).

103. *W.R. Grace*, 877 F.2d at 622.

The district court's jury instruction improperly framed the issue for the jury, and the court of appeals misstated the import of the jury verdict. The preceding discussion¹⁰⁴ demonstrates that the law applicable to preliminary instruments does not create a binary framework in which the agreement either reflects a binding understanding addressing all issues or is an unenforceable manifestation of intent. In many jurisdictions, a preliminary instrument may instead create a wide array of relationships, in which some issues are resolved in a binding fashion, coupled with either an implied or an express obligation to negotiate the remaining issues in good faith. The Court of Appeals for the Seventh Circuit, construing Illinois law, has indicated that such an agreement is enforceable. Three months before the court of appeals decided *FDIC v. W.R. Grace & Co.*, another panel of the same court stated:

The district court nonetheless concluded that the . . . letter of intent did impose upon the parties an obligation to negotiate in good faith. We agree that conclusion was proper; a number of courts, including this court, have held that the terms of a letter of intent may impose such a duty.¹⁰⁵

A letter of intent may create a duty to negotiate, even if such an undertaking is not express.¹⁰⁶ Conflicting precedents exist in the Seventh Circuit concerning whether letters of intent create such a duty under Illinois law. Language in an opinion of the Seventh Circuit issued shortly before *FDIC v. W.R. Grace & Co.* suggests that, as of that time, such an obligation arose only as a result of an express undertaking.¹⁰⁷ Nevertheless, an opinion written by Judge Posner a few years before *FDIC v. W.R. Grace & Co.* indicates that a preliminary letter outlining the terms of a transaction may create a duty to

104. See *supra* notes 72-100 and accompanying text.

105. *A/S Apothekernes*, 873 F.2d at 158 (construing Illinois law).

106. See *Tribune*, 670 F. Supp. at 499 (holding such an agreement existed, without identifying any express agreement to negotiate in the letter of intent).

107. *A/S Apothekernes*, 873 F.2d at 159. A detailed collection of Illinois case law on precontractual liability is contained in Johnson, *supra* note 78.

negotiate in good faith, even where the letter does not express such a duty. In *Chase v. Consolidated Foods Corp.*, he wrote:

[I]f the jury had thought that [the prospective seller] had stopped negotiating with [the prospective purchaser] after [the date of the letter of intent] merely because [the prospective seller] had decided it wanted to keep [the division to be sold] after all, the jury could readily have concluded that [the prospective seller] had violated a binding commitment in the [letter of intent]: a commitment to negotiate in good faith for the sale of [the division] to [the prospective purchaser]. As to that promise, the agreement—though merely a letter of intent—was (if the parties intended) an enforceable contract.¹⁰⁸

The facts unambiguously support the existence of some form of binding contract in *FDIC v. W.R. Grace & Co.* Under the commitment letter, W.R. Grace was obligated to pay Continental Illinois \$375,000 per year if no funds were drawn on the loan facility.¹⁰⁹ W.R. Grace did not agree to pay this fee without expecting some benefit in return. The question for the jury was what type of obligation had been created. The jury instruction quoted above did not permit the jury to consider whether the commitment letter in *FDIC v. W.R. Grace & Co.* created a binding agreement under which Continental Illinois was obligated to negotiate a definitive loan agreement, addressing issues other than the agreed adequacy of the collateral's value.¹¹⁰ Moreover, the facts were sufficient for a court to hold, as a matter of law, that the agreement formed by the commitment letter did not permit Continental Illinois to revisit the

108. *Chase*, 744 F.2d at 571 (construing Illinois law).

109. See *W.R. Grace*, 877 F.2d at 622. The commitment fee consisted of "one-half of one percent per annum on the unused portion of the loan." *Id.*

110. Agreements creating a loan facility, such as the one at issue in *FDIC v. W.R. Grace & Co.*, that contemplate drawings after their execution will specify conditions to the borrower's ability to draw on the facility that must be satisfied as of the time funds are drawn. The jury instructions are ambiguous as to their application to such conditions unrelated to the collateral's value. With those instructions, a jury may well have found for Continental Illinois even if a typical loan agreement had been in effect as of the time adverse information concerning the fields became available.

sufficiency of the collateral.

Subsequent events and actions may be considered as evidence of the parties' understanding of the relationship created by a commitment letter.¹¹¹ Continental Illinois did not secure in the definitive loan agreement a representation concerning adverse developments affecting the collateral's value.¹¹² Continental Illinois' failure to obtain such a representation, or to undertake its own inquiry, strongly supports the conclusion that Continental Illinois did not believe that the sufficiency of the collateral remained negotiable.¹¹³

The court in *FDIC v. W.R. Grace & Co.* therefore should have considered whether, as of the time the commitment letter was issued, an intermediate agreement had been reached. Such an agreement may have consisted of an understanding as

111. 1 FARNSWORTH, *supra* note 72, § 3.8, at 184; see *Newport*, 6 F.3d at 1065 (citing subsequent conduct in holding, under Louisiana law, that a reasonable person could find that the parties intended to be bound); *Computer Sys.*, 795 F.2d at 1090-91 (citing that, after execution of a preliminary letter, "both parties acted as if they were contractually bound," as evidence that a contract was formed); *Channel Home Ctrs.*, 795 F.2d at 299-300 (citing subsequent actions in holding that the record supported a finding that an agreement was intended to constitute a binding agreement to negotiate in good faith); *Sand Creek Country Club*, 582 N.E.2d at 875 (citing that the client of an architectural firm, whose services were the subject of a preliminary letter, subsequently asked for an invoice to be sent, as evidence that the preliminary letter contemplated payment for services rendered regardless of the failure to execute a subsequent definitive agreement); *Vickery v. Walton*, 533 N.E.2d 1381, 1382 (Mass. App. Ct. 1989) (stating in respect of a written offer to purchase residential real estate, "Whether a preliminary agreement which contemplates execution of a further document represents an understanding of the parties on all essential terms cannot be read from the text of the preliminary paper alone. The provisions of the subsequent agreement, or subsequent events, may expose disagreement between the parties about significant business terms.").

112. See *Loan Agreement*, *supra* note 59, at 6-8. Had such a representation been secured, the case would have been straightforward—W.R. Grace's actions would have violated the representation, and discussion of the relationship created by the commitment letter would have been moot.

113. *But see* Deborah A. DeMott, *Do You Have the Right to Remain Silent?: Duties of Disclosure in Business Transactions*, 19 DEL. J. CORP. L. 65, 80-83 (1994) (arguing that upon delivery of the commitment letter, the parties progressed from arm's length bargaining to a cooperative relationship requiring disclosure).

to the collateral's sufficiency and certain other terms, and a commitment to negotiate remaining terms.

Judge Posner states that it would have been unreasonable for Continental Illinois to have entered into such an agreement, because such a provision would make Continental Illinois "in effect the fire insurer of the [collateral]."¹¹⁴ He therefore concludes that the commitment letter should not be construed as unambiguously consisting of a definitive agreement concerning the value of the collateral.¹¹⁵ This language misstates the relationship because only part of the purchase price was financed.¹¹⁶ If the collateral had been damaged, W.R. Grace would have had no first-order incentive to proceed with the transaction, unless W.R. Grace already had been under a binding obligation to do so or unless W.R. Grace would receive insurance proceeds, not subject to the lien of the loan agreement. If, as of the time the commitment letter was issued, W.R. Grace itself had not committed with the seller as to the value of the collateral, Continental Illinois could have rationally relied on W.R. Grace's self-interest in respect of the unfinanced portion of the purchase price to assure that the transaction did not close if events adversely affecting the collateral arose.¹¹⁷

W.R. Grace ultimately received \$13 million from the seller of the interest in settlement of a claim for failure to disclose information concerning the fields.¹¹⁸ One might well have ex-

114. *W.R. Grace*, 877 F.2d at 622.

