

A Capital Markets Approach to Mass Tort Bankruptcy

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After six years of complex litigation, the Manville Trust finally opened for business in 1988.¹ Its mission was to compensate as fully as possible the thousands of persons injured by Manville asbestos products. The long latency period of asbestos-caused diseases made the Trust's mission deeply problematic. No one could know at the time of the reorganization how many Manville asbestos victims there would ultimately be.² Indeed, Manville's victims, and those of other companies that formerly produced asbestos, will still be coming forward, in all likelihood, well into the twenty-first century.³ The Manville reorganization purportedly took into account the interests of these so-called "future claimants"—persons whose identities and injuries could not be known when the plan of reorganization was formulated and confirmed, but who would certainly emerge as each victim's disease followed its course.⁴ The Trust was large. Manville⁵ and its insurance companies funded it with approximately \$5 billion in assets.⁶ Yet, after operating for less than two

1. *In re Joint E. & S. Dist. Asbestos Litig.*, 129 B.R. 710, 732–33 (Bankr. E. & S.D.N.Y. 1991) (reviewing history of bankruptcy and reorganization of Johns-Manville Corporation and of Manville Personal Injury Settlement Trust), *vacated on other grounds*, 982 F.2d 721 (2d Cir. 1992), *modified*, 993 F.2d 7 (2d Cir. 1993).

2. 129 B.R. at 737–39, 751–52, 754.

3. *Id.* at 737.

4. *Id.* at 752–54.

5. In this Article, "Manville" refers to the enterprise of the Johns-Manville Corporation and its successor, the Manville Corporation, which was created by the second amended and restated plan of reorganization (the "Plan"). *See id.* at 752.

6. Under the Plan, the Trust was to receive the following distributions: (1) "insurance proceeds, cash and accounts receivable with a total value of \$869 million"; (2) "two bonds with an aggregate face value of \$1.8 billion and a \$50 million installment note," payable in installments extending through November of 2014; and (3) "up to 80 percent of the stock in the reorganized Manville Corporation—24 million shares

years, the Trust was all but empty.⁷ Notwithstanding its looming liability to future claimants, the Trust paid virtually its whole value to the “present claimants”—those persons who were sick at the time the court confirmed the reorganization plan—and to their lawyers and the lawyers of the Trust.⁸ Federal courts in New York now face the Herculean task of restructuring the Trust.⁹

Anxious to avoid the fate of Manville, twenty other companies that formerly produced asbestos have recently structured a massive class action settlement between themselves and a broadly defined class of persons who were exposed to asbestos. Controversy over this settlement centers in part on whether it adequately takes into account the interests of future claimants. The settlement proposes to provide compensation to persons exposed to asbestos through an administrative procedure that awards scheduled compensation to persons suffering from defined categories of diseases.¹⁰ Deciding whether the settlement treats the future claimants with fairness inevitably raises the question of what fairness to the future claimants really means.

The vexing question of how to estimate total mass tort liability has also haunted the recent silicon gel breast implant settlement.¹¹ Representing the largest product liability settlement in history, the agreement provides approximately \$4.25 billion to cover tort liability that is expected to emerge over the next several years.¹² Some critics have already charged, however,

of common stock (representing fifty percent of Manville common stock outstanding at the time) plus preferred stock . . . convertible to an additional 72 million common shares (constituting an additional thirty percent interest).” *Id.* The stock was subject to restrictions preventing the Trust from taking part in management for some years. In addition to these assets, beginning in 1992, the Manville Corporation “was to make payments to the Trust of up to twenty percent of its annual profits.” *Id.* at 752–53 Estimates of the value of the Trust’s funding vary.

7. *Id.* at 751–52; *see also id.* at 732, 754–62.

8. *Id.* at 758–59.

9. *In re Joint Eastern & Southern District Asbestos Litigation* is a massive case in which Judge Weinstein, sitting in combined bankruptcy and federal district court jurisdiction, attempted to restructure the insolvent Manville Trust. In June 1991, Judge Weinstein tried to restructure the Trust by approving a class action settlement agreement among the Trust and its beneficiaries. Most important, the restructuring involved a reformulation of the payout policies of the Trust and Manville Corporation’s additional contribution of approximately \$500 million to the Trust. The restructuring apparently unraveled when the U.S. Court of Appeals for the Second Circuit reversed Judge Weinstein’s ruling on several points relating to the representation of class and subclass members for purposes of FED. R. CIV. P. 23. *In re Joint E. & S. Dist. Asbestos Litig.*, 982 F.2d 721 (2d Cir. 1992) (vacating previous settlement restructuring trust that impermissibly used mandatory non-opt-out class action without proper subclasses and, to extent court’s action rested on bankruptcy jurisdiction, impermissibly modified a confirmed and substantially consummated reorganization plan). The Second Circuit, however, subsequently reconsidered its ruling and modified it, eliminating the requirement that subclasses defined by their place in the compensation queue be represented in the settlement procedure. *In re Joint E. & S. Dist. Asbestos Litig.*, 993 F.2d 7 (2d Cir. 1993). It remains to be seen whether the parties can formulate a plan under Judge Weinstein’s guidance that satisfies both Rule 23 and federal bankruptcy law.

10. *See Georgine v. Amchem Prods.*, No. 93-0215, 1994 U.S. Dist. LEXIS 11358, at *72–*93 (E.D. Pa. Aug. 16, 1994).

11. *See In re Silicon Gel Breast Implant Prods. Liab. Litig.*, No. CV 94-P-11558-S, 1994 U.S. Dist. LEXIS 12521 (N.D. Ala. Sept. 1, 1994).

12. *See \$4.2 Billion Implant Settlement Is Approved*, N.Y. TIMES, Sept. 2, 1994, at A20

that the settlement fund is based on inadequate information and is certain to treat claimants unequally.¹³ If these critics are correct, later silicon implant claimants may find themselves seeking relief from a trust fund as depleted as the one that future Manville claimants will face.

Now is thus a good time to reexamine the approach to mass tort bankruptcy that caused so dramatic a failure in the Manville case and that is likely to do so again unless we change our thinking about mass tort bankruptcy compensation. The problem of unfair treatment has relevance far beyond Manville and mass tort bankruptcy. The Manville reorganization exemplifies the unfairness of persons in the present taking for themselves resources that ought to be reserved for the future. Many of the controversies of our time—the use of natural resources and the preservation of the environment,¹⁴ the status of social security and other “entitlement” programs,¹⁵ and the economic effects of the national debt,¹⁶ for example—involve the potential misappropriation of resources rightfully belonging to future persons. While many acknowledge collective obligations to future persons, the rules and institutions needed to give these obligations more than lip service remain poorly defined.¹⁷ This Article addresses some of these issues in the context

13. See David Rynecki, *Experts Wonder If Implant Settlement Is Good Enough*, REUTER EUR. BUS. REP., Sept. 2, 1994.

14. See, e.g., MICHAEL E. COLBY, ENVIRONMENTAL MANAGEMENT IN DEVELOPMENT 9 (1990) (World Bank Discussion Paper No. 80) (critiquing history of environmental policy); Marshall J. Breger et al., *Providing Economic Incentives in Environmental Regulation*, 8 YALE J. ON REG. 463 (1991) (evaluating use of economic incentives in environmental regulation); Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era from an Old Idea?*, 18 ECOLOGY L.Q. 1 (1991) (describing market-based approaches to environmental regulation). Questions of present versus future interests enter into environmental policy partly through the valuation of future costs and benefits. For an introduction to cost-benefit analysis, see E.J. MISHAN, COST-BENEFIT ANALYSIS (1976). For discussions of cost-benefit analysis in environmental policy, see STEVEN KELMAN, WHAT PRICE INCENTIVES? ECONOMISTS AND THE ENVIRONMENT (1981); DAVID W. PEARCE & R. KERRY TURNER, ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT (1990).

15. See generally THE CRISIS IN SOCIAL SECURITY (Michael J. Boskin ed., 1977); THEODORE R. MARMOR ET AL., AMERICA'S MISUNDERSTOOD WELFARE STATE (1990); ALICIA H. MUNNELL, THE FUTURE OF SOCIAL SECURITY (1977); Deborah M. Weiss, *Paternalistic Pension Policy: Psychological Evidence and Economic Theory*, 58 U. CHI. L. REV. 1275 (1991); Erin E. Lynch, Comment, *Late-Life Crisis: A Comparative Analysis of the Social Insurance Schemes for Retirees of Japan, Germany, and the United States*, 14 COMP. LAB. L.J. 339 (1993); Jeffrey S. Lehman, *To Conceptualize, To Criticize, To Defend, To Improve: Understanding America's Welfare State*, 101 YALE L.J. 685 (1991) (book review).

16. See generally DANIEL BELL & LESTER THUROW, THE DEFICITS: HOW BIG? HOW LONG? HOW DANGEROUS? (1985); DAVID P. CALLEO, THE BANKRUPTING OF AMERICA: HOW THE FEDERAL BUDGET IS IMPOVERISHING THE NATION 11–25 (1992); ROBERT EISNER, HOW REAL IS THE FEDERAL DEFICIT? (1986); John W. Ellwood, *The Politics of the Enactment and Implementation of Gramm-Rudman-Hollings: Why Congress Cannot Address the Deficit Dilemma*, 25 HARV. J. ON LEGIS. 553 (1988); Michael Fitts & Robert Inman, *Controlling Congress: Presidential Influence in Domestic Fiscal Policy*, 80 GEO. L.J. 1737 (1992); Philip G. Joyce & Robert D. Reischauer, *Deficit Budgeting: The Federal Budget Process and Budget Reform*, 29 HARV. J. ON LEGIS. 429 (1992).

17. Private persons apparently acknowledge obligations both to their future selves and to their children. Yet empirical evidence suggests individuals systematically undersave for their future selves. See Weiss, *supra* note 15, at 1275. Perhaps our difficulty with fulfilling our collective obligation to future persons is related to our individual tendency to fail our future selves. See also THOMAS H. JACKSON, THE LOGIC AND LIMITS OF BANKRUPTCY LAW 232–41 (1986) (discussing individual tendency to take inadequate account of future in relation to discharge of claims in bankruptcy law).

of mass tort bankruptcy: What is a “fair” allocation to future claimants in a mass tort bankruptcy? How can it be achieved? Why are current approaches unfair?¹⁸ These questions are important in their own right, and their answers also shed light on issues of more global significance.

The first Part of this Article describes the general nature of the distributional justice problem in mass tort bankruptcy. Part II analyzes the institutional, psychological, and strategic factors that permit present claimants in mass tort bankruptcy to secure a disproportionate share of the debtor’s assets for themselves.¹⁹ Part III proposes a novel structure for mass tort bankruptcy reorganization. This proposal, which I call a “capital markets approach,” produces a fair distribution of the value of the debtor’s assets among present and future claimants by using the information-processing capabilities of modern capital markets. At the heart of the capital markets approach is a new kind of security—a security designed to be traded on the capital market at a price that reflects a relatively efficient capital market’s estimate of how large the total tort liability of a mass tort debtor will be. The fundamental insight of this Article is its proposal to substitute the superior information-processing capabilities of capital markets for the more limited capabilities of administrators. Part IV tentatively suggests how the capital markets approach might be extended to cases where there is substantial uncertainty about whether future tort liability renders a firm insolvent. Part V is a brief conclusion.

I. THE FAIR DISTRIBUTION PROBLEM IN MASS TORT BANKRUPTCY

Mass tort bankruptcies create difficult problems of distributional justice. Bankruptcy law addresses some distributional questions explicitly. The bankruptcy priority rules, for example, mandate that certain classes of claims, such as those of employees, have priority over others, such as those of unsecured trade creditors.²⁰ While still somewhat controversial, several

18. These issues are most often discussed purely on a theoretical level. *See, e.g.*, BRUCE ACKERMAN, *SOCIAL JUSTICE IN THE LIBERAL STATE* 107–227 (1980) (discussing “justice over time”), JOHN RAWLS, *A THEORY OF JUSTICE* 284–93 (1971) (discussing problem in influential chapter entitled “The Problem of Justice Between Generations”). Some interest in the more institutional aspects of the issue, however, has surfaced. *See, e.g.*, Richard A. Epstein, *Justice Across the Generations*, 67 *TEX. L. REV.* 1465 (1989) (arguing that market institutions are usually best equipped to protect interests of future persons), Daniel A. Farber & Paul A. Hemmersbaugh, *The Shadow of the Future: Discount Rates, Later Generations, and the Environment*, 46 *VAND. L. REV.* 267 (1993) (providing good discussion of knotty problem of present assessment of future value for policy purposes). Optimal use of nonrenewable resources, an analogous problem, has long interested scholars. *See, e.g.*, Stephen F. Williams, *Running Out The Problem of Exhaustible Resources*, 7 *J. LEGAL STUD.* 165 (1978).

19. Under the Bankruptcy Code, “debtor” refers to the person who invokes the protection of the bankruptcy law. *See* 11 U.S.C. § 101(13) (Supp. V 1993).

20. *See id.* §§ 502, 503, 507, 725, 726 (1988 & Supp. V 1993) (establishing fundamental priority scheme in federal bankruptcy law). *See generally* DOUGLAS G. BAIRD & THOMAS H. JACKSON, *CASES, PROBLEMS AND MATERIALS ON BANKRUPTCY* 693–99 (2d ed. 1990).

leading bankruptcy courts have suggested that present and future claimants in mass tort bankruptcy should be treated equally in the bankruptcy reorganization process.²¹ This principle of equality, however, is easier to state than to implement. Strong forces militate against equal treatment of present and future claimants, causing what I call the "fair distribution problem." To understand how the problem arises, we must look briefly at some of the main institutions and issues of mass tort bankruptcy.

A. *Mass Tort Bankruptcies and Mass Tort Bankruptcy Trusts*

Dividing the assets of a debtor in bankruptcy among various claimants is especially difficult in the context of a mass tort bankruptcy. These difficulties stem in part from the nature of certain mass torts. While courts can estimate accurately the magnitude of harm caused by some mass torts soon after they occur, other torts inflict harms of uncertain magnitudes, which apparently defy judicial estimation. Bankruptcies caused by mass torts of the latter kind have already become a permanent feature of modern economic and legal life. The largest mass torts to date have been of this type.²² Mass torts of uncertain and evolving magnitude will probably continue to occur, and perhaps even increase in frequency. As economic markets grow to national and international scale, products have the potential to harm significantly more people. Moreover, as technology advances, it seems to harness energies and substances capable of inflicting ever-greater harms over ever-longer periods.

Several mass tort bankruptcies in the last decade have involved massive yet highly uncertain tort liability for future damages.²³ An important issue for

21. In the asbestos-related bankruptcy case of *In re UNR Industries, Inc.*, 29 B.R. 741 (Bankr. N.D. Ill. 1983), the court refused to appoint a representative of the future claimants. In *In re Amatex Corp.*, 30 B.R. 309 (Bankr. E.D. Pa. 1983), however, the court's refusal to appoint a representative of future claimants was reversed on appeal by the U.S. Court of Appeals for the Third Circuit. The Third Circuit concluded that future claimants were "parties in interest" under the Bankruptcy Code. *In re Amatex Corp.*, 755 F.2d 1034, 1042-43 (3d Cir. 1985). In *In re Johns-Manville Corp.*, 36 B.R. 743 (Bankr. S.D.N.Y. 1984), the court appointed a representative of future claimants and criticized the approach taken in *In re UNR Industries*. In *Grady v. A.H. Robins Co.*, 839 F.2d 198 (4th Cir.), cert. dismissed, 487 U.S. 1260 (1988), the court effectively included future claimants in mass tort bankruptcy reorganizations by treating future claims as contingent claims to which reorganization plans could apply.

22. Examples include litigation involving Agent Orange, a defoliant used by the U.S. military in Vietnam that may have caused cancer, genetic damage, and early death in Vietnam veterans, see, e.g., *In re 'Agent Orange' Prod. Liab. Litig.*, 635 F.2d 987 (2d Cir. 1980), cert. denied, 454 U.S. 1128 (1981); the synthetic hormone diethylstilbestrol (DES), a drug administered to prevent miscarriage that caused cancer in women who were exposed to the drug *in utero*, see, e.g., *Glater v. Eli Lilly & Co.*, 744 F.2d 213 (1st Cir. 1984); *Mathis v. Eli Lilly & Co.*, 719 F.2d 134 (6th Cir. 1983); the Dalkon Shield intrauterine device (IUD), a contraceptive that may have caused infections and other serious gynecological problems in women using it, see, e.g., *Setter v. A.H. Robins Co.*, 748 F.2d 1328 (8th Cir. 1984); and asbestos, a fire-resistant substance that has been found to cause lung cancer in individuals exposed to it, see, e.g., cited *supra* note 21. For journalistic perspectives on the Dalkon Shield matter, see MORTON MINTZ, AT ANY COST: CORPORATE GREED, WOMEN, & THE DALCON SHIELD (1985); RICHARD B. SOBOL, BENDING THE LAW: THE STORY OF THE DALCON SHIELD BANKRUPTCY (1991).

23. See *supra* note 22.

bankruptcy lawyers in the 1980's was whether persons whom past torts would harm in the future, so-called "future claimants," actually had "claims" for the purposes of bankruptcy law.²⁴ Until their injuries manifested themselves, future claimants were, after all, merely unidentified persons with hypothetical injuries. Some leading bankruptcy courts have accorded future claimants a status in bankruptcy proceedings by appointing legal representatives to guard their interests and by ruling that reorganization plans can apply to future claims.²⁵ The Manville bankruptcy produced the landmark case in this regard.²⁶ Other courts have treated future claims as "contingent claims" cognizable in bankruptcy proceedings.²⁷

To lawyers, perhaps the most controversial aspect of the Manville bankruptcy was its novel premise that the corporation was entitled to bankruptcy protection not because it was insolvent, but because continuing trends in asbestos litigation made a bankruptcy reorganization the best way to manage the payment of present and future claims.²⁸ Despite its novelty, the premise of the Manville bankruptcy petition made sense as policy. It was difficult to see how the problem of looming future liability could be fairly solved outside of bankruptcy, whatever was the technical legal status of this future liability. In making and allowing the petition, Manville and the courts respectively seemed to acknowledge that if future claims were the basis for invoking bankruptcy protection, then these claims should be accorded, as nearly as possible, equal status in the bankruptcy proceedings.²⁹ From the outset, fair treatment of future claimants was a major justification for the Manville bankruptcy.³⁰

24. See Anne Hardiman, *Toxic Torts and Chapter 11 Reorganization: The Problem of Future Claims*, 38 VAND. L. REV. 1369 (1985); Margaret I. Lyle, Note, *Mass Tort Claims and the Corporate Tortfeasor Bankruptcy Reorganization and Legislative Compensation Versus the Common-Law Tort System*, 61 TEX. L. REV. 1297, 1328-36 (1983); Steven J. Parent, Comment, *Judicial Creativity in Dealing with Mass Torts in Bankruptcy*, 13 GEO. MASON U. L. REV. 381 (1990).

25. See *supra* note 21.

26. *Kane v. Johns-Manville Corp.*, 843 F.2d 636 (2d Cir. 1988).

27. See, e.g., *Grady v. A.H. Robins*, 839 F.2d 198, 202-03 (4th Cir. 1988).

28. For an account of the controversy surrounding the Manville bankruptcy petition, see Frank R. Kennedy, *Creative Bankruptcy? Use and Abuse of the Bankruptcy Law - Reflection on Some Recent Cases*, 71 IOWA L. REV. 199, 202-10 (1985).

29. In ruling that future claimants had a cognizable interest in the reorganization of Manville, Judge Lifland stated:

From the inception of this case, it has been obvious to all concerned that the very purpose of the initiation of these proceedings is to deal in some fashion with claimants exposed to the ravages of asbestos dust who have not as of the filing date manifested symptoms of asbestos disease. Indeed, but for this continually evolving albeit amorphous constituency, it is clear that an otherwise economically robust Manville would not have commenced these reorganization proceedings.

In re Johns-Manville Corp., 36 B.R. 743, 745 (Bankr. S.D.N.Y. 1984) (citation omitted), *aff'd*, 52 B.R. 940 (S.D.N.Y. 1985).

30. See Kennedy, *supra* note 28, at 202-05. The problem of future claimants in mass tort bankruptcy has been clear for some time. Professor Frank Kennedy has observed that "the most critical problem in the Manville reorganization case [was] how to deal with the claims of the victims of exposure who [were] not identifiable at the time the plan [was] filed." Kennedy continued "But how can claims be paid when the

The Manville bankruptcy created controversy for more than doctrinal reasons. By invoking bankruptcy protections, Manville prevented present claimants from enforcing their judgments against the company. With Manville protected by the shield of bankruptcy, other companies that faced huge liabilities from asbestos claimants feared that needy claimants would turn increasingly on them. These "codefendants," as they are called in asbestos litigation argot, argued vigorously that future liabilities were not "claims" under the Bankruptcy Code.³¹ This argument had some legal merit. Before the Manville bankruptcy, it was accepted doctrine that bankruptcy law provided relief only from obligations that existed at the time of the bankruptcy petition.³² The codefendants argued that unrealized liability to future claimants had no legal status, whatever its statistical probability. They suggested that because bankruptcy "claims" include only legal obligations that existed at the time of the bankruptcy petition, exposed persons did not have bankruptcy "claims" until these persons had claims as a matter of state tort law. Traditional bankruptcy doctrine thus presented a serious obstacle to using bankruptcy procedures to allocate Manville's assets among present and future tort claimants.

To solve this problem, the Manville bankruptcy court relied on the elastic notion of a "party in interest" to a reorganization³³ and on the broad injunctive power of bankruptcy courts. The court ruled that future claimants, whether or not they had "claims" under bankruptcy law, constituted "parties in interest" to the reorganization, and thus should be represented in the reorganization proceeding.³⁴ Accordingly, the court appointed a legal representative for future claimants.³⁵ The court also issued an injunction that compelled all persons with asbestos-related personal injury claims, both present and future, to bring those claims against the trust established by the plan, and not against the new operating company that the plan had created to carry on Manville's business.³⁶ Consequently, "while the future claimants [were] not given creditor status under the [Manville reorganization] Plan, they [were] nevertheless treated identically to the present claimants by virtue of the

identity of the claimants and the nature and extent of their claims are not provable? The Bankruptcy Reform Act did not anticipate this problem, and although the problem is now fully appreciated, no obvious solution exists." *Id.* at 207 (footnote omitted). This Article provides, I believe, the best solution to this long-standing problem.

31. "Claim" is defined at 11 U.S.C. § 101(5) (Supp. V 1993).

32. *See, e.g.,* Matter of Morris, 12 B.R. 321, 338 (Bankr. N.D. Ill. 1981) (stating that "bankruptcy acts deal with debt which exists at the time of the filing of the bankruptcy petition"); *see also* Lines v. Frederick, 400 U.S. 18, 19 (1970) (per curiam) (noting that purpose of bankruptcy is to give debtor fresh start, "unhampered" by "preexisting" debt) (quoting Local Loan Co. v. Hunt, 292 U.S. 234, 244 (1934)).

33. "Party in interest" has no specific definition in the Bankruptcy Code. Its meaning is determined on an ad hoc basis. *In re Johns-Manville Corp.*, 36 B.R. at 747.

34. *Id.*

35. *Id.* at 759.

36. *See* Kane v. Johns-Manville Corp., 843 F.2d 636, 640-41 (2d Cir. 1988).

injunction, which channels all claims to the Trust.”³⁷ The reorganization plan, by its terms, gave future claimants a putatively equal place in the reorganization with creditors, and otherwise treated future claimants identically to present claimants.³⁸ The proclaimed goal of treating future claimants fairly ran through the entire Manville proceedings, from the stated objectives of the Manville petition to the affirmance of the Manville Plan on appeal.³⁹

Mass tort bankruptcy thus has occasioned a practical revision of bankruptcy law, allowing future claims to be addressed in reorganization plans. This doctrinal revision is closely tied to what will likely become the standard mechanism for managing the compensation of mass tort bankruptcy claims: the mass tort bankruptcy trust.⁴⁰ Established pursuant to a plan of reorganization or liquidation, this type of trust requires that the debtor place all or part of its value in trust to compensate present and future tort claimants.⁴¹ A board of trustees administers the trust, paying off the tort claims in accordance with the process set out in the bankruptcy plan. If an injunction “channels” all future claims against the trust, it thereby insulates any successor operating company from future liability, without courts ever having to confront the issue of whether future tort liabilities are bankruptcy “claims.”⁴²

37. *Id.* at 640.