115. *Id.*

116. *See id.* at 616, 618 (noting that the loan was for \$75 million, whereas the purchase price was \$87 million).

117. The extent to which an investment having two or more possible returns is financed on a non-recourse basis may change whether the investment is profitable, on an expected value basis, by allocating some of the risk onto the lender in the case of a bad outcome. *See WILLIAM A. KLEIN & JOHN C. COFFEE, JR., BUSINESS ORGANIZATION AND FINANCE: LEGAL AND ECONOMIC PRINCIPLES* 226-28 (3d ed. 1988). Thus, the extent to which W.R. Grace expected to receive a settlement from the seller, not subject to the lien of the loan, effectively increased the financed portion, with a corresponding second-order effect on return. Although this fact suggests that Continental Illinois should have had concerns about the potential for non-parallel incentives, it does not mean that relying on W.R. Grace's self-interest in the period from commitment to closing would have been irrational.

118. *W.R. Grace*, 877 F.2d at 618. The opinion does not analyze the

pected Continental Illinois to provide that its security interest extended to all rights owing to W.R. Grace in respect of its purchase of the interest in the fields, including this settlement. Continental Illinois' failure to require these contractual provisions may reflect a failure to obtain perfect legal advice, but it does not make W.R. Grace a tortfeasor.

Commitment letters may form binding agreements, notwithstanding the expectation that further refinements of the contractual relationship are forthcoming. It would not have been irrational for Continental Illinois to have agreed in the commitment letter to the sufficiency of the collateral's value. Continental Illinois' own actions are consistent with its having reached such an understanding. Allowing a jury to decide that Continental Illinois had reserved the issue permitted Continental Illinois' assignee, the FDIC, to try to secure latitude in court that Continental Illinois declined, or failed, to secure itself when it had the opportunity to do so.

C. Defaults in Contract Law

FDIC v. W.R. Grace & Co. The court invoked economic theory in deciding the second fundamental legal issue in *FDIC v. W.R. Grace & Co.*, the borrower's duty to disclose.¹¹⁹ In doing so, it ignored the absence of facts to support assumptions necessary for the valid application of the theory. To determine what assumptions underlie the applied economic theory, the basis for the theory itself should be examined in depth. This analysis begins with the opinion, where the court stated:

terms of the contract under which W.R. Grace purchased the interest. The opinion does not clarify whether W.R. Grace had an insurable interest in the fields at the time the commitment letter was executed. If so, and risk of loss from injury to the fields had passed to W.R. Grace, Continental Illinois perhaps should have required an insurance policy in whose proceeds it had a security interest.

119. The opinion indicates that this part of *FDIC v. W.R. Grace & Co.* is dicta. *Id.* at 620. This aspect of the case was cited with approval in *AMPAT/Midwest, Inc. v. Illinois Tool Works Inc.*, 896 F.2d 1035, 1041 (7th Cir. 1990), it appears, as supporting by analogy the proposition that parties to a contract are required to provide a "minimum of cooperativeness in the event unforeseen problems arise at the performance stage." That citation implies that the Seventh Circuit, in applying Illinois law, is following the dictates of this portion of *FDIC v. W.R. Grace & Co.*

The seller who deals at arm's length is entitled to "take advantage" of the buyer at least to the extent of exploiting information and expertise that the seller expended substantial resources of time or money on obtaining—otherwise what incentive would there be to incur such costs? But when the seller has without substantial investment on his part come upon material information which the buyer would find either impossible or very costly to discover himself, then the seller must disclose it—for example, must disclose that the house he is trying to sell is infested with termites.¹²⁰

A citation to the first of the two sentences in Judge Posner's opinion quoted above refers to an article by Professor Kronman published in 1978.¹²¹ That article states:

If the parties to a contract are acting rationally, they will minimize the joint costs of a potential mistake by assigning the risk of its occurrence to the party who is the better (cheaper) information-gatherer. Where the parties have actually assigned the risk—whether explicitly, or implicitly through their adherence to trade custom and past patterns of dealing—their own allocation must be respected. Where they have not—and there is a resulting gap in the contract—a court concerned with economic efficiency should impose the risk on the better information-gatherer. This is so for familiar reasons: by allocating the risk in this way, an efficiency-minded court reduces the transaction costs of the contracting process itself.¹²²

Professor Kronman concludes that there is a right not to disclose where "the information is the result of a deliberate and costly search."¹²³ A footnote in his article states:

Whether such a gap exists will depend upon the intentions of the parties as reconstructed by a process of judicial interpre-

120. *W.R. Grace*, 877 F.2d at 619 (citations omitted). The use of the term "seller" in this quoted language may be confusing. The court properly viewed the borrowers under a non-recourse loan as being in a position similar to that of a party selling an interest in the collateral.

121. *Id.* (citing, without specific page references, Anthony T. Kronman, *Mistake, Disclosure, Information, and the Law of Contracts*, 7 J. LEGAL STUD. 1 (1978)).

122. Kronman, *supra* note 121, at 4-5 (footnote omitted).

123. *Id.* at 33.

tation. *The fact that a contract does not cover a particular point explicitly does not mean that the parties failed to reach an understanding with respect to the point in question. Only if no such understanding exists can the contract be said to contain a genuine gap or lacuna.*¹²⁴

Kronman's article has been frequently cited with approval by both commentators and courts,¹²⁵ and it therefore presents a vehicle for discussion of a quantitative analysis that has affected identifiable adjudicated issues. The extent to which any choice of a default rule may realize efficiency gains is discussed in this subpart III.C. Subpart III.D then reexamines default rules and their assumptions in the particular context of disclosure obligations, such as those at issue in *FDIC v. W.R. Grace & Co.*

Efficient Defaults. The quoted portions of Professor Kronman's article reflect traditional economic theory. The concept is that there is some method of generally allocating risks between contracting parties that contracting parties ordinarily will prefer—one that maximizes the joint value of the transaction. The scheme Professor Kronman identifies allocates the risk to the better information-gatherer. If this rule is one that parties ordinarily would select, then choosing as the default the risk allocation that is consistent with this goal putatively minimizes transaction costs. The assumption is that parties not represented by counsel will have faith that the law will imply reasonable terms, and therefore the parties will not undertake the process of obtaining legal counsel. Alternatively, for parties represented by counsel, the assumption is that counsel avoid the costs of specifying, and perhaps entering into negotiations that would nevertheless arrive at, the default rules.

Professor Kronman's analysis assumes that informed, rational parties who actually negotiate will ordinarily allocate risks in the fashion he proposes. Yet this assumption does not reflect actual transactional practice in large, complex transactions. Large, complex transactions are frequently negotiated through

124. *Id.* at 4 n.7 (emphasis added).

125. Robert L. Birmingham, *The Duty to Disclose and the Prisoner's Dilemma*: Laidlaw v. Organ, 29 WM. & MARY L. REV. 249, 251 (1988).

sequential steps, commencing with basic financial terms and progressing to increasingly technical details.¹²⁶ Letters of intent are a part of that process, fixing certain terms, particularly financial terms, before other details are addressed. The subsequent decisions on details frequently do not affect pricing, because it is not practical to reduce alternative resolutions to dollar terms and because the complexity of the transaction causes parties not to reopen previously agreed terms. These factors, which restrict the reduction of legal issues to quantitative terms, permit resolutions to be reached that others might characterize as unstable. When lawyers negotiate these details, they are thus in the position of attempting to obtain the most advantageous arrangements for their clients, independent of the joint values. Lawyers negotiating these details may refer to "joint maximization" in an attempt to obtain benefits for their clients. Lawyers may, however, refer to any other evidence that will persuade opposing counsel. Even mundane factors, such as which counsel is responsible for preparing revised drafts, affect the results. The ultimate conclusion of actual bargaining therefore need not reflect a "joint maximization" resolution.