38. While the court’s use of the “party in interest” concept and its broad powers of injunction allowed it to avoid answering the vexing question of whether future claimants had “claims” for bankruptcy law purposes, such an approach also allowed the court to avoid ruling on the relative priority of future “claims” and (legally uncontroversial) present claims. For a perceptive discussion of this point, see *In re Pettibone Corp.*, 90 B.R. 918, 927–30 (Bankr. N.D. Ill. 1988). While the courts hearing asbestos mass tort bankruptcy cases have striven to provide future claimants equal participation in the negotiation process, they have not perforce enunciated a doctrine that future “claims” have equal priority with present claims under bankruptcy law. They could not do so without altering the current bankruptcy definition of “claim”—a definition that seems likely to exclude future “claims.”

Delaware has taken another approach to the problem of potentially insolvent corporations facing uncertain future liability. See DEL. CODE ANN. tit. 8, §§ 280–282 (1991), see also *In re Rego Co.*, 623 A.2d 92 (Del. Ch. 1992) (explaining and applying recent amendments to Delaware corporate code)

39. The court in *Grady* took a more direct approach, treating future claims as contingent claims cognizable under § 101(4)(A) of the Bankruptcy Code. See *In re A.H. Robins Co.*, 63 B.R. 986, 989–94 (Bankr. E.D. Va. 1986), *aff’d sub nom. Grady v. A.H. Robins Co.*, 839 F.2d 198 (4th Cir. 1988)

40. This is especially likely if Congress adopts proposed amendments to the Bankruptcy Code. See S. 540, 103d Cong., 2d Sess. § 221 (1994). Under this amendment, Congress would effectively write the form of the Trust into the Bankruptcy Code as a vehicle for resolving mass tort bankruptcies. The provision of such a statutory blueprint invites use of Manville-type trusts in the future, due in part to the advantage of the relative legal certainty that such a codification would afford

41. For a detailed description of the Manville Trust, see *In re Joint E & S Dist Asbestos Litig.*, 129 B.R. 710, 752–62 (Bankr. E. & S.D.N.Y. 1991), *vacated on other grounds*, 982 F.2d 721 (2d Cir. 1992), *modified*, 993 F.2d 7 (2d Cir. 1993). For a description and appraisal of the Dalkon Shield Claimants Trust by a law professor who served as chairperson of the Trust, see Georgene M. Vairo, *The Dalkon Shield Claimants Trust: Paradigm Lost (or Found)?*, 61 *FORDHAM L. REV.* 617 (1992)

42. In *Grady*, the court confronted the issue more directly and ruled that future claims are contingent claims in bankruptcy, with similar effect. See *supra* note 39. For a discussion of the issues raised by the timing of claims under bankruptcy law, see Kevin J. Saville, Note, *Discharging CERCLA Liability in Bankruptcy: When Does a Claim Arise?*, 76 *MINN. L. REV.* 327, 337–49 (1991)

The bankruptcy plan itself is the product of negotiation among the debtor, creditors, other interested parties, and equity holders.⁴³ It details both the general structure and the particular procedures the trustees will use to realize the value of the debtor's assets and to distribute this value among tort and other claimants. To reduce the high litigation costs characteristic of mass tort bankruptcies, these trusts may employ alternative dispute resolution and other techniques to determine the value of claims.⁴⁴

A stylized example will illustrate how a mass tort bankruptcy trust works. Suppose a firm with assets worth \$2 billion tortiously releases a toxin into the environment that causes damages having a present value of \$3 billion. As the assets of the firm are worth less than the present value of its tort liability, the firm is insolvent.⁴⁵ Suppose further that \$2 billion of the expected tort claims belong to present claimants. This means that the court and the parties can now identify claimants who have damages in an amount equal to the current value of the firm's assets. The remaining \$1 billion in claims belong to persons who do not yet know that they have been harmed, who are not yet sick, or who have not yet filed suit against the firm. These persons are future claimants. Assuming there are no other creditors, the firm should use its entire value of \$2 billion to satisfy the claims of its present tort claimants. Under the bankruptcy rule of absolute priority, the debtor will pay equity holders nothing,

43. Bankruptcy plans are products of negotiation in all events. See generally Lynn M. LoPucki & William C. Whitford, *Bargaining over Equity's Share in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 139 U. PA. L. REV. 125 (1990) (reporting results of four-year empirical study of bankruptcy reorganizations of large, publicly held companies and concluding, *inter alia*, that negotiation rather than adjudication determined outcome of cases in study).

44. See, e.g., Lester Brickman, *The Asbestos Litigation Crisis: Is There Need for an Administrative Alternative?*, 13 CARDOZO L. REV. 1819 (1992); Elinor P. Schroeder, *Legislative and Judicial Responses to the Inadequacy of Compensation for Occupational Disease*, 49 LAW & CONTEMP. PROBS. 151 (1986).

45. While firms that voluntarily petition for bankruptcy are often insolvent in either the "bankruptcy" or "equity" sense, they need not be. The enactment of the new Bankruptcy Code in 1978 eliminated any requirement that a voluntary petitioner be insolvent in the "bankruptcy," or "balance-sheet," sense of its liabilities exceeding its assets, or insolvent in the "equity" sense of being unable to pay its obligations as they come due. Compare 11 U.S.C. § 301 (1988) (establishing that voluntary bankruptcy case commences with filing of petition by debtor) with the old Bankruptcy Act, 11 U.S.C. §§ 205(a), 404, 530, 723, 823, 1023 (1970) (requiring debtor in case under Chapters VIII, IX, X, XI, XII, XIII to be insolvent or unable to pay debts as they came due). The debtor, however, must file a bankruptcy petition in "good faith." See, e.g., *In re* 2218 Bluebird Ltd. Partnership, 41 B.R. 540, 542-43 (Bankr. S.D. Cal. 1984) ("[11 U.S.C. §] 1112(b) does not expressly require a petition for relief under Chapter 11 to be filed in good faith. . . . However, . . . there is an implied requirement of good faith when filing any bankruptcy petition.") (citations omitted); see also Robert L. Ordín, *The Good Faith Principle in the Bankruptcy Code: A Case Study*, 38 BUS. LAW. 1795 (1983). Creditors can put debtors in bankruptcy involuntarily if the debtor is generally not paying its debts as they become due or a custodian has been appointed or has taken possession of substantially all of the debtor's property within 120 days prior to the date of filing. 11 U.S.C. § 303(h)(1), (2) (1988). In this Article, I generally assume that mass tort firms voluntarily petitioning for bankruptcy, or against which an involuntary petition has been filed, would be insolvent in the bankruptcy sense. I advocate applying the approach outlined in Part IV.B *infra* to any mass tort firm that voluntarily petitions in good faith for bankruptcy protection, or has been involuntarily placed in bankruptcy because of its equitable insolvency, where there is substantial uncertainty concerning its bankruptcy insolvency.

because tort creditors, as general unsecured creditors, have a claim prior to that of equity on the value of the debtor's assets.⁴⁶

The value of the debtor firm may be realized in several ways. If the bankruptcy firm is in Chapter 11, the debtor firm might reorganize by canceling its old stock and conveying its assets to a new entity. In our example, this new entity in turn would issue all of its stock to the mass tort bankruptcy trust established by the reorganization plan. The trust could sell the stock, keep the stock and collect dividends, borrow funds using the stock as collateral, or engage in other transactions in order to raise money for the satisfaction of present and future tort claims.⁴⁷

46. See generally BAIRD & JACKSON, *supra* note 20, at 957-99 (introducing and describing absolute priority rule in corporate reorganization). Bankruptcy plans frequently deviate from absolute priority in practice. Commentators have explored this phenomenon extensively. See generally John D. Ayer, *Rethinking Absolute Priority After Ahlers*, 87 MICH. L. REV. 963 (1989) (describing Supreme Court adherence to statutory, rather than constitutional, interpretation of absolute priority rule and suggesting lack of controlling theory in this area); Douglas G. Baird & Thomas H. Jackson, *Bargaining After the Fall and the Contours of the Absolute Priority Rule*, 55 U. CHI. L. REV. 738 (1988) (reexamining premises of absolute priority rule from perspective of negotiation process); Raymond T. Nimmer, *Negotiated Bankruptcy Reorganization Plans: Absolute Priority and New Value Contributions*, 36 EMORY L.J. 1009 (1987) (arguing that individual debtors should be given more protection than corporate shareholders under Bankruptcy Code); Jerold B. Warner, *Bankruptcy, Absolute Priority, and the Pricing of Risky Debt Claims*, 4 J. FIN. ECON. 239 (1977) (finding that capital market properly prices risky debt claims to reflect possibility of departure from absolute priority rule); Lawrence A. Weiss, *Bankruptcy Resolution. Direct Costs and Violation of Priority of Claims*, 27 J. FIN. ECON. 285 (1990) (presenting evidence on direct costs of bankruptcy and violation of absolute priority rule). Mass tort bankruptcy is no exception. See *Manville Corp. v. Equity Sec. Holders Comm. (In re Johns-Manville Corp.)*, 66 B.R. 517, 531-33 (Bankr. S.D.N.Y. 1986). Judge Lifland at one point castigated a group of equity holders for their "buccaneering disregard for their status in this reorganization." *Id.* at 533. But see LoPucki & Whitford, *supra* note 43 (suggesting deviations from absolute priority rule are usually not large).

47. Ideally, the mass tort trust fund should be funded by an effective liquidation of the mass tort firm. This could be accomplished in Chapter 11 (using an approach like that used in the Manville reorganization) or through a Chapter 7 liquidation, or provided for specifically in a new chapter of the Bankruptcy Code dedicated to mass tort bankruptcy. In *Manville*, the Plan transferred the business to a new entity and compelled the new entity to issue most of its stock to the mass tort trust. Unfortunately, the Plan missed the next important step. It forbade the Trust from selling its Manville stock, thereby entrenching Manville management and underdiversifying the Trust.

A mass tort trust should sell any mass tort firm stock issued to it and purchase risk-free securities with the proceeds. A plan could also finance the trust by liquidating the corporation piecemeal, if such a liquidation would maximize the trust's value. Commentators have expressed concern that liquidation of an insolvent firm will realize less than its full value, as the firm's assets would be sold in a "fire sale." See David A. Skeel, Jr., *Markets, Courts, and the Brave New World of Bankruptcy Theory*, 1993 WIS. L. REV. 465, 477, 481. I believe these concerns can be dealt with adequately by using auction procedures designed to assure that equity in the reorganized debtor or the debtor's assets are sold to the highest bidder. In auctions for corporate control, overbidding is common. See RONALD J. GILSON & BERNARD S. BLACK, *THE LAW AND FINANCE OF CORPORATE ACQUISITIONS* 591-92 (Supp. 1993) (summarizing literature concerning overbidding); see also Bernard S. Black, *Bidder Overpayment in Takeovers*, 41 STAN. L. REV. 597, 599 (1989) ("[F]or many takeovers, target shareholders gain partly because the bidder pays too much"). While I believe prospective tort claimants would prefer that mass tort trusts be funded with risk-free securities from the outset, rather than stock in a reorganized debtor, one could still use the latter approach, selling the stock in the reorganized debtor either immediately before the trust was liquidated or gradually over the life of the trust. The latter approach would be preferable if immediate liquidation would so greatly undervalue the firm that even risk-averse prospective tort claimants would prefer to avoid the undervaluation, even though it left them with claims on a risky, underdiversified portfolio. I assume in this Article that the trust is funded by an effective liquidation of the firm, that all firm value is transferred to the trust, and that the trust invests its monies in risk-free securities. Since the trust could issue to equity holders trust shares junior to those of tort claimants, this assumption does not necessarily require that equity

However the trust is funded, its designers and administrators face the grave problem of securing a fair distribution of the value of the debtor's estate among present and future claimants. In our stylized example, the legal representative of future claimants would successfully insist, and the bankruptcy court would confirm, that the mass tort trust reserve one-third of the value of the debtor's assets for the satisfaction of future claims. As future claimants will suffer one-third of the harm caused by the tort, reserving this portion of the value of the debtor's assets for their compensation would accord them pro rata treatment with present claimants. That is, on a dollar-for-dollar basis, the claims of present claimants and of future claimants would be treated equally. In our example, the value of the debtor's estate and the magnitude of tort liability are such that for every dollar of tort claim, each tort claimant will receive about 67 cents in compensation, assuming zero transaction costs and assuming all claimants are to receive the same proportional satisfaction of their claims. Reserving one-third of the debtor firm's value (about \$667 million) for future claimants will assure that future claimants also receive 67 cents for each dollar of their claims. In this sense, the trust will treat present and future claimants equally.