If actual parties would not adopt a rule that is asserted to be "efficient," some commentators would nevertheless assert that the default should be the efficient rule. Professor Craswell states, "[E]conomists are *not* committed to the idea that the law should replicate whatever terms actual parties would have agreed to *ex ante*, even when those terms would have been inefficient."¹²⁷ Yet Professor Kronman justifies his rule on the basis of avoiding transaction costs.¹²⁸ Specifying a rule that parties "should" choose as the default, as opposed to the rule they would choose, will cause knowledgeable parties to enter the negotiations Professor Kronman seeks to avoid.

Moreover, difficult questions concerning the extent to which the hypothetical bargain incorporates attributes of the particular transaction in question and the particular parties are inherent.¹²⁹ Although Professor Charny has attempted to pro-

126. See *supra* notes 76-78 and accompanying text.

127. Richard Craswell, *Efficiency and Rational Bargaining in Contractual Settings*, 15 HARV. J.L. & PUB. POL'Y 805, 829 (1992).

128. Kronman, *supra* note 121, at 3-5.

129. See Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Con-*

vide an analysis of the proper extent of incorporation of the parties' and the transaction's characteristics,¹³⁰ there is no clear consensus concerning the level of generality to be used with respect to both the parties and the transaction.¹³¹ Even if one assumes that Professor Kronman has identified the economic rationale that supports the efficient risk allocation, which is not free from dispute in the literature,¹³² the bene-

tracts: An Economic Theory of Default Rules, 99 YALE L.J. 87, 91 (1989) (discussing defaults that they name "tailored" and "untailored"); Charny, *supra* note 21, at 1820-21 (identifying a two-dimensional question of degrees of "generality" and "idealization"); Robert E. Scott, *A Relational Theory of Default Rules for Commercial Contracts*, 19 J. LEGAL STUD. 597, 606-08 (1990) (discussing whether default rules should reflect the "particular circumstances and preferences of the parties"); *cf.* Craswell, *supra* note 127, at 821 (arguing that the hypothetical bargain standard is a shorthand for Kaldor-Hicks efficiency). The Kaldor-Hicks test identifies as efficient a change in which the gains to one party are sufficient so that he could cause the other party to be indifferent to the transaction by remitting a portion of his gains to the other party. *See id.* at 807-08; Christopher T. Wonnell, *The Structure of a General Theory of Nondisclosure*, 41 CASE W. RES. L. REV. 329, 336 n.41 (1991). There are well-known objections to this criterion, on the basis that it does not consider distributional equity. *See* Charny, *supra* note 21, at 1869.

130. Charny, *supra* note 21, at 1844-47.

131. *See generally id.* at 1822-23 (discussing the alternative approaches of Justice Traynor and Judge Kozinski).

132. For example, Professors Ayres and Gertner have argued that, in at least some circumstances, the law should provide "penalty defaults." Ayres & Gertner, *supra* note 129, at 91. In their view, in some circumstances, such rules may perform an educational role, by alerting one party to the legal issue in question. *Id.* at 98. As an example, they cite a default under which real estate brokers receive no portion of a deposit forfeited by the purchaser. *Id.* at 98-99. They also cite Hadley v. Baxendale, 9 Ex. 341, 156 Eng. Rep. 145 (1854), under which the default limits consequential damages to those that are foreseeable. Ayres & Gertner, *supra* note 129, at 101-04. In their view, this default forces parties shipping property to identify themselves if they would incur extraordinary consequential damages in the event of breach. *Id.* at 102.

Recently, Professors Ayres and Gertner have argued that, particularly where the parties possess asymmetric information, it is extremely difficult to determine which rule is efficient. Ian Ayres & Robert Gertner, *Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules*, 101 YALE L.J. 729, 765 (1992). That concern is consistent with the other arguments presented in this Article. Ayres and Gertner also discuss defaults in the context where one party has market power. *Id.* at 735-46.

fits of choosing this default are uncertain. Alternative rationales are proposed as being the efficient choice, which suggests that the benefits of any particular choice of a default will be offset, to some extent, by the failure to follow other "efficient" rationales.

Contractual Abstraction. Separate from the concerns that the benefits of Professor Kronman's approach are ephemeral are the costs that arise from an attempt actually to implement the approach. Various aspects of the law regulating corporate and finance practice, and finance practice itself, reflect recognition of the value of abstraction. The corporate form can provide value where a corporation's creditors cannot feasibly weigh the solvency of the corporation's shareholders and therefore cannot compensate for the right to pursue claims against shareholders. In such a context, the corporate form creates an aggregate increase in wealth by limiting creditors' claims to the assets of the corporation. The same notion underlies the explosive growth of structured finance, in which a corporation can segregate its assets into discrete segments subject to separate review.¹³³ These circumstances are two well-known examples of contexts in which the actual costs to pursue full discovery and disclosure of relevant facts are acknowledged to be too expensive to warrant the benefits.

A less prominent, but established and more extreme, example is provided by 11 U.S.C. § 1110.¹³⁴ This provision exempts, inter alia, aircraft under lease or subject to a security interest from the automatic stay of bankruptcy.¹³⁵ This exemption permits an airline to separate its aircraft from the financial risks of the airline as a whole. The definiteness granted to lenders, decreasing the uncertainty of the effect of

Yet default rules derived from analyses of participants with market power are not necessarily applicable where that power is not present.

Other competing rationales relating particularly to the duty to disclose are discussed *infra* at notes 163-75 and accompanying text.

133. See Stephen I. Glover, *Structured Finance Goes Chapter 11: Asset Securitization by Reorganizing Companies*, 47 BUS. LAW. 611, 618 (1992); Steven L. Schwarcz, *Structured Finance: The New Way to Securitise Assets*, 11 CARDOZO L. REV. 607, 608 (1990).

134. 11 U.S.C. § 1110 (1994).

135. *Id.* § 1110(a).

insolvency of the debtor, creates greater access to capital for airlines at a lower interest rate.¹³⁶

After the fact, of course, it may be in one party's interest to argue that the information intentionally not pursued should have been disclosed. The creditor of an insolvent corporation nevertheless may attempt *ex post* to bring an action against shareholders. Where the original abstraction is efficient, recognition of subsequent attempts to violate the abstraction is not efficient. A legal system attempting to encourage efficiency in such contexts would not recognize or reward *ex post* attempts to abrogate abstraction created by contract.

The value of abstraction—of providing certainty in contractual relationships—is also reflected in other contractual arrangements. In some circumstances, parties to a contract only briefly set forth the terms of their arrangement. Yet in other cases, the parties attempt to specify fully their relationship. For example, the Model Simplified Indenture, a model form bond indenture, consists of thirty-seven printed pages.¹³⁷ Loan agreements, merger agreements and other acquisition agreements also are often comparably lengthy. The parties' objectives in entering into such an agreement may include a desire to provide certainty at the time the contract is executed or to provide certainty at some time in the future, when unpredicted or unspecified circumstances arise.

These lengthy agreements reflect the parties' attempts to specify fully their relationship. The negotiation of such documents can be a lengthy, costly process. The participants spend the time and money to generate full documents when they believe that providing certainty is to their ultimate benefit.¹³⁸

In considering the analyses of others who purport to propose an efficient default rule, whether parties are permitted contractually to adopt efficient abstraction must be considered. If

136. *In re Continental Airlines, Inc.*, 932 F.2d 282, 290 (3d Cir. 1991).

137. Model Simplified Indenture, *reprinted in* 38 BUS. LAW. 741 (1983).

138. *Cf. PSI Energy, Inc. v. Exxon Coal USA, Inc.*, 17 F.3d 969, 974 (7th Cir.) ("Contracts allocate risks, and judicial reallocation interferes with not only negotiation but also the economic processes the contracts govern. By enforcing contractual language rather than molding it until the outcome looks more fair *ex post*, courts in the end serve all contracting parties' interests."), *cert. denied*, 114 S. Ct. 2712 (1994).

a framework does not recognize contractual abstraction, the framework is not efficient unless the efficiency gains proposed by the framework exceed the losses arising from the failure to recognize contractually-created abstraction.

The fundamental problem with Professor Kronman's framework, which purports to realize efficiency gains, is that, as applied in practice, it does not permit a participant to opt out of the default with certainty. Professor Goetz and Dean Scott, in discussing incomplete contracts, state, "When a contract fails to provide for a contingency, unintended results may occur. . . . Note that contractual instructions, although incomplete, may nonetheless specify a perfectly well-defined and clear result for each contingency" ¹³⁹

This aspect of these frameworks has substantial implications. A contract will not be considered to have opted out of a default—to have completely specified the contractual relationship—unless the contract identifies in detail the particular factual pattern that ultimately arises. For example, Dean Scott discusses a case in which an express escalation clause was held not to specify fully the scope of the intended escalation, because an oil embargo affected certain relevant costs to an extent greater than was reflected in the escalation clause.¹⁴⁰ Likewise, Professor Charny asserts that a contract did not provide the extent of one party's obligations to another, and had a gap, because the contract did not expressly negate the existence of any implied duty in the particular context.¹⁴¹ He states, "[O]ne should determine whether the term is 'express' by deciding whether it indicates a conscious decision of the parties about their duties under the contingency now at issue,

139. Charles J. Goetz & Robert E. Scott, *The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms*, 73 CAL. L. REV. 261, 270 (1985).

140. Scott, *supra* note 129, at 602-05 (discussing *Aluminum Co. of Am. v. Essex Group, Inc.*, 499 F. Supp. 53 (W.D. Pa. 1980)).

141. Charny, *supra* note 21, at 1833. He discusses whether a corporation had an implied duty to an employee, not negated by an express employment contract, to abstain from firing the employee in order to prevent the employee from receiving gains in connection with an unannounced merger. One surmises that the gain would derive from an increase in value of stock owned by the employee, which the employee was required to forfeit or otherwise transfer upon termination of employment.

for it is to the overriding of this choice that the antipaternalist objects.¹⁴²

This test effectively prevents parties from creating a contract that the parties know, with certainty, overrides contractual defaults. As the defaults become increasingly complex, where the standard of determining whether a gap exists in a contract is based on whether the contract expressly negates the default rules as applied to a particular factual pattern, it becomes impossible for a transactional lawyer to draft specific contract provisions sufficient to override the default.¹⁴³ Moreover, where large groups of conscientious lawyers attempt to override a default, the uniformity of their response may cause a court to characterize the drafting as "boilerplate," and hold the provisions not to be enforceable strictly in accordance with their terms.¹⁴⁴

Of the commentaries discussed above, none attempts to balance the putative efficiency gains against the costs of preventing efficient contractual abstraction. These costs and benefits are difficult to quantify.¹⁴⁵ Yet absent that quantification,

142. *Id.*

143. *Cf. Scott, supra* note 129, at 611 (arguing that complex defaults decrease the certainty with which participants can predict the default's application to a particular factual pattern).

144. *See Goetz & Scott, supra* note 139, at 314-15 (discussing merger clauses).

145. *Cf. Saul Levmore, Securities and Secrets: Insider Trading and the Law of Contracts*, 68 VA. L. REV. 117, 158-59 (1982) (acknowledging the difficulty in measuring inefficiencies and injustices of competing schemes).

An additional problem is that requiring detailed specification of potential circumstances may actually inhibit contract formation. The mere raising of certain issues by one party may cause the other party to draw improper conclusions. For example, a participant asked to provide information concerning his assets available in the event of non-performance, which might be manifested in inquiries concerning corporate structure, may conclude that the other participant is likely to be confrontational and litigious, which may ultimately derail a mutually beneficial transaction. One skill practicing lawyers attempt to develop, with varying degrees of success, is the ability to raise potentially controversial issues in a manner that does not incite an adverse response. Adverse effects may be minimized by judicious, i.e., indirect, drafting of contract language. Although counsel can attempt to minimize these adverse effects, they cannot be eliminated. Any rule requiring specific contractual language proposed in the pursuit of efficiency exacerbates these other prob-

those commentaries are merely heuristic.

If any advantages are to be achieved by selecting an efficient default rule, it is necessary to segregate its application to circumstances where the parties have not intended to adopt contractual abstraction. Two indications that the parties have intended to adopt contractual abstraction are that the parties have set forth a lengthy agreement and that the parties have specified in great detail a portion of the relationship. Where such an agreement on its face is not only complete but also contains detailed provisions, such as a bond indenture or an acquisition agreement, the effect of upholding efficient abstraction would be to limit representations to the express representations and to limit a party's obligations to those that are expressed. The length of such a negotiated agreement evidences the parties' intent to express fully their relationship. When the parties make such an effort, to those concerned with efficiency, abstraction must reject any attempt to raise an issue of the type expressly addressed in the contract. Rational participants do not expend the effort to create lengthy contracts articulating a relationship, only to delegate to a court the power to reformulate the arrangement.

More difficult is to decide whether a court should hold that there is an unarticulated exception to an express representation or obligation.¹⁴⁶ Nevertheless, absent an event truly extraordinary in both its type and its effect, contractual abstraction is prevented by permitting a court to create exceptions in the face of comprehensive, absolute contractual language. In complex transactions, a party who wishes to raise an issue but expects that he will not prevail in negotiation may well remain silent to retain the ability to litigate *ex post*. Only a stern rule of construction can permit the parties to bind themselves not to act in this fashion.

An inquiry into rules of construction as applied to a type of contract invariably negotiated by represented parties reflects judicial recognition of the value of not implying rights or du-

lems and will inhibit contract formation in many contexts.

146. Professor Farnsworth has previously distinguished between creating unidentified duties and creating exceptions to otherwise absolute contractual language. E. Allan Farnsworth, *Disputes over Omission in Contracts*, 68 COLUM. L. REV. 860, 886 (1968).

ties. Delaware courts strictly construe the scope of contractual obligations under a corporation's securities; the courts are quite reluctant to imply rights not expressly set forth in the documents.¹⁴⁷

This discussion does not suggest that permitting contractual abstraction requires an unrelenting, literal interpretation of contracts. Exceptions need not be limited to typographical or similar errors. Efficient abstraction is preserved even where parties are permitted to argue *ex post* that the contractual provisions, as applied to a particular, unusual factual pattern, produce results that the complaining party can clearly and convincingly demonstrate are results that no rational parties would have contemplated *ex ante*. Paradigmatic is *Harcourt Brace Jovanovich, Inc. v. Sun Bank*,¹⁴⁸ in which the express conversion provisions for convertible bonds, as applied to an extraordinary distribution, caused the conversion price to be negative. In the case of convertible bonds, a specified principal amount of bonds is convertible into that number of shares equal to the quotient obtained by dividing the aggregate princi-

147. See, e.g., *HB Korenvaes Invs., L.P. v. Marriott Corp.*, [1993 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 97,773, at 97,746 (Del. Ch. July 1, 1993) (strictly construing the certificate of designation for preferred stock in connection with a transaction that allegedly "ha[d] no real purpose other than the avoidance of the rights of . . . preferred stockholders"); *Glinert v. Wickes Cos.*, No. 10,407 (Del. Ch. Mar. 27, 1990), reprinted in 16 DEL. J. CORP. L. 764, 775-80 (1991) (strictly construing a warrant agreement in connection with a reclassification followed by a merger), *aff'd*, 586 A.2d 1201 (Del. 1990); Barry J. Benzing, Commentary, *Getting What You Bargained For: The Contractual Nature of a Preferred Shareholder's Rights—Korenvaes Investments, L.P. v. Marriott Corp.*, 19 DEL. J. CORP. L. 517, 529-30 (1994) ("Courts will continue to construe the rights, duties, etc., granted in a certificate of designation strictly and against the benefit of preferred shareholders in the instance of ambiguity."); see also Charny, *supra* note 21, at 1862 n.160 (noting the importance of clarity in bond indentures and letters of credit). (The author participated in the provision of legal services in the transaction at issue in *Glinert*.) The value of predictability in those cases is heightened by the reliance of third parties, investors, on the terms of the instruments in making investment decisions.