This equal treatment conforms to a fundamental norm of bankruptcy law, which I call the "equal-treatment norm." In bankruptcy, creditors of the same class are to have their claims equally impaired if the bankruptcy plan does not provide for their claims to be satisfied fully.⁴⁸ In practice future claimants are likely to get far less than equal treatment. This disparity is the result of the fair distribution problem, which I discuss in detail below.⁴⁹ Before explaining why achieving a fair distribution among present and future claimants in mass tort bankruptcy is problematic, however, I must explain why the equal distribution described above is actually fair. This discussion is particularly important because courts have not explicitly analyzed what constitutes fair treatment of future claimants when full compensation of all injuries by the debtor is impossible.

B. *Defining Fair Distribution in the Mass Tort Bankruptcy Setting*

In recent years, legal theorists and others have made frequent use of hypothetical contract analysis when attempting to resolve issues of fairness.⁵⁰

holders receive no value. See *infra* part IV.A.

48. See 11 U.S.C. § 1123(a)(4) (1988) (requiring reorganization plan to provide same treatment for each claim within class); *id.* § 1124 (defining impairment of claim under reorganization plan); see also Vladimir Jelisavcic, Note, *Trading Claims Against Chapter 11 Debtors: Disclosure as the Criterion for the Less Favorable Treatment Standard of Section 1123(a)(4)*, 17 J. CORP. L. 385, 386-91 (1992) (explaining general goals and policies of Chapter 11).

49. See *infra* part II.

50. See, e.g., RAWLS, *supra* note 18, at 11-17; Thomas Scanlon, *Contractualism and Utilitarianism*, in *UTILITARIANISM AND BEYOND* 103 (Amartya Sen & Bernard Williams eds., 1982). Alan Schwartz

The hypothetical contract approach asks whether individuals would have agreed to a given treatment of their claims if their agreement had been solicited in a setting characterized by possession of appropriate information, low transaction costs, and freedom from morally arbitrary influences.⁵¹ Applying this approach to mass tort bankruptcy entails determining the distribution of the mass tort firm's assets to which prospective tort claimants would agree in this hypothetical setting.⁵² Hypothetical contract analysis derives its justificatory force from the value of autonomy—it prescribes rules to which rational individuals, deprived of morally irrelevant information, would subscribe.⁵³

This approach has attractive features. Tort creditors choosing distributional rules in the factual setting of an actual mass tort bankruptcy would behave strategically, choosing the rules most likely to favor themselves. Hypothetical contract analysis deprives prospective tort creditors of knowledge about the particular facts of a given bankruptcy—knowledge that would allow them to tailor their choice of a distribution process to satisfy their own interests. Prospective tort creditors should select a process for distributing assets that is

provides a good summary of hypothetical choice analysis in *Proposals for Products Liability Reform: A Theoretical Synthesis*, 97 YALE L.J. 353, 357–61 (1988); see also Robert P. Burns, *Rawls and the Principles of Welfare Law*, 83 NW. U. L. REV. 184 (1989) (assessing applicability of Rawlsian hypothetical contract analysis to American income-maintenance policies); David Charny, *Hypothetical Bargains: The Normative Structure of Contract Interpretation*, 89 MICH. L. REV. 1815 (1991) (discussing problems arising in construction of hypothetical bargains); Robert A. Long, Jr., Note, *A Theory of Hypothetical Contract*, 94 YALE L.J. 415 (1984) (proposing theory of hypothetical contract to govern common law of restitution for unsolicited benefits).

51. See RAWLS, *supra* note 18, at 136–42.

52. Hypothetical bargain analysis has, of course, been applied to bankruptcy law. See JACKSON, *supra* note 17, at 7–19 (describing bankruptcy law as solution to common pool problem that creditors would have agreed to *ex ante* were transaction costs lower). I do not, however, mean to commit myself to a hypothetical contract view of all bankruptcy law, in part because I find telling Barry E. Adler's criticisms of this approach in *Financial and Political Theories of American Corporate Bankruptcy*, 45 STAN. L. REV. 311 (1993). Nevertheless, hypothetical contract analysis is the best approach where actual contracting is impossible, as it obviously is in the involuntary transactional setting of torts. I am also uncomfortable with approaches that seek to make bankruptcy law the servant of more global objectives of social justice. See, e.g., Donald R. Korobkin, *Rehabilitating Values: A Jurisprudence of Bankruptcy*, 91 COLUM. L. REV. 717 (1991) (describing "value-based account" of bankruptcy law that addresses social justice concerns), Robert K. Rasmussen, *An Essay on Optimal Bankruptcy Rules and Social Justice*, 1994 U. ILL. L. REV. 1 (explaining how economic approach to bankruptcy law is consistent with Rawlsian conception of social justice). Treatment of involuntary creditors raises fairness issues that do not apply to voluntary creditors, the case for using hypothetical contract analysis for the former is independent of that for using the approach for all bankruptcy law.

53. For a critical evaluation of hypothetical contract arguments used by law and economics writers, see Daniel Brudney, *Hypothetical Consent and Moral Force*, 10 LAW & PHIL. 235 (1991). I take my use of hypothetical contract analysis to be consistent with the *ex ante* Pareto-optimality criterion often used in economic analysis of law. See, e.g., Robert D. Cooter & Thomas S. Ulen, *An Economic Case for Comparative Negligence*, 61 N.Y.U. L. REV. 1067 (1986). I prefer to use a fairness criterion rather than efficiency because tort compensation, perhaps unlike other allocational policies, see *id.* at 1095, seems primarily to involve issues of fairness. Hal Varian has developed another appealing conception of fairness. See Hal R. Varian, *Two Problems in the Theory of Fairness*, 5 J. PUB. ECON. 249 (1976), see also Ronald Dworkin, *What is Equality?* (pts. 1 & 2), 10 PHIL. & PUB. AFF. 185, 283 (1981). While applying this standard to my proposal is beyond the scope of this Article, I believe my proposal would pass muster under these sorts of fairness criteria, assuming they may be applied to narrowly focused policies.

consistent with their interests, but only as they conceive of their interests independently of the particular facts of a given bankruptcy. After a mass tort, some tort victims may manifest injuries immediately, while others may not know they have been injured until much later. Tort claimants who knew they were injured would insist on a bankruptcy regime biased in favor of present claimants; they would not consent to a distributional rule that impaired their claims for the sake of future claimants. In a hypothetical contract setting, while persons might know that they were exposed to mass tort risk, they would not know whether they would be present or future claimants if a mass tort bankruptcy actually occurred. Under these circumstances, assuming that prospective tort creditors are normally risk averse, prospective tort creditors would not agree to an allocational scheme that paid present claimants more than future claimants; rather, they would select a scheme that treated present and future claimants equally.

The assumption of risk aversion, while significant, is plausible.⁵⁴ Risk aversion is necessary to the argument for equal treatment of present and future claimants because risk-neutral rule choosers would be indifferent between a compensation scheme that favored some subgroup of claimants and a scheme that treated subgroups equally, so long as the expected value of compensation under each scheme was the same. I take hypothetical rule choosers to be risk averse, as hypothetical contract arguments usually do, for three main reasons. First, as an empirical matter, risk aversion seems to be a nearly universal human quality. Second, for hypothetical contract analysis to have any normative force, the hypothetical contract setting must be stripped of morally irrelevant features. Individuals' wealth endowments seem to fall into the category of the morally irrelevant; consequently, rule choosers cannot assume they are at any particular wealth level.⁵⁵ Now, because the marginal value of additional wealth decreases as wealth increases, rule choosers will be risk averse; they will prefer an egalitarian compensation scheme that guarantees a certain level of compensation to an inegalitarian scheme that provides a variable level of compensation.⁵⁶

54. See PAUL SCHOEMAKER, EXPERIMENTS ON DECISIONS UNDER RISK: THE EXPECTED UTILITY HYPOTHESIS 45-90, 109-25 (1980); Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 *ECONOMETRICA* 263 (1979).

55. See RAWLS, *supra* note 18, at 136-38.

56. Even if we assume that hypothetical rule choosers are ignorant of their wealth endowments, arriving at the equal-treatment norm requires us to assume further either that the rules apply only to torts that inflict significant harm on their victims, or that individuals are indifferent as to whether the rules that apply to small losses favor the risk averse. This consideration is worth mentioning because even persons ignorant of their wealth endowments might be risk neutral regarding the selection of compensation schemes for very small injuries. A firm, after all, might be driven into bankruptcy by inflicting \$10 of damage on every person in the country. Even persons ignorant of their wealth, however, might be indifferent between a scheme that would compensate them, say, \$1 for this harm, or give them a one-in-five chance of getting \$5. As the rule choosers are merely selecting the specialized rules for compensating mass tort bankruptcy claimants, not those determining the basic structure of society, it is appropriate for them to know what social safety nets will be in place, and this knowledge will tend to vitiate the extreme risk aversion that

A third, more speculative reason for taking prospective tort creditors to be risk averse is suggested by the idea that tort victims are involuntary creditors of the bankrupt debtor. It seems clear that the involuntary nature of the tort transaction makes hypothetical contract analysis appropriate, as there is no actual contract to analyze. However, the involuntariness of the transaction might also make it more likely that the persons involved—prospective tort claimants—will be risk averse with respect to the compensation scheme they would choose. The tort victims' extension of credit, because it is involuntary, will probably distort the risk characteristics of the total portfolios (including human capital) of tort victims, causing an increase in the overall riskiness of those portfolios. Whatever a person's risk preferences may be, she will have invested her human and other capital in a manner consistent with those preferences before the tort occurs, since risk preferences, like other preferences, are revealed by one's behavior.⁵⁷ A tort typically depletes partially or completely the victim's liquid assets, as she must pay for medical expenses, substitute for lost wages, and otherwise compensate for the loss. The cash and cash substitutes depleted by the tort—those that are most liquid and hence most available for emergency use—will tend to be the parts of a person's portfolio that decrease its riskiness. Thus, substituting a mass tort bankruptcy claim, in effect an "IOU" from an insolvent tortfeasor, for cash and near-cash equivalents in the victim's portfolio will increase the riskiness of that portfolio, whether or not the portfolio was previously that of a highly or slightly risk-averse person. A mass tort's impairment of human capital, in the form of the ability to earn a wage, similarly increases the riskiness of a person's portfolio.

This perspective suggests that prospective tort victims will be more risk averse with respect to the form of tort compensation they prefer, at least regarding nontrivial injuries, than the total asset mix of their pre-tort portfolios would indicate. To the extent bankruptcy compensation rules make mass tort claims less risky, they will tend to mitigate this distortion in the risk

arguably characterizes the Rawlsian original position, where the basic structure is at stake. Nevertheless, the assumption that the mass torts with which we are concerned are only those that significantly harm at least some individuals does not seem particularly troubling. In mass torts where all affected individuals are only slightly injured, much simpler and cheaper compensatory schemes (such as first-come, first-served or even a lottery) might pass muster. It seems intuitively obvious that higher standards of fairness must apply to compensation schemes that determine how a limited fund will be divided to compensate seriously injured individuals where not all of them can be compensated fully. There is no apparent theoretical reason, moreover, why the same rule must be chosen for mass torts that inflict large aggregate harms, but hurt no one person very much, and the more troubling mass torts where many persons are harmed seriously. Indeed, the different treatment of these two sorts of mass torts is less an objectionable inconsistency in my approach than an appropriate moral distinction that hypothetical contract analysis models well. The rule choosers probably would choose different compensatory schemes for low-grade-nuisance mass torts and mass torts that inflict serious individual injuries. This Article concerns itself with the compensation in the mass tort bankruptcy setting for the latter type of tort.

57. See TIBOR SCITOVSKY, *THE JOYLESS ECONOMY* 72-75 (1976); Paul A. Samuelson, *Consumption Theory in Terms of Revealed Preferences*, 15 *ECONOMETRICA* 242 (1948).

characteristics of the portfolios of the tort victims. Prospective tort creditors thus will prefer less risky to more risky forms of tort compensation, even if their pre-tort portfolios identified them (or some of them) as only slightly risk-averse persons.⁵⁸ It follows that we need assume only that individuals will be slightly risk averse—that is, risk averse enough to engage in some diversification of their total wealth, including human capital, such that a significant involuntary conversion of the less risky portions of their portfolios into the presumptively quite risky form of mass tort bankruptcy claims would make their total portfolios more risky than they were before the conversion.

Thus, hypothetical contract analysis indicates that, for mass tort bankruptcies that involve serious injuries to at least some claimants, fairness requires equal treatment of claimants regardless of the timing of their claims. This result, I believe, is consistent with the moral intuitions of most people who have reflected on these issues.

II. ORIGINS OF THE FAIR DISTRIBUTION PROBLEM

Even though prospective tort claimants in a hypothetical contract setting would prefer a compensation scheme that treats present and future claimants equally, current mass tort bankruptcy practice favors present claimants over future claimants, distributing to present claimants a disproportionate share of the debtor's assets. This inequality stems from incentives deeply rooted in the institutions of mass tort bankruptcy. We can best understand the disproportionate distribution to present claimants by considering a stylized example of a mass tort bankruptcy reorganization.

As in the example above,⁵⁹ suppose a mass tort firm, whose assets are worth \$2 billion, releases a toxin into the environment that causes damages having a present value of \$3 billion. The firm is insolvent. Suppose further that \$2 billion of the \$3 billion in expected tort claims belong to present claimants. The remaining \$1 billion will manifest itself over the ten years following the bankruptcy procedure; currently it is impossible to know who will suffer these injuries. A mass tort trust should reserve one-third of the firm's total value for future claimants in order to make a fair distribution. Under realistic conditions, however, present claimants, favored by psychological and other factors, will press for a reorganization or liquidation that allocates the entire or nearly the entire value of the debtor firm to them.

58. Any risk-neutral prospective tort claimants will presumably be indifferent as to whether tort compensation takes a more or less risky form, so we need not concern ourselves with them.

59. See *supra* text accompanying notes 45–47.

A. Factors Affecting Allocational Decisions

Factors that give rise to the fair distribution problem can be placed in several categories. First are psychological factors that operate to favor present over future claimants, quite apart from any self-interested or strategic motives of the parties. Second are incentives of attorneys and judges in the bankruptcy process that encourage the negotiation of plans that favor present over future claimants. Third and most serious is the strategic disadvantage at which future claimants find themselves vis-à-vis present claimants and equity holders.

1. Psychological Factors

Present claimants have powerful psychological advantages over future claimants in their battle to maximize their share of the debtor's estate. Present claimants in mass tort bankruptcies are identifiable persons with urgent medical and financial needs, while future claimants are only statistical probabilities. Empirical psychology suggests that decisionmakers give excessive weight to concrete and vivid information before them at the expense of more abstract information that should be given equal weight in a rational decisionmaking process. This phenomenon is called the "vividness effect."⁶⁰ The vividness effect makes it difficult for the legal representative of abstract future claimants to persuade the court to leave unsatisfied the needs of present claimants so that future claimants may be treated equally.⁶¹ This psychological factor also disposes a bankruptcy court to underestimate the number and size of future

60. See RICHARD NISBETT & LEE ROSS, HUMAN INFERENCE STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT 59-61 (1980); Eugene Borgida & Richard E Nisbett, *The Differential Impact of Abstract vs. Concrete Information on Decisions*, 7 J. APPLIED SOC PSYCHOL. 258 (1977), Richard E Nisbett & Eugene Borgida, *Attribution and the Psychology of Prediction*, 32 J PERSONALITY & SOC PSYCHOL. 932 (1975); Richard E. Nisbett et al., *Popular Induction: Information Is Not Necessarily Informative*, in COGNITION AND SOCIAL BEHAVIOR 113 (John S. Carroll & John W Payne eds., 1976), David L. Rosehan, *Psychological Realities and Judicial Policy*, 19 STAN. LAW. 10, 13-14 (1984) (discussing "vividness effect"); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124 (1974), reprinted in JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES 3 (Daniel Kahneman et al. eds., 1982). But see Shelley E. Taylor & Suzanne C. Thompson, *Stalking the Elusive "Vividness" Effect*, 89 PSYCHOL. REV. 155 (1982) (concluding that "vividness effect" is difficult to verify empirically).

61. Guido Calabresi and Philip Bobbitt argue that pro rata compensation of tort victims may be undesirable if all victims would consequently be undercompensated. Saving identifiable victims at the expense of unidentified victims helps preserve the societal myth that life is priceless. See GUIDO CALABRESI & PHILIP BOBBITT, TRAGIC CHOICES 43-45 (1978). Decisions of this kind, however, are more convenient than tragic. By favoring present over future claimants, policymakers act expediently. Future tort victims do not vote or protest and thus make better victims. To call this "tragic" seems inaccurate. Aristotle recognized that tragedy possessed an element of necessity, perhaps with a connotation of sacrifice. See ARISTOTLE, POETICS 1449B (S.H. Butcher trans., 1951). But the "sacrifice" of the interests of future tort victims for the sake of the present tort victims is only inevitable if the interests of present victims must be maximized.

claims so that the bankruptcy plan can award present claimants something closer to adequate compensation.⁶²

2. *Judicial and Attorney Incentives*

Empirical evidence suggests that bankruptcy courts tend to overvalue reorganized firms, resulting in at least the temporary illusion that the reorganization gives all creditors and interested parties some reasonable value for their claims.⁶³ Underestimating the value of future claims creates the appearance that all claimants will be reasonably if not fully compensated, an illusion that may last long enough to support judicial confirmation of the plan and the clearing of the court's docket.

Present claimants typically have claims that juries or settlement agreements have already liquidated or will liquidate in the foreseeable future. Future claims, by contrast, are often highly uncertain and likely to remain so for extended periods. To estimate future claims, administrative processes must consider many factors that bear on the ultimate magnitude of future claims. To estimate future mass tort liability, an administrative process must determine, for example, how many future claimants there will be, what diseases they will suffer, what medical treatments they will require, and so on. Each of these decisions offers a point of entry for present claimants to argue their position: Respecting the issues above, for example, they would argue "not very many," "mild diseases," and "inexpensive treatments." The more complex the methodology of estimation, the more opportunities interested parties have to influence the outcome. Estimating future mass tort liability involves an extremely complex methodology and accords present claimants many opportunities to advance their interests.

62. Professor Mark Roe apparently thinks this tendency to favor present claimants is benign. He writes that "[f]irst-come, first-served distribution has great appeal where the claimants have little control over when to assert their claims," and that "a decisive argument for early reorganization to provide temporal equality in compensation cannot be unambiguously derived from fairness principles." See Mark J. Roe, *Bankruptcy and Mass Tort*, 84 COLUM. L. REV. 846, 855 (1984) (footnotes omitted). My thesis is obviously at odds with Roe's on this score, since I have argued that temporal equality can be derived from fairness principles. See *supra* part I.B. Roe's reasoning on this point seems faulty. He notes the willingness of society to spend great sums of money on present victims at the expense of future victims, see Roe, *supra*, at 855, but this hardly constitutes an endorsement. As I have argued, there is good reason for thinking that favoring present over future claimants is mere bias. Moreover, it is a mistake to identify policymakers, especially those in the arcane world of mass tort bankruptcy, with "society," even if we take as given the doubtful thesis that the social will should control on matters of distributional justice, in which certain subsets of society are likely to be treated unfairly. Furthermore, bargain analysis is applicable, contrary to Roe's claim. *Id.* It is precisely *because* the actual facts of mass tort bankruptcy create a bias in favor of present claimants that we must resort to hypothetical bargain analysis, and ask to what parties would agree under fair circumstances.

63. See, e.g., Walter J. Blum, *The Law and Language of Corporate Reorganization*, 17 U. CHI. L. REV. 565, 577-78 (1950); J. Ronald Trost, *Corporate Bankruptcy Reorganizations: For the Benefit of Creditors or Stockholders?*, 21 UCLA L. REV. 540, 544-46 (1973).

When juries determine the damages of present claimants, moreover, they do so independently, without regard to the effect their decisions will have on future claimants. The parties' decision to reserve funds for future claimants in the bankruptcy process, by contrast, must deliberately deprive present claimants of needed funds. In determining the value of future claims for purposes of a bankruptcy plan, the parties engage in a dependent process that simultaneously decides what will be available for present tort claimants and for other creditors. The dependency tends to distort the valuation decision and invites compromise by the future claimants' representative. The independence of juries and settlement procedures for present claimants, on the one hand, and the dependency of decisions to set aside funds for future claimants, on the other, makes the net result of these decisions especially vulnerable not only to the vividness effect discussed above, but also to pressure tactics available to parties in the bankruptcy process.

The attorneys who represent present claimants receive a substantial percentage of the settlements they reach with, or the verdicts they obtain against, the debtor.⁶⁴ Future claimants, however, are typically represented by a guardian appointed by the bankruptcy court.⁶⁵ Wanting their dockets cleared, courts may tend to appoint guardians who are excessively accommodating.⁶⁶ These guardians are not compensated by a percentage of the debtor's assets that they secure for their clients. They thus lack the economic incentive that plaintiffs' attorneys have to seek the maximum attainable settlement.

3. *Strategic Bargaining in the Bankruptcy Process*

Perhaps most important, future claimants are at a strategic disadvantage in the bargaining that characterizes the bankruptcy process. The only monitor of the performance of the future claimants' representative is the court itself, whose incentive is less to ensure that future claimants receive the maximum possible or even a fair share, than it is to ensure that the parties reach some agreement. Both present claimants and equity holders of the debtor have a common interest in a reorganization or liquidation plan that undervalues future claims. In the example above, the debtor firm had a value of \$2 billion and tort

64. See, e.g., *In re Joint E. & S. Dist. Asbestos Litig.*, 129 B.R. 710, 810-11, 864-65 (Bankr. E. & S.D.N.Y. 1991), *vacated on other grounds*, 982 F.2d 721 (2d Cir. 1992), *modified*, 993 F.2d 7 (2d Cir. 1993).

65. See *supra* note 21.

66. See Michael D. Ricciuti, *Equity and Accountability in the Reform of Settlement Procedures in Mass Tort Cases: The Ethical Duty To Consult*, 1 GEO. J. LEGAL ETHICS 817 (1988) (arguing that judges' eagerness in approving settlement of class actions in order to clear dockets may result in careless decisionmaking); see also Jonathan R. Macey, *The Internal and External Costs and Benefits of Stare Decisis*, 65 CHI.-KENT L. REV. 93, 94 (1989) (noting that among factors that motivate judges is desire to maximize leisure time).

claims of \$3 billion, consisting of \$2 billion in present and \$1 billion in future claims. A mass tort reorganization that treated present and future claimants equally and observed absolute priority would place the entire value of the debtor's assets in trust for all tort claimants.⁶⁷ Equity holders would oppose such a plan, however, and would not hesitate to use the weapon of delay to prevent its creation.⁶⁸

Equity holders have a strong incentive to employ dilatory tactics because of the fundamental nature of their financial claim on the firm's assets. Because of its low priority, equity in a bankrupt firm would usually be worthless if the firm were liquidated promptly upon its bankruptcy in order to satisfy creditors. The value of the equity is the total value of the firm minus the amount owed to creditors. Equity holders can in effect buy the firm back from creditors by paying off the firm's debts. Thus the equity may be viewed as an option to buy the unleveraged firm (the firm free of debt) from the creditors, where the price is equal to the amount necessary to satisfy obligations to the creditors. The value of this "call option" on the bankrupt firm is a function of several factors, most notably its maturity, or the time at which it must be exercised or left to expire unexercised.⁶⁹ Standard option pricing models also indicate this intuitively clear proposition: A call option that is currently "out of the money," that is, the right to buy an asset at a price currently above its market value, is worth more the further in the future the exercise date is. Although a firm is currently worth less than its debts, it may be worth more than its debts in the future, making the options on the firm—its equity—worth something. The longer the period of time during which equity holders can wait to see whether the firm's value increases, the more equity is worth. When a firm is bankrupt, therefore, equity holders have everything to gain and nothing to lose from delaying the completion of bankruptcy and the paying off of creditors. Indeed, to the extent shares in insolvent firms are traded, their price should reflect the prospect that the conclusion on bankruptcy will be delayed.⁷⁰

67. The value of the assets could be realized by a going-concern liquidation, or by canceling the old equity and distributing 100% of the equity in the reorganized firm to the trust, which could then sell it into the market. See *supra* note 47 and accompanying text. Cf. Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 J. LEGAL STUD. 127 (1986) (arguing that maximization of value for creditors would be better achieved by going-concern liquidation of debtor than by reorganization). The trust would then allocate the proceeds in accordance with the terms of the trust.

68. See Barry E. Adler, *Bankruptcy and Risk Allocation*, 77 CORNELL L. REV. 439, 448 (1992) (analyzing strategic uses of delay by equity and junior creditors in bankruptcy).