148. No. CI 87-3985, slip op. at 2 (Fla. Cir. Ct. June 25, 1987), *available in part in Mutual Shares Corp. et al., Amendment No. 1 to Schedule 13D Concerning Harcourt Brace Jovanovich, Inc.* (July 8, 1987).

pal amount of the bonds being converted by the conversion price.¹⁴⁹ As the conversion price approaches zero from above, the number of shares into which a specified principal amount of bonds is convertible becomes infinite. Where the conversion price becomes negative,¹⁵⁰ indicating that the holder can deliver a negative amount of bonds to the issuer, i.e., receive bonds from the issuer, and also receive common stock in return, it is clear that the express contractual provisions reflect an erroneous contract formulation. Such an agreement should not be enforced in such a context strictly in accordance with its terms.

This discussion also does not suggest that competent counsel always gives perfect legal advice to clients. Counsel may well not foresee all relevant risks. Counsel recognizing this possibility may try to insert contractual language that would support subsequent litigation.¹⁵¹ Since the possibility of inaccuracy is recognizable in advance, this possibility presents no unique issues. Allowing such less than perfect advice to permit ex post reallocation prevents contractual abstraction.

This subpart III.C has addressed the benefits of permitting contractual abstraction in certain complete agreements. For those same agreements, the advantages to the participants from selecting an "efficient" default rule are relatively small. In discrete transactions that are sufficiently large to cause both parties to retain counsel to document the transaction, the choice of a default should be irrelevant.¹⁵² For a variety of

149. *E.g.*, Model Simplified Indenture, *supra* note 137, § 10.01.

150. The conversion price typically is adjusted by various events, which may include extraordinary dividends. *See id.* § 10.08. Where an adjustment is made in respect of an extraordinary distribution, the conversion price typically is decreased by a multiplicative factor equal to the excess of the current price of the stock over the amount of the distribution as a fraction of the current market price. To avoid anomalous results arising from unusual trading on a particular day, the current price of the stock can be based on the average price over a period of days. The conversion price could become negative where a trailing average includes a period of time before the announcement of an extraordinary dividend in which the stock traded at a price less than the value of the extraordinary dividend.

151. One practitioner, who shall remain anonymous, refers to including "popcorn" in documents, drawing an image of language exploding under the heat of litigation.

152. *Cf.* Ayres & Gertner, *supra* note 132, at 732 (stating that the

reasons, it can be very difficult and costly for counsel to determine with complete assurance which default a court would imply.¹⁵³ Moreover, that judicial interpretations change over time decreases the value of attempts to determine the law with respect to any particular default. Additionally, prudent lawyers frequently incorporate terms in a contract for administrative convenience—to provide in a single document a definitive, complete reference articulating the parties' rights, obligations and procedures for conduct.¹⁵⁴ A prudent practitioner in this context therefore frequently will not rely on a default to specify a material undertaking.¹⁵⁵ Rather, a transactional lawyer will cause the definitive documentation to reflect the parties' un-

default is irrelevant when it is costless to override the default and both parties are aware of the default).

153. *Cf.* Ayres & Gertner, *supra* note 129, at 118 (stating that a disagreement between Judges Easterbrook and Posner, two learned jurists with a law and economics approach, concerning a case raising these issues suggests that there are significant risks of judicial error). In fact, competent lawyers may not know, or care, what default is implied by law in the particular jurisdiction, since they intend not to rely on the default. A more relevant concern may be whether the contract is enforceable in accordance with its terms under the law of the relevant jurisdiction. This concern is particularly acute when counsel is required to deliver an opinion on the enforceability of the agreement in question. The requirement to deliver an opinion often is the reason underlying the inclusion of the otherwise peculiar phrase "to the extent permitted by law" in contract provisions.

154. Bond indentures are a classic example. Many of the provisions are incorporated into these indentures as a matter of law from the Trust Indenture Act, 15 U.S.C. §§ 77aaa-77bbb (1988 & Supp. V 1993), and could be omitted or included in a summary form incorporating the requirements of that Act, as contemplated by the Model Simplified Indenture. Prior to a recent amendment to that Act, Trust Indenture Reform Act of 1990, Pub. L. No. 101-550, 104 Stat. 2721, 2731-32, these provisions could not be omitted, but a summary form was sufficient. *See, e.g.*, 15 U.S.C. §§ 77jjj-77nnn, 77ooo(b) (1988). Still, sophisticated lawyers frequently expressly set forth these terms to collect those terms for administrative convenience, to assure that implied terms do not conflict with express terms—when the terms that would be implied are expressly set forth, it is much easier to identify any conflicts—and to reflect a preference not to rely on a statutory default.

155. *But see* Charny, *supra* note 21, at 1820; Craswell, *supra* note 127, at 830-31 (discussing an alternative strategy where both parties agree to rely on a court's specification of the proper rule).

derstanding, even if the lawyer perceives that the default would reflect his client's understanding.¹⁵⁶

Dean Scott has persuasively argued that relational contracts, in which the parties will have an ongoing relationship, may better regulate a relationship in which the parties subsequently face numerous unanticipated issues by providing a nebulous "best efforts" or "reasonable efforts" obligation.¹⁵⁷ Yet the existence of that type of transaction does not mean that contractual abstraction in highly negotiated transactions should not be respected. In any negotiated transaction, the parties could expressly state that any express contractual risk allocation shall be subject to judicial reallocation if reasonable parties expressly addressing the issue *ex ante* pursuing a goal of joint wealth maximization would have provided an alternative allocation. If sophisticated parties intend to enter such a relationship, counsel certainly can draft the language. If that is the test a court could impose, its express articulation should be enforceable. Since that express contractual allocation is available, excluding expansive implied duties from highly negotiated and documented transactions in which detailed contractual language has been adopted sacrifices no efficiency.

The preceding discussion indicates that the selection of a default rule cannot be justified as reducing transaction costs of discrete transactions between represented parties. Choice of a default rule also does not decrease transaction costs for another broad set of transactions: where the sole negotiation of the non-financial terms is the provision of a form by one party,

156. Professor Charny asserts that no text or language can specify a meaning without reference to external rules of construction. Charny, *supra* note 21, at 1819, 1829. Such puzzles of logic serve merely to distract from a careful review of the substance of a legal rule.