69. See Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973); see also Robert C. Merton, *Theory of Rational Option Pricing*, 4 BELL J. ECON. 141 (1973).

70. Lucian A. Bebchuk & Howard F. Chang, *Bargaining and the Division of Value in Corporate Reorganization*, 8 J.L. ECON. & ORGANIZATION 253, 255-56 (1992) (arguing that delay enhances equity holders' option value and is strategically valuable in negotiations over reorganization plan); Yaacov Z. Bergman & Jeffrey L. Callen, *Opportunistic Underinvestment in Debt Renegotiation and Capital Structure*, 29 J. FIN. ECON. 137 (1991) (explaining how management can use control over debtor to extract concessions from creditors by threatening to make bad investments); Allan C. Eberhart et al., *Security Pricing and Deviations from the Absolute Priority Rule in Bankruptcy Proceedings*, 45 J. FIN. 1457 (1990)

To present tort claimants, by contrast, delay is especially damaging. They typically have pressing medical and financial needs.⁷¹ In addition, they have positive discount rates, preferring to have their money sooner rather than later. Tort claimants are, therefore, in a difficult position. Equity holders, if they choose, can delay bankruptcy proceedings by using a number of tactics.⁷² To avoid delay, tort creditors must deal with equity holders in the reorganization process. To gain their cooperation, a reorganization plan presumably must offer rational equity holders a share in the firm that has a present value at least as great as that of their call option on the assets of the firm. If equity protracts the bankruptcy process too long, however, reorganization negotiations may fail, and the debtor may be liquidated.

To induce equity holders to consent to a plan, present claimants can offer to agree on a reorganization plan that divides the value of the firm between present claimants and equity holders, but leaves little or nothing for future claimants. This strategy can be illustrated with another stylized example. First, equity holders, acting through the firm's management (the debtor-in-possession in corporate reorganization⁷³), could propose a reorganization plan based on an overvaluation of the firm's assets,⁷⁴ an undervaluation of tort liability, or both. For the sake of simplicity, suppose the proposed plan overvalues the debtor's \$2 billion worth of assets at \$3 billion and estimates the present value of all tort claims, present and future, to be \$3 billion. While under the absolute priority rule all of the firm's value should be used to pay tort claims and none should be used to pay equity holders, Chapter 11 of the Bankruptcy Code allows creditors and equity holders to structure a reorganization plan that deviates from the absolute priority rule.⁷⁵ Thus present tort claimants can forgo their absolute priority over equity holders in exchange for an agreement by equity holders not to obstruct the bankruptcy process.

(supporting with empirical evidence view that equity holders can use reorganization process strategically to increase equity's value).

71. See, e.g., *In re Joint E. & S. Dist. Asbestos Litig.*, 129 B.R. 710, 739-42 (Bankr. E. & S.D.N.Y. 1991) (reviewing medical problems facing victims of asbestos exposure), *vacated on other grounds*, 982 F.2d 721 (2d Cir. 1992), *modified*, 993 F.2d 7 (2d Cir. 1993).

72. Equity's main agent for delaying reorganization is the debtor's management. See Adler, *supra* note 68, at 449. Management usually has incentives to serve equity's interests during reorganization. *Id.* at 449-50. Management can delay reorganization because it can exclude creditor plans during the first 180 days. *Id.* at 451; see 11 U.S.C. § 1121(b), (c) (1988). Management can also object to valuation and distribution features of creditor plans and protract these objections through litigation. Adler, *supra* note 68, at 451. Organized shareholders can also press their interests through litigation independently of management.

73. See 11 U.S.C. § 1104(a) (providing for court appointment of trustee to manage debtor only after request, notice, and hearing); ELIZABETH WARREN & JAY L. WESTBROOK, *THE LAW OF DEBTORS AND CREDITORS* 397 (1986) (noting that bankruptcy law embodies strong presumption that management will remain in control of insolvent corporation in bankruptcy).

74. See Mark J. Roe, *Bankruptcy and Debt: A New Model for Corporate Reorganization*, 83 *COLL. M. L. REV.* 527, 533-50 (1983).

75. See Adler, *supra* note 68, at 449-54.

Equity holders and present claimants, for example, could agree on a plan that placed only 80% of the equity of the reorganized entity in trust to satisfy all tort claims and allocated to the old equity holders the remaining 20% of equity in the reorganized entity. By valuing the debtor firm at \$3 billion instead of \$2 billion, the plan creates the appearance of setting aside \$2.4 billion (80% of \$3 billion) for all tort claimants, while the actual value of the stock placed in trust for tort claimants is only \$1.6 billion (80% of the firm's actual value, \$2 billion). Equity holders in the debtor receive new stock in the reorganized entity assessed by the plan to be worth \$600 million (20% of the firm's value under the plan, \$3 billion), but actually worth \$400 million (20% of the firm's actual value, \$2 billion). In terms of real value, equity holders have managed to divert to themselves \$400 million out of the \$2 billion available to pay all tort claims.

Present claimants can mitigate this loss for themselves. Some set of rules must govern the distribution of the 80% of the value of the debtor firm to be held in trust for tort claimants. The reorganization plan specifies these rules. The plan can provide for either a "fast payout" or a "slow payout." The fast payout would reflect liberal assumptions about how generously the trust could compensate present claimants and still reserve sufficient funds for future claimants. The slow payout would reflect conservative assumptions and would reserve relatively more of the trust's assets for future claimants. Present claimants could condition their forgoing of absolute priority on the plan's adoption of fast rather than slow payout rules. Since equity holders would be indifferent as to what payout rules the trust followed once their share of the debtor's value was fixed, they would ultimately agree to this arrangement.⁷⁶ They might, however, oppose fast payout rules strategically, holding compensation to present claimants hostage until they and present claimants reach some bargain as to what share in the reorganized entity the plan would give to equity holders.

If the reorganization plan adopts fast payout rules for the trust, present claimants will be able to claim, at the extreme, all of the trust funds, leaving nothing for future claimants. In our example, operating under fast payout rules the trust could use \$1.6 billion (80% of the actual \$2 billion value of the debtor's assets) to discharge the \$2 billion owed to present claimants, yielding them a respectable pay-off ratio of 80 cents per dollar of claim. This is significantly higher than the approximately 53 cents per dollar present

76. This assumes that if and when the trust runs out of money, former future claimants, who are now present claimants, will not be able to modify the bankruptcy plan in a manner requiring equity holders to make additional contributions. In the *Manville* case, claimants did ask for a modification of the plan. See *supra* note 9. While there is some danger that if future claimants are sufficiently egregiously unprovided for, they may be able to modify a final bankruptcy plan or even get legislative relief, these risks are relatively remote compared to the opportunities for equity holders effectively to exclude future claimants from compensation.

claimants would receive if the trust treated claims of present and future claimants equally and if the trust was funded with 80% of the value of the debtor firm.⁷⁷ It is also more than the approximately 67 cents per dollar of claim that present claimants would receive if the plan funded the trust with all of the value of the debtor firm, but allocated that value proportionately between present and future claimants.⁷⁸ Therefore, present claimants are better off entering into a strategic arrangement with equity holders in which present claimants forgo absolute priority in favor of equity holders, but in turn garner a disproportionately large share (100% in our example) of a smaller portion (80% in our example) of the value of the debtor firm reserved for tort claimants.⁷⁹ Essentially, present claimants and equity holders can agree to split among themselves the share that belongs to future claimants under the equal-treatment norm.⁸⁰ All that stands in the way of this split is the future claims representative, who is accountable not to the anonymous future claimants, but to the court, an institution with incentives that incline it less to fair allocation than to final agreement on a plan.

4. *Strategic Behavior by Equity in the Manville Reorganization*

The example above of strategic bargaining between equity and present claimants is stylized for purposes of exposition. The Manville reorganization is a more complex story, but it has a similar conclusion.⁸¹ Although

77. If the trust is funded with 80% of the \$2 billion value of the firm, it will contain about \$1.6 billion. If present claimants receive their pro rata share for their claims, they will receive about two-thirds of this amount, or about \$1.07 billion. Their cents per dollar of claim equals the amount they receive, \$1.07 billion, divided by their total claims, \$2 billion, for about 53 cents per dollar of claim.

78. If the fund contains 100% of the firm value, it contains \$2 billion. If present claimants are treated pro rata, they will receive two-thirds of this amount, or \$1.33 billion, to satisfy their \$2 billion in claims—about 57 cents per dollar of claim.

79. This illustration of a strategic arrangement between present claimants and equity holders at the expense of future claimants is a reasonably accurate depiction of the fundamental dynamic and result in the reorganization of Manville, the largest mass tort bankruptcy reorganization to date. Under the Manville Plan, equity holders in the old Johns-Manville Corporation received approximately 20% of the equity interest in the reorganized entity now known as the Manville Corporation, while management retained control of the reorganized corporation. For a sympathetic history of the negotiations leading to the establishment of the Manville Trust, see Korobkin, *supra* note 52, at 755–61.

80. Cf. Roe, *supra* note 74. Faced with the prospect of massive tort liabilities, corporate managers might liquidate the corporation and pay the proceeds to present tort claimants, nontort creditors, and equity holders. This strategy would avoid liability for payment to future tort claimants, if one assumes that the “vanishing” of the corporation would effectively extinguish claims that did not materialize within the statutorily prescribed period after liquidation during which plaintiffs may bring claims against the corporation under state corporate law. Roe has argued convincingly that successor liability and fraudulent conveyance laws effectively inhibit quick liquidation as a strategic response to bankruptcy. The Manville reorganization, however, demonstrates that another strategic avenue for “dealing out” the future claimants may be available. The Manville-style reorganization, like a quick liquidation, distributes the value of the debtor firm to present claimants and equity holders and may effectively extinguish future claims. The transaction costs of reorganization are much higher than those of a quick liquidation, of course, but if legal constraints rule out quick liquidation as an attractive option to equity holders, Manville-style reorganization may be the next best alternative from the equity holders’ viewpoint.

81. See *In re Johns-Manville Corp.*, 66 B.R. 517 (Bankr. S.D.N.Y. 1986).

negotiations among the debtor, creditors, and equity holders in the Manville reorganization were strained from the beginning, relations between the Equity Committee and the debtor (Manville management) worsened in the summer of 1984. At this time, equity holders began to realize that the debtor was considering diluting equity's interest in order to finance payment of tort claims. Equity holders had hoped to relegate present and future tort claimants to seeking compensation solely from Manville's insurance proceeds and from periodic contributions by the reorganized Manville business. In 1983, Manville had unilaterally filed the so-called "M1-M2 Plan," which expressed these hopes. This plan would have left equity holders' stake in the business intact. Both creditors and codefendants adamantly rejected this plan; they proposed in its stead a plan that used a trust vehicle and significantly diluted equity.

In August 1984, the court fatefully decided to appoint a legal representative (LR) of future claimants. Before the appointment of the LR, negotiations were multiparty and very slow and acrimonious. The LR adopted the role of shuttle diplomat,⁸² selling his proposed plan to the various parties separately. He apparently saw his role not as the intransigent defender of future claimants, but as the honest broker among constituencies. That the LR adopted the role of broker was not an accident, as the LR was the only claimant representative whose constituency was entirely unable to monitor his performance. In truth he was as he behaved, less a representative than a go-between among representatives. The crucial element of the LR's proposal was that between 50% and 80% of the stock of the reorganized Manville should be given to the trust to finance the payment of tort claims. The LR subsequently reached an agreement-in-principle with the debtor on the main heads of his plan. One can glean a sense of the extent to which the LR was acting as a broker among the present claimants and the equity holders, rather than as a maximizer of the future claimants' interests, from the fact that the present claimants harbored concerns that the LR was selling out *present* claimants to the equity holders.⁸³ No one ever expressed concern that the LR was overreaching on behalf of his nominal clients, the future claimants. Present claimants initially wanted the mass tort trust to be funded with no less than 100% of the new Manville stock. They also wanted the right to seek redress from the successor company if trust funding proved inadequate.⁸⁴ Notwithstanding these reservations, the present claimants eventually acquiesced to the LR's proposed plan. Equity holders, however, fought it bitterly, filing two lawsuits in Delaware court in hopes of obtaining judicial permission to hold a shareholders' meeting to elect new directors of the debtor, who could then repudiate the LR plan and propose one more favorable to equity. After the

82. *Id.* at 528.

83. *Id.* at 529.

84. *Id.* at 530.

bankruptcy judge enjoined the shareholders from meeting,⁸⁵ equity holders accepted an 80% dilution of their interests, apparently preferring this result to a liquidation of the company, which seemed at that point the only likely alternative.