157. See Charles J. Goetz & Robert E. Scott, *The Mitigation Principle: Toward a General Theory of Contractual Obligation*, 69 VA. L. REV. 967, 1024 (1983); Scott, *supra* note 129, at 604. The prospects of future gains may cause parties not to act strategically even in the absence of a contract between them. See generally Royce de R. Barondes, *An Economic Analysis of the Potential for Coercion in Consent Solicitations for Bonds*, 63 FORDHAM L. REV. 749, 765-91 (1994) (addressing that possibility in consent solicitations directed to bondholders); Shell, *supra* note 91, at 267-71 (1991) (discussing the effect of reputations on opportunistic behavior).

previously prepared with the benefit of counsel, which is not the subject of further negotiation. Examples of such agreements are overnight delivery contracts,¹⁵⁸ automobile rental agreements and apartment leases.¹⁵⁹ Some parties do negotiate terms of such contracts. For a vast array of contractual relationships, however, there is no negotiation at all. In this circumstance as with discrete transactions between represented parties, counsel drafting the contract will not rely on the defaults provided by law where there is any potential uncertainty concerning the defaults that will be imposed by courts. In these relationships, transaction costs arise in providing a contract and, in some circumstances, preparing the form. These costs do not reflect any negotiation. Thus, in this instance, the choice of a default rule will have no significant ability to de-

158. Ayres and Gertner note this relationship in their discussion of default rules. Ayres & Gertner, *supra* note 129, at 103 n.70. They indicate that the terms for shipment by Federal Express Corporation generally limit consequential damages to \$100, subject to increase through insurance at stated rates. *Id.* That summary does not describe the relationship created by Federal Express Corporation's current shipping contract. The present contract provides, "Even if a higher value is declared, [Federal Express Corporation's] liability for loss, damage or delay will not exceed a shipment's repair cost, its depreciated value, or its replacement cost, whichever is less" FEDERAL EXPRESS CORP., FEDEX® SERVICE GUIDE 184 (1995). It further provides, "[Federal Express Corporation] won't be liable for any damages, whether direct, incidental, special or consequential, in excess of the declared value of a shipment, whether or not we knew or should have known that such damages might be incurred, including, but not limited to, loss of income or profits." *Id.* at 189. (Ayres and Gertner refer to an earlier version of Federal Express Corporation's contract, quoted in part in Richard A. Epstein, *Beyond Foreseeability: Consequential Damages in the Law of Contract*, 18 J. LEGAL STUD. 105, 120 n.40 (1989), which was similar.)

The reasonable import of this language is that consequential damages are limited to the value of the item shipped, even if a higher value is declared. A contrary construction would directly conflict with the first quoted sentence. The inaccuracy of the categorization of this relationship as providing insurance is expressed in the current service guide. The service guide states, "We do not provide insurance coverage of any kind." FEDERAL EXPRESS CORP., *supra*, at 186.

159. Although landlords may not engage counsel to draft a lease, the terms of many form leases appear to have been drafted by a lawyer to replicate the first draft that would be delivered by counsel representing the landlord.

crease transaction costs, and the default should not affect the ultimate contractual allocation.¹⁶⁰

The foregoing discussion identifies transactions where judicious selection of default rules is of limited value, because such selection fails to reduce transaction or other costs. Instead of increasing efficiency, the mechanics of actual practice suggest that even with an appropriate default, most costs will not be avoided. Moreover, in those transactions, complex default rules prevent contractual abstraction when the parties attempt to specify their arrangement in detail. This discussion calls into question the value of frameworks proposed without quantifying or estimating the purported benefits. An understanding of the actual environment of transactional practice reveals the limits of these theoretical analyses. Subpart III.D reviews *FDIC v. W.R. Grace & Co.*, to explore the application of the efficiency theory to a specific factual pattern.

D. Duty to Disclose

An example of the difficulty in applying the efficiency theory to the choice of defaults arises in the reciprocal duty of contracting parties to disclose information. Professor Kronman indicates that, in respect of this duty during contract negotiation, the default rule requires disclosure where the information "has been casually acquired."¹⁶¹ Although the article express-

160. Where a default is intended to be efficient by requiring certain parties to identify themselves, in order to permit separation as to a portion of the transactions, *see supra* note 132, the parties must be able to accommodate alternative arrangements. For agreements not subject to negotiation on non-financial terms, the attempt to force a separation cannot be effective.

Professor Goetz and Dean Scott identify a software company that provided a waiver of liability broader than necessary, because that broader form had been judicially construed. Goetz & Scott, *supra* note 139, at 272 n.24, 294-96. That discussion does not really address proper default rules. Rather, it speaks to the importance of enforcing express agreements strictly in accordance with their terms. *Cf.* Gillette, *supra* note 95, at 650-51 (arguing against an expansive interpretation of the implied covenant of good faith, to enhance certainty in commercial contracting). Those facts also highlight the value of a judicial rule of interpretation where express contractual provisions override a default provided by law.

161. Kronman, *supra* note 121, at 33. The discussion in this Article

ing that view has been cited with approval in both judicial opinions and other commentary,¹⁶² a few commentators have criticized that basis for distinguishing the presence or absence of a duty to disclose. Professor DeMott argues that this test cannot be practicably applied.¹⁶³ She also notes that each party can ask the other party for all relevant information.¹⁶⁴ This potential access to information negates the fundamental premise of Judge Posner's discussion in *FDIC v. W.R. Grace & Co.*,¹⁶⁵ as the costs for a party to discover basic information in the other's possession by inquiring are substantially reduced where the parties are represented by counsel.¹⁶⁶

The circumstances of *FDIC v. W.R. Grace & Co.* include another fact inconsistent with the premise underlying the economic analysis relied upon by the court. Continental Illinois had actual access to a press release that disclosed that the field would not produce commercially viable quantities of gas.¹⁶⁷ The availability of this information raises one of the troubling issues of generality discussed above.¹⁶⁸ The absence of a rationale for this particular level of generality increases

does not address pre-contractual opportunistic behavior by parties who receive valuable proprietary information, such as falsely entering into a negotiation for the purpose of obtaining proprietary information. See generally *Shell*, *supra* note 91, at 236-39 (addressing that possibility).

162. Birmingham, *supra* note 125, at 251. In terms of Professor Kronman's attempt to rationalize prior cases, however, Professor Birmingham notes that "more cases decide for the mistaken litigant than Kronman's article concedes." *Id.* at 255; cf. DeMott, *supra* note 113, at 66 (noting inconsistent outcomes in litigation).

163. DeMott, *supra* note 113, at 78.

164. *Id.* at 92; accord Levmore, *supra* note 145, at 138; Wonnell, *supra* note 129, at 378.

165. See *W.R. Grace*, 877 F.2d at 619 (stating that the duty to disclose arises "when the seller has without substantial investment on his part come upon material information which the buyer would find either impossible or very costly to discover himself") (emphasis added).

166. Professor Levmore discusses a possible optimal dishonesty standard, under which such questions could be answered falsely. Levmore, *supra* note 145, at 139-42. Regardless of the propriety of such a rule, to be effective, the rule would have to render unenforceable express indemnifications.

167. *W.R. Grace*, 877 F.2d at 618; see also DeMott, *supra* note 113, at 76.

168. See *supra* notes 129-31 and accompanying text.

uncertainty that ultimately results in transaction costs, i.e., litigation.

Professor Birmingham argues that, with respect to mistake cases, "a party cannot say what she is mistaken about."¹⁶⁹ Of course, one of the duties of transactional counsel is to identify material facts and prepare appropriate representations. As applied to the issue in *FDIC v. W.R. Grace & Co.*, representations concerning misstatements or omissions of facts concerning loan collateral are commonly known and could be a part of such a transaction.

Professor Kronman's selection of a default rule also has been criticized on a theoretical level. Professor Birmingham has questioned the absence of any limitation on the scope of information-gathering encouraged by such a rule.¹⁷⁰ Professor Barnett argues that permitting nondisclosure indirectly promotes dissemination of information by creating incentives for market transactions, because those transactions disclose information through market pricing mechanisms.¹⁷¹ He asserts, "To be fraudulent, then, a misstatement of fact must concern some 'intrinsic' . . . characteristic of the resource itself as opposed to some knowledge relevant only to the 'extrinsic' demand for the resource in question."¹⁷² He concludes, "[A] duty to disclose should exist when the failure to disclose creates a disparity between the rights transferred and the resources received."¹⁷³ Professor Wonnell distinguishes between nondisclosures that either merge or sever the possessor of infor-

169. Birmingham, *supra* note 125, at 282.

170. *Id.* at 259.

171. Randy E. Barnett, *Rational Bargaining Theory and Contract: Default Rules, Hypothetical Consent, the Duty to Disclose, and Fraud*, 15 HARV. J.L. & PUB. POL'Y 783, 797-98 (1992). Some commentators have drawn analogies between an obligation of parties to a contract to withhold information and Rule 10b-5 under the Securities Exchange Act of 1934, 17 C.F.R. § 240.10b-5 (1994). *E.g.*, DeMott, *supra* note 113, at 86; Levmore, *supra* note 145, at 144-58; Wonnell, *supra* note 129, at 346-51. Professor Levmore also discusses a possible scheme of private eminent domain, which some would find shocking. Levmore, *supra* note 145, at 142-44.

172. Barnett, *supra* note 171, at 800.

173. *Id.* at 802.

mation from possession of resources.¹⁷⁴ Professor Coleman argues that efficiency is at issue, and supports non-disclosure, only when the information permits an aggregate increase in wealth.¹⁷⁵

Regardless of the comparative merits of the distinction drawn by Professor Kronman, the assumption that parties can contractually provide for an alternative allocation is integral to his analysis.¹⁷⁶ *FDIC v. W.R. Grace & Co.* represents a practical illustration of this third type of error in the application of quantitative or quasi-quantitative analyses in legal scholarship: the extension of an analysis beyond the boundaries of its assumptions' validity.

The transaction in question was the extension of a \$75 million loan. The negotiated loan agreement consisted of twenty-four pages (plus exhibits).¹⁷⁷ The related mortgage consisted of an additional thirty-three pages.¹⁷⁸ The mortgage included two pages of representations and warranties, one of which stated that there were no pending suits or proceedings which, if adversely determined, would have an adverse effect on the collateral.¹⁷⁹ Continental Illinois' obligation to lend funds was

174. Wonnell, *supra* note 129, at 386.

175. Jules L. Coleman et al., *A Bargaining Theory Approach to Default Provisions and Disclosure Rules in Contract Law*, 12 HARV. J.L. & PUB. POL'Y 639, 695 (1989) (describing the value of such information as deriving from *technology*, as opposed to *distribution*). Others have noted the distinction between information that permits an aggregate increase in wealth, as opposed to a mere distributional effect. See, e.g., Birmingham, *supra* note 125, at 270; Levmore, *supra* note 145, at 136-37.

176. See Kronman, *supra* note 121, at 4.

177. Loan Agreement, *supra* note 59.

178. Mortgage, Deed of Trust and Assignment, dated as of July 1, 1980, from The Leadership Foundation, Inc., to G.R. Waters and Henry D. Stephens, as Trustees, and Continental Illinois National Bank and Trust Company of Chicago (on file with author).

179. *Id.* at 6-8. The precise terms of this representation are as follows:

There are no suits or proceedings pending, or to the knowledge of the Mortgagor threatened, against or affecting the Mortgagor or any of its properties (including the [collateral]) before any court or by or before any regulatory authority which, if adversely determined, would have a material adverse effect on the financial condition or business of the Mortgagor or of the [collateral] as a whole, and there exists no default by the Mortgagor with respect

subject to the satisfaction of five pages of conditions,¹⁸⁰ and the truth, as of that time, of two additional pages of representations.¹⁸¹ Under those terms, Continental Illinois' obligation to fund the loan was subject to, inter alia, there being no default under any agreement affecting the collateral.¹⁸²

FDIC v. W.R. Grace & Co. exemplifies the hypertechnical framework for determining whether a default has been overridden described above.¹⁸³ Continental Illinois sought express contractual protection from certain events that would adversely affect the collateral. By affirming a jury finding that other representations about the collateral were made by implication, *FDIC v. W.R. Grace & Co.* does not merely set a default. The decision requires that the parties *first* identify each action that the parties took in the course of the negotiation that might be construed as an implied representation and *second* expressly state in the loan documentation that those acts were not intended to constitute representations.¹⁸⁴

Participants in commercial transactions frequently deliver to prospective lenders or purchasers descriptive documents. A lender may request a copy of a public company's annual report, which the public company, in a spirit of cooperation delivers as a convenience, in lieu of requiring the prospective lender to pay a service to deliver a copy. Sometimes, the requested document is prepared by a third party, such as the reserve report in question in *FDIC v. W.R. Grace & Co.* One could well argue that the report's preparation by a third party strongly supports the conclusion that no representation was made by the mere delivery of a document, even in transactions incorporating minimal documentation. On the other hand, the fact that the

to any order, writ, injunction, decree or demand of any court or regulatory authority.

Id. at 7.

180. Loan Agreement, *supra* note 59, at 7-8; Purchase Agreement, dated as of July 1, 1980, between Grace Petroleum Corporation and The Leadership Foundation, Inc. 13-15 (on file with author).

181. Loan Agreement, *supra* note 59, at 7; Purchase Agreement, *supra* note 180, at 2-4, 13.

182. Purchase Agreement, *supra* note 180, at 3.

183. See *supra* notes 139-44 and accompanying text.

184. Some courts would hold such a waiver to be unenforceable. Palmieri, *supra* note 95, at 149-51.

document was prepared in connection with the particular transaction in question might strengthen the argument for an implied representation.

Regardless of the merits of the argument concerning the expectations of a majority of individuals who receive a reserve report in a similar context, the court's conclusion cannot be justified on the basis of efficiency. Parties to commercial transactions can deliver huge quantities of diligence materials, both through well controlled procedures and during frantic periods of extraordinary activity involving numerous individuals with varying degrees of authority. It is not practicable to require a participant facilitating consummation of a transaction to negate the creation of an implied representation by requiring the identification of each delivered document. Such a drafting requirement would overtax the informational nexus between lawyers and their clients.

Alternatively, one could argue that implied representations can be terminated with language such as "the borrower represents and warrants as follows, and only as follows: [pages of representations]." Such a requirement would unnecessarily and inefficiently divorce a contract from its plain meaning, thereby overly complicating an already difficult task of draftsmanship. It is absurd to believe that parties spend hours and hours negotiating and precisely documenting detailed representations yet still expecting a court to find representations made beyond the scope of the negotiated language. Moreover, such a rule would increase the risk of inadequate legal representation, since unscrupulous lawyers could negotiate pages of representations, and thus divert the other counsel from recognizing implied representations.

Lawyers negotiating pages of detailed, carefully crafted representations and conditions are forced to interpret the negotiated language through the distorting lens created by *FDIC v. W.R. Grace & Co.* Such a rule cannot be justified on the basis of minimizing transaction costs. Further, unintended consequences are likely when the parties fail to identify in contracts all potential sources of liability.¹⁸⁵

185. Cf. Barnett, *supra* note 171, at 790 ("When the cost of learning the content of and contracting around contract law is sufficiently low, by

The apparent puzzle is why Continental Illinois did not expressly condition the loan on there being, as of the date the definitive loan documentation was executed (or as of the dates of subsequent drawings on the facility), to the best of W.R. Grace's knowledge, (i) no development materially and adversely affecting the value of the fields and (ii) no undisclosed adverse information concerning the value of the fields. Because W.R. Grace had such information, the urge to decide that W.R. Grace had acted improperly, and therefore to hold that a representation to that effect was implied as a matter of law, seems overwhelming.

Nevertheless, there may well have been good reasons why Continental Illinois did not bargain for this representation. This issue involves the matters of abstraction and risk aversion discussed above.¹⁸⁶ The contours of such representations are inherently ambiguous and are likely to cause protracted litigation. One asked to make such a representation may therefore decide that the inherent uncertainty in such a representation is not warranted. These concerns may be particularly acute with respect to, but are not limited to, property which the borrower has not yet acquired.¹⁸⁷ In such a case, a lender may decide that it has sufficient opportunity and has adequate expertise to make its own assessment of the collateral's value.