In simple terms, present claimants initially demanded 100% of Manville's value, and more if necessary to pay existing claims. Equity holders insisted that their interest be entirely preserved and that tort claimants be satisfied with little more than insurance proceeds. Liberated from any concrete constituency, the LR brokered a deal that gave tort claimants 80% of the firm's value, and equity holders the remaining 20%. Present claimants objected not that the plan awarded future claimants too much of the firm's value, but that the plan inadequately funded the trust (a fear that later proved justified) even for present claimants. The ultimate result, whatever the LR's intentions may have been,⁸⁶ was a division of the debtor's value between present claimants and equity holders that left future claimants almost entirely unprovided for, as the protections of future claimants in the plan proved completely ineffective. While this story is more complicated than my stylized example, the results were the same. Strategic behavior of present claimants and equity holders left future claimants without remedy.

B. *The Roe Proposal for Mass Tort Reorganization*

Legal scholars have recognized that future tort claimants pose problems in mass tort bankruptcies. In an important article that, among other things, proposes a solution to the fair distribution problem, Professor Mark Roe argues for pooling mass tort claims in a manner analogous to a variable annuity fund,⁸⁷ which would increase the ability of the trustees to adjust the amounts they award to claimants in light of new information and circumstances.⁸⁸ Under Roe's proposal, the court would first place the value of the mass tort firm in trust for tort claimants. Then, based on current estimates of the value of the trust fund and the expected aggregate value of present and future claims, trust administrators would issue shares against the trust fund to compensate tort

85. *Id.* at 542.

86. This interpretation of the Manville reorganization is not intended as a personal attack on the integrity of the LR. Indeed, it may well be that but for the efforts and skill of the LR, the future claimants would have been even worse off than they are. Before confirmation of the Plan, it may have seemed that the best hope for future claimants was to agree on some reorganization of Manville that kept the operating company alive and produced income against which future claimants would have some claim.

87. Roe, *supra* note 62, at 866, 871-74. In a variable annuity contract, an investor purchases "shares" in a pool of assets, such as stock. The seller, often an insurance company, manages the pool and distributes an equivalent number of shares or their cash value to the investor at a later time specified by the contract. When the contract matures, these shares will be worth more or less than their purchase price, depending on whether the value of the underlying stock pool has risen or fallen. For a description of variable annuities, see Howard J. Saks, *Variable Life Insurance Sales Increasing, Variable Annuities Also Attracting Attention*, 14 EST. PLAN. 374 (1987).

88. Roe, *supra* note 62, at 873-74.

claimants. If the value of the trust fund declined, the trustees would adjust downward the redemption value per share, reducing the cents per dollar of claim paid to tort creditors. Similarly, if the trustees revised upward their estimates of the aggregate value of future claims, they would issue and reserve additional shares for future claimants and would pay out less when redeeming shares. For example, if future claims were estimated to be \$6 billion in present value and the value of the trust's diversified stock pool was \$2 billion, the trustees would issue six billion shares to tort claimants as they came forward, and would set the redemption value of each share at 33 cents. Thus, a claimant with a claim of \$1 million would receive one million shares in the trust pool, which she could then redeem (for 33 cents per share) as necessary for medical expenses or other purposes. If the value of the stock pool declined, the trustees would adjust downward the redemption value per share. Consequently the payout ratio (cents per dollar of claim actually paid) would also decline. Similarly, if the trustees revised upward their estimates of the aggregate value of future claims, they would issue and reserve additional shares for future claimants and would pay out less when redeeming shares. If the trustees revised their estimate of aggregate future claims from \$6 billion to \$8 billion, for example, while the value of the stock pool remained constant at \$2 billion, the trustees would change the redemption value of each share from 33 cents to 25 cents. The trustees presumably would review periodically their estimate of the value of aggregate future claims and revise the trust's payout ratio accordingly.⁸⁹ In lieu of lump sums, Roe also suggests that the trust pay tort claimants annuities that would vary as trustees revised their estimates of the value of aggregate future tort claims.

While an improvement over the current system, the Roe proposal does not remedy the main causes of the fair distribution problem. Under the Roe proposal, the trustees estimate the expected value of future claims. The same institutional, psychological, and strategic pressures that tend to make bankruptcy courts and trust administrators undervalue future claims would also affect the trustees in Roe's scheme. If, against all odds, the trustees determined that future claimants must be adequately compensated, a danger arises that the trustees would impose such draconian restrictions on payouts to present claimants that they would be unfairly undercompensated.⁹⁰ In either case,

89. While Roe does not address this possibility directly, I assume this would be the case since it makes his proposal stronger.

90. It is important to note that even if trustees are *not* biased in favor of present claimants, they would still be relatively ineffective processors of all the information relevant to determining the proper allocation of available funds among present and future claimants. The Dalkon Shield Claimants Trust, for example, was funded with \$2.475 billion, the amount determined by the court to be sufficient to pay claimants. This amount was the best estimate the court could make, but it was still merely a guess. The debtor A.H. Robins argued that only \$700 million was necessary to compensate plaintiffs. The Claimants' Committee argued that \$7 billion was necessary—a difference of one order of magnitude. An expert from the Aetna insurance company estimated the Trust would need \$2.2 billion. Vairo, *supra* note 41, at 628. The Trust adopted payout procedures ostensibly designed to assure that adequate funds would be reserved for future claimants.

administrators do not have the benefit of market mechanisms for estimating total tort liability and making allocational decisions accordingly.

In the administration of a mass tort trust fund under the Roe proposal, effective incentives to respond quickly to new information would not exist. The trustees and their experts and staff would presumably be paid a predetermined amount irrespective of how accurate their estimates of the value of future claims turned out to be. Reputational effects would have some influence on trust decisionmakers, but it is unclear which way these effects would cut. Where information is costly, the conventional bureaucratic wisdom of never confessing error and letting one's mistakes remain obscure might prevail. In the mass tort context, this policy might embitter many future claimants, but this would not directly affect the careers or other interests of the trustees. In this regard, present claimants would probably have more influence than future claimants.

Roe's proposal depends on administrative competence and discretion to value future claims. Administrators are not likely to do this job well. Shortcomings in the accuracy of administrative valuation have been well documented. Judicial appraisal of corporate securities⁹¹ and valuation of real estate for property tax purposes,⁹² for example, demonstrate that administrative processes are poorly adapted to making what are essentially pricing decisions. The Roe proposal is also not likely to benefit much from its purported flexibility. Administrative processes respond slowly to new information and often cope inadequately with existing information regarding valuation decisions. Administrators also face incentives that can lead them to make pricing decisions that are wrong even in light of the information they do have. The elaborate models that administrators develop for economic planning (of which the valuation of future tort claims is merely a specialized instance) tend to acquire lives of their own. Experts often find it difficult to revise their

While it is impossible to know whether an administrative process is in fact reserving too much or too little for these claimants—such is one of the main points of this Article—the Dalkon Shield process gives the Trust great power to treat claimants arbitrarily. The Trust does not negotiate claims, and if a claimant does not accept the Trust's offer, she is immediately shunted into an arbitration procedure that is postponed until all the claimants who do accept the Trust's offers are paid. The rule might be summarized as "take our offer or go to the end of the line." This harsh rule may prevent bias in favor of present claimants of the sort that occurred in the Manville bankruptcy. There is no reason to think, however, that by so doing it treats either present or future claimants fairly in the sense of making the best use of available information. For a contrary perspective on the fairness of the Dalkon Shield process, see *id*.

91. See, e.g., Victor Brudney, *Efficient Markets and Fair Values in Parent Subsidiary Mergers*, 4 J CORP. L. 63 (1978) (discussing shortcomings of judicial review of allocations of participations in parent-subsidary mergers); Richard M. Buxbaum, *The Dissenter's Appraisal Remedy*, 23 UCLA L. REV. 1229 (1976) (criticizing California's judicial appraisal procedures); Bayless Manning, *The Shareholder's Appraisal Remedy: An Essay for Frank Coker*, 72 YALE L.J. 223 (1962) (criticizing court enforcement of shareholder's appraisal remedies); W. Terrance Schreier & O. Maunce Joy, *Judicial Valuation of 'Close' Corporation Stock: Alice in Wonderland Revisited*, 31 OKLA. L. REV. 853 (1978) (discussing indeterminacy of judicial standards for appraising fair market value of corporate stock).

92. See Saul Levmore, *Self-Assessed Valuation Systems for Tort and Other Law*, 68 VA L. REV. 771, 772-90 (1982).

fundamental assumptions.⁹³ Administrative processes are also vulnerable to manipulation by interested parties. Just as federal and state administrative agencies tend to be “captured” by the industries they regulate,⁹⁴ so are present claimants and equity holders likely to capture mass tort trusts, for the reasons discussed above.⁹⁵ Compared to future claimants, present claimants have psychologically more vivid needs, are more zealously represented, have claims that are either liquidated or methodologically more difficult to underestimate, and are better positioned to enter into strategic alliances with equity holders and with the management of the debtor firm.

III. A CAPITAL MARKETS APPROACH TO MASS TORT BANKRUPTCY

What institutional arrangements will solve the fair distribution problem? In the last decade, especially in the areas of corporate law and bankruptcy, legal scholars have become increasingly aware of the importance to their fields of modern finance theory. Chief among the insights of finance theory is an understanding that the capital markets possess powerful information-processing capabilities.⁹⁶ When a capital market prices an asset, it takes into account an information set that, for all practical purposes, no one human mind is able to process. In pricing the stock or debt of a large, actively traded company, the market evaluates complex information about the firm’s products, the products of its competitors, consumer preferences, and macroeconomic trends—to name but a few factors on a very long list. As a definitional matter, to value equity, a residual claim, markets assess not only the present value of a firm’s assets but also the present value of its liabilities. Capital markets also estimate risks of loss. In order to produce rational prices for a firm’s securities, capital markets must assess the possibility that a firm’s value will be negatively

93. The Office of Management and Budget, for example, has used the same discount rate for 20 years. The process of reviewing whether this discount rate should be changed has itself taken several years. See Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, 57 Fed. Reg. 35,613 (1992) (proposed Aug. 10, 1992).

94. Capture theory has been widely applied in administrative law, especially in the field of antitrust. For an entertaining debate on the subject, see John S. Wiley Jr., *A Capture Theory of Antitrust Federalism*, 99 HARV. L. REV. 713, 724–26 (1986) (coining term “capture theory”); Merrick B. Garland, *Antitrust and State Action: Economic Efficiency and the Political Process*, 96 YALE L.J. 486 (1987) (criticizing Wiley’s capture theory); John S. Wiley, Jr., Reply, *Revision and Apology in Antitrust Federalism*, 96 YALE L.J. 1277 (1987); Merrick B. Garland, Reply, *Antitrust and Federalism: A Response to Professor Wiley*, 96 YALE L.J. 1291 (1987).

95. See *supra* part II.A.3.

96. For an account of information-processing mechanisms in the capital markets, see Ronald Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549 (1984). A classic if somewhat dated account may be found in Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970); see also Myron S. Scholes, *The Market for Securities: Substitution Versus Price Pressure and the Effects of Information on Share Prices*, 45 J. BUS. 179 (1972) (suggesting that information effects are more important than price pressure in moving prices toward efficient levels in security markets).

affected by labor troubles, litigation, war, rumors, bad weather, loss of key personnel, bad management, and any other element relevant to firm health.⁹⁷

The contingent facts that bear upon the valuation of future claims in a mass tort bankruptcy are no more or less complex than those involved in pricing the securities of a large, publicly traded company. The quantity and complexity of the information that must be taken into account in valuing the securities of a large concern worth billions of dollars are similar to the quantity and complexity of the information that must be taken into account in valuing tort claims worth billions of dollars. This similarity strongly suggests that the capital market is the best institutional mechanism for valuing mass tort claims in a manner that takes account of all pertinent information in a timely and accurate manner.

Capital markets can be used to provide a fair distribution between present and future claimants in a mass tort bankruptcy. I explain below how a bankruptcy court could use a capital markets approach to structure a mass tort settlement trust and solve the fair distribution problem. I also show that this solution is consistent with the equal-treatment norm of bankruptcy described above.