This distinction is supported by the representations and conditions to funding that were negotiated. In comparison to deciding what information is material to a transaction, it often is much easier to determine whether litigation affecting identified property is pending, whether another party has threatened such litigation or whether there is an outstanding default under contracts concerning that property.

The foregoing discussion is intended to analyze whether the approach discussed by Professor Kronman, as applied, is justifiable on the basis of efficiency. The discussion is not intended

remaining silent on a particular matter, parties can be said to have consented to *any* promulgated default rule When, however, these conditions do not obtain, it is no longer safe to conclude that silence means consent to whatever background rules may happen to exist.”)

186. See *supra* notes 133-38 and accompanying text.

187. See generally DeMott, *supra* note 113, at 78 (noting that a lender has no duty to disclose to a guarantor).

to imply that the analysis in *FDIC v. W.R. Grace & Co.* is consistent only with the concept of tort law held by extremist proponents of law and economics. For example, the Restatement (Second) of Torts provides:

One party to a business transaction is under a duty to exercise reasonable care to disclose to the other before the transaction is consummated . . . (c) subsequently acquired information that he knows will make untrue or misleading a previous representation that when made was true or believed to be so; and . . . (e) facts basic to the transaction, if he knows that the other is about to enter into it under a mistake as to them, and that the other, because of the relationship between them, the customs of the trade or other objective circumstances, would reasonably expect a disclosure of those facts.¹⁸⁸

188. RESTATEMENT (SECOND) OF TORTS § 551(2)(c), (e) (1976); see also RESTATEMENT (SECOND) OF CONTRACTS § 161(a), (b), cmt. c (1979) (to the same effect); 2 FOWLER V. HARPER ET AL., THE LAW OF TORTS 474, 476 (2d ed. 1986) (to the same effect); W. PAGE KEETON ET AL., *supra* note 55, § 106, at 739 (stating that a duty to disclose has been found based on a number of factors, including "[t]he manner in which the information is acquired" and the nature of the undisclosed fact).

This discussion is not intended to provide a survey of the views taken with respect to these disclosure obligations by all courts. An exhaustive collection is contained in Palmieri, *supra* note 95, which concludes that there is such a duty arising from an obligation to deal in good faith during contract negotiations. *Id.* at 151. That commentary argues that this duty is heightened pending execution of definitive documentation where a letter of intent has been executed. *Id.* at 197.

Nor is the discussion in this Article intended to imply that no court takes an alternative view to that of *FDIC v. W.R. Grace & Co.* *Tri-State Asphalt Products, Inc. v. McDonough Co.*, 391 S.E.2d 907 (W. Va. 1990) concerned the purchase of the assets of a firm, which included aggregate that contained "hidden and concealed cores of useless fill material and dirt." *Id.* at 909. The purchaser alleged fraud. The court upheld a directed verdict against the purchaser, stating, *inter alia*:

The trial judge found that the [seller] tried to make available . . . all information the [purchaser] wanted, and that the [purchaser] had the opportunity to examine and test the aggregate stockpiles prior to the closing date. . . . There is no evidence to indicate that the [seller] did anything to prevent the [purchaser] from inspecting the stockpiles or to intentionally conceal the conditions of those stockpiles.

Id. at 913.

This discussion is not intended to express a view on whether the

Quantitative or quasi-quantitative analyses may be uniquely powerful, capable of overwhelming objections with an inevitable progression. The prospect of wielding such a tool may compel commentators to elide careful scrutiny of the veracity of requisite assumptions. *FDIC v. W.R. Grace & Co.* is not the sole example of a theory standing on a crumbled foundation of unwarranted assumptions. Other examples are ubiquitous. One commentator stated, "The manager's role in trying to make the firm's stock behave as if it were trading in an efficient capital market corresponds to the role of transactional lawyers in trying to approximate a world without transaction costs."¹⁸⁹ It is not plausible that clients direct their transactional counsel to prepare agreements that "approximate a world without transaction costs," or that business lawyers believe that to be their role. Clients want to obtain documentation that best preserves their rights, regardless of alternative results achieved in a "perfect" environment. Any analysis based on such assumptions is fatally flawed. Any such compelling counterintuitive quantitative or quasi-quantitative discussions in legal scholarship therefore demand circumspection.

CONCLUSION

The discussion in this Article has reviewed attempts to reflect specific theories in legal scholarship. This discussion is distinguishable from consideration of whether law is a "science," which addresses whether there is an algorithm constituting "scientific methodology" that can be mechanically applied to assess jurisprudence.¹⁹⁰ The focus of this Article is

rule discussed in *FDIC v. W.R. Grace & Co.* is the proper one. One may be concerned with abstract notions such as fairness, not addressed in this Article. Rather, the point is that the economic justification for the rule is invalid, because the underlying assumptions are not accurate in the context.

189. Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 VA. L. REV. 945, 947 n.6 (1991).

190. E.g., Nancy Levit, *Listening to Tribal Legends: An Essay on Law and the Scientific Method*, 58 FORDHAM L. REV. 263, 266-72 (1989) (identifying "simplicity," "explanatory power," "depth or constructivity," "fertility and extensibility," "external validity," "internal consistency and log-

more limited than those efforts to define an overarching legal methodology. With each development in pure or applied sciences that appears to have at least a tenuous application to legal issues, it is important to reaffirm our understanding of the benefits and limitations of importing the development into legal scholarship.¹⁹¹

The three legal analyses discussed above are derived from diverse analytical insights. In some respects, their flaws seem diverse: deceptive reliance on metaphor, use of quantitative terminology in framing a legal question to preordain the con-

ic" and "falsifiability" as criteria, and stating, "The 'most scientific' theory would be the one that comports most closely with the greatest number of these criteria."). This reference is not intended to indicate support for such a characterization of science. Such a characterization is misleading; it substitutes taxonomy for understanding.

191. Professor Priest expressed similar reservations:

The theoretical commitment of most "scientific" studies of the law is weaker and more suspect, especially in studies conducted by lawyers. Lawyers are individuals who by their investment of many years in obtaining a legal education have demonstrated their belief that the law and legal institutions are uniquely important in themselves, a belief hostile to any purely scientific theory. Scientific studies of legal phenomena must be regarded with greater skepticism than studies in the underlying sciences themselves because the method of legal studies is most often unscientific. Lawyers who practice social science in law schools exploit the successes of true scientists in the underlying disciplines and ride free on their reputation for scientific integrity.

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. . . Before application of the scientific method by the faculties of law schools can contribute to scholarship, social scientists and lawyers interested in the social sciences must be evaluated by their contribution to the scientific disciplines themselves, rather than by the acceptance of their work by unexpert student editors of law journals.

George L. Priest, *The New Scientism in Legal Scholarship: A Comment on Clark and Posner*, 90 YALE L.J. 1284, 1293-94 (1981). That discussion abstractly addresses the fundamental concern expressed in this Article—that quantitative analyses in legal scholarship that lack rigor merit scrutiny. But that discussion goes too far. Even in the sciences, there are separate disciplines of pure and applied sciences, such as engineering—one addressing overarching theoretical concepts and the other providing recognized interstitial value, structuring the framework for understanding actual events in light of those theories. Each has its own value.

clusion, and extension of an analysis beyond the boundaries of its assumptions. Yet there is a common theme: each reflects an incomplete effort to incorporate an analysis from another discipline into legal scholarship. The lesson is neither that quantitative and quasi-quantitative legal analyses are inevitably erroneous, nor that substantial simplifying assumptions used to make a legal issue receptive to quantitative analysis are necessarily improper. Instead, the value of simplicity in an analysis must be weighed in light of its effect on the accuracy of the results.