A. *Solving the Fair Distribution Problem: Structuring the Trust and Compensation*

I can best explain the capital markets approach by returning to the example above that illustrated the fair distribution problem. Recall the firm, possessing a value of \$2 billion absent tort claims, that tortiously releases a toxin into the environment and causes an unknown amount of harm. Assume for now that this harm is greater than \$2 billion, that the company is insolvent and has entered bankruptcy, and that the firm has no contract creditors. Suppose also that the best available research estimates that the injuries caused by the tort will manifest themselves over twenty-five years. How can a bankruptcy court structure the mass tort bankruptcy so that present and future claimants are treated impartially in the sense that neither subset of tort creditors is undercompensated or overcompensated?

Assuming that the insolvency of the mass tort firm is clear and that there are no contract creditors,⁹⁸ the first step under the capital markets approach is for the bankruptcy court to place the entire value of the firm in trust for the

97. See, e.g., GILSON & BLACK, *supra* note 47, at 219–21

98. If there are contract creditors, mass tort bankruptcy law should treat them as having the same priority as tort creditors or a lower priority than tort creditors. If the law accords them the same priority, they should receive trust shares just like those of tort creditors. If the law accords them lower priority, they should receive trust shares in junior tranches. See *infra* part IV.A. Treating contract creditors as superior to tort creditors might create problems of temporal justice (in addition to fairness problems already noted by bankruptcy scholars, see *infra* note 174). See generally *infra* part IV.B.

tort claimants. The trust will use this trust fund, pursuant to the bankruptcy plan, to compensate both present and future tort creditors. Risk-averse prospective tort claimants would choose to have the trust make low-risk investments in order to reduce the variance of the value of their claims. Because prospective tort creditors would realize that their claims might manifest themselves many years after the mass tort bankruptcy, they would also insist that the trust fund be hedged against inflation.

The next step under the capital markets approach is formulating the payout terms for compensating tort claimants. Determining how the court should formulate these terms is the key to solving the fair distribution problem. Under the capital markets approach, the court would structure the trust as a liquidating trust with a definite term at least as long as, and preferably somewhat longer than, the best available estimate of the time period over which all or virtually all of the injuries caused by the tort would fully manifest themselves. In our example, the mass tort causes injuries that experts think will manifest themselves fully in no more than twenty-five years. The bankruptcy plan therefore would set the life of the trust at perhaps thirty years to allow for a five-year margin of error. After thirty years, the trustees would liquidate the trust and distribute its value pro rata to all holders of trust shares, much as the value of an all-equity corporation with no debts is distributed upon dissolution pro rata to its common shareholders.

Under the capital markets approach, the trust would compensate tort claimants with liquidated claims by issuing them shares in the trust fund. Courts and commentators have exerted great effort to devise alternatives to the traditional, costly, individualized proceedings for liquidating tort claims in the mass tort context.⁹⁹ The capital markets approach, however, need not address the preferences of prospective tort creditors regarding procedures for

99. This literature suggests that streamlined judicial and administrative processes might lower transaction costs. See Francis E. McGovern, *Management of Multiparty Toxic Tort Litigation: Case Law and Trends Affecting Case Management*, 19 FORUM 1 (1983) (study of toxic substances litigation drawing general lessons for complex case management); Francis E. McGovern, *Resolving Mature Mass Tort Litigation*, 69 B.U. L. REV. 659 (1989) (case study approach concluding that procedural innovations for mass tort litigation are worthwhile); Francis E. McGovern, *Toward a Functional Approach for Managing Complex Litigation*, 53 U. CHI. L. REV. 440 (1986) (case study approach drawing general lessons for complex case management); see also Symposium, *Claims Resolution Facilities and the Mass Settlement of Mass Torts*, LAW & CONTEMP. PROBS., Autumn 1990, at 1 (symposium issue on mass tort claims resolution facilities). Prospective tort creditors in the hypothetical contract setting would prefer a liquidation process that, other things being equal, had lower transaction costs. Reducing transaction costs increases the expected return on tort claims because it makes more of the debtor's value available to pay claims. Other things, however, will not necessarily be equal. For instance, inexpensive and inaccurate claims liquidation methods may increase the variance of the return on claims. Risk-averse claimants would prefer to avoid this variance. Prospective tort creditors would thus have to consider what trade-off between risk and expected returns they prefer. Preferences regarding this trade-off are familiar in finance theory under the rubric of the asset pricing models, the most familiar of which is the capital assets pricing model (CAPM). The CAPM conventionally models this trade-off by an indifference function that relates various combinations of risk and return in a capital assets portfolio. See, e.g., JAMES C. VAN HORNE, FINANCIAL MANAGEMENT AND POLICY 60-65 (7th ed. 1986). Asset pricing models that incorporate factors in addition to systematic risk (beta) are probably more realistic. See GILSON & BLACK, *supra* note 47, at 129-32.

liquidating claims. The fair distribution problem arises only after claims have been liquidated by some process. The problem is deciding to what extent various claimants should have their claims satisfied. It is an open question whether jury trials, settlements, administrative processes, or other mechanisms most fairly value tort claims. I assume here that tort claimants already have their claims liquidated by some process, so they are able to present to the trust a judgment for a certain dollar amount. The capital markets approach is preferable to administrative allocation, so long as the method used to liquidate claims is independent of the trust administration. Otherwise, arbitrary matters that distort the current system, such as whether the trust administrators feared that the trust would run out of money before compensating all the claimants, would contaminate the estimate of how much harm a particular claimant suffered.

The next step under the capital markets approach is the actual compensation of claims. The trust would distribute trust shares to tort claimants so that the face amount of the shares it issued to a given claimant equaled the liquidated value of that person's claim. For example, the trust would issue 50,000 shares in the trust fund to a tort claimant with a proven claim for \$50,000. It is important to note, for reasons explained later, that these shares, like common stock,¹⁰⁰ would be subject to dilution by the subsequent issuance of additional shares. The trust shares would bear interest in the sense that they would entitle the bearer to claim from the trust the face amount of the trust share, plus the interest that had accumulated on that amount in the time between its issuance and the liquidation of the trust. In the event that the trust did not have enough funds to pay all claims fully, claimants would be paid pro rata. Since the mass tort firm is insolvent, we can assume that pro rata payment will be the norm.

The function of the trustees under the capital markets approach would be ministerial. They would not be empowered to issue shares on their own initiative. Instead, their mandate would be mechanical: Upon presentation of proof of a valid jury verdict, settlement, or other determination of damages in a given amount, the trust would issue the claimant shares with a face value of that amount. The trust would not itself estimate or liquidate the damages of individual claimants or make any estimates regarding expected future claims. The trust would not decide how to allocate its funds among present and future claimants. Hence the factors that tend to make current trusts skew distribution toward present claimants would be neutralized; even if the trust were inclined to favor present claimants, it would be unable to effect its favoritism.¹⁰¹ Who, then, would make the distributional decision that is the subject of this

100. Common stock is normally subject to dilution by the subsequent issuance of additional shares, but it is often protected by preemptive rights or other antidilution provisions.

101. If the trust were biased toward future or random claimants, the capital markets approach would still have its corrective effect.

Article? Under the capital markets approach, the capital markets would "make" this decision.¹⁰²

B. *The Pricing of Trust Shares and the Fair Distribution Problem*

The heart of the capital markets approach is its making the mass tort shares issued by the trust tradeable on capital markets. Because the shares would be subject to dilution by the issuance of additional shares, their market price would express the best estimate of the capital markets as to the number, size, and interest terms of the trust shares that would be issued during the life of the trust.

We can demonstrate the pricing of trust shares with an example that leaves aside for the moment the effect of interest rates and discounting, and concentrates exclusively on the magnitude of total injury claims.¹⁰³ Suppose a mass tort firm is insolvent because the firm has committed a tort that will cause more in damages than the firm's value of \$2 billion. No one person or party knows for certain the upper bound of the tort damages. Let us suppose that before reorganization plaintiffs' lawyers had argued that the damages would be at least \$20 billion, while the debtor firm's managers and equity holders argued that the damages would come in at under \$1 billion. Because the court is using the capital markets approach, it does not have to make an impossible, Solomonic estimate of where in the vast gulf between these two estimates the truth lies. The court need only determine that the firm's tort liabilities are sufficiently greater than the value of the firm so that, assuming there are no other liabilities, all of the value of the firm should be devoted to satisfying tort claims.¹⁰⁴ The court will then establish a mass tort trust fund

102. Some lawyers involved in the Manville bankruptcy suggested securitizing claims to the Trust as a substitute for making cash payments to present claimants during the period prior to 1997. This plan countenanced a 1997 administrative determination of future liabilities. *See* Transcript of Proceedings, Jan. 23, 1991, at 169-74, *In re* Joint E. & S. Dist. Asbestos Litig., 129 B.R. 710 (Bankr. E. & S.D.N.Y. 1991) (No. 90-3973). The plan's apparent purpose was to relieve the Trust of the burden of raising cash to make payments to claimants who needed cash immediately. The designers of the plan provided for an administrative process to estimate the magnitude of future liability; they apparently did not imagine that the market could make this determination. *Id.* at 174. Interestingly, investment bankers estimated that they would charge \$5 million in fees for securitizing claims on the value of the Trust. *Id.* at 173.

103. Because we are ignoring discounting effects and the interest rate feature of the trust shares, in this example it is as though the life of the trust were zero. That is, the trust is funded, shares are distributed, prices are determined by the market, and the trust is liquidated, all simultaneously. This unrealistic assumption is relaxed later in this Section.

104. I concede that the current structure of bankruptcy law makes the elimination of equity difficult, even though such elimination is completely justified by the lowest priority of equity's claim on the debtor's assets. This flaw in current bankruptcy law has been commented on extensively in the literature. *See supra* note 40. The lack of a rational structure for dealing with the uncertain magnitude of future tort claims exacerbates this bias toward equity holders in the present system. As a practical matter, implementation of the capital markets approach might require Congress to reformulate the role of equity in corporate reorganization, at least in the context of mass tort bankruptcies.

and, after the reorganization or liquidation, will fund the trust with \$2 billion in risk-free assets.

Next, capital market participants who are independent of the bankruptcy process estimate what the total magnitude of liability will be. They are in the business for profit, and if their estimates are poor, they will lose money.¹⁰⁵ These outside participants have every incentive to follow the industry, the particular case, and the relevant science to make their estimates as accurate as possible. Suppose the capital market expects¹⁰⁶ that the tort will ultimately cause \$5 billion in damages and that therefore five billion trust shares will be outstanding at the end of the life of the trust. Leaving aside the fact that trust shares will have an interest term to account for the risk associated with time, and assuming a zero discount rate, each share would have a current market price of about 40 cents (\$2 billion, the value of the trust, divided by five billion, the number of shares). A block of 50,000 shares should have a market value of about \$20,000. When trust shares trade for a price of 40 cents per share, the capital market is implicitly estimating that the trust's assets of \$2 billion will be divided among claimants or their transferees who have suffered \$5 billion in liquidated damages from the mass tort.

Because the time periods involved in mass tort bankruptcy trusts are significant, a capital markets approach must consider the time value of money. In order to treat claimants fairly—in the sense of treating them according to a rule to which they would subscribe in the hypothetical contract setting—the proposed trust shares must include an interest term. This interest term can be best explained by a numerical example. Suppose a corporation tortiously releases a strange new toxin into the environment that immediately causes \$1

105. Cf. Korobkin, *supra* note 52, at 755–61 (describing complex struggle between various interests in bankruptcy process of Johns-Manville). Korobkin characterizes the Manville reorganization in the following way:

The Manville reorganization illustrates the failings of the economic account. In what sense is a corporation in bankruptcy, such as Manville, "a pool of assets"? A pool of assets is a dead object. According to an economic view, it can change only if it changes in value. But Manville, although in bankruptcy, is much more than its assets. Manville is an enterprise with a history, as well as an indeterminate future. Participants in Manville's financial distress have strong feelings about what Manville has done and might do. Manville in bankruptcy is a moral, political, and social agent. It is capable of changing its personality and, as it does so, it affects the lives of participants in its financial distress.

Id. at 761 (footnote omitted). It is true that people, especially lawyers, get consumed by complex mass tort litigation, including bankruptcies, and may begin to view the corporations involved as having personalities and moral qualities such as guilt, repentance, and, after passing through the purgatory of reorganization, redemption. I know this from having worked as a lawyer at a law firm involved in mass tort bankruptcies. These feelings are irrational. Irrational feelings distort judgments about such objective matters as how many people actually will get sick and how sick will they get in the next 30 years. It is an *advantage* of the capital markets approach that it disregards the emotional background of bankruptcy cases and employs the rational and objective judgments of persons competing in the capital market.

106. When saying the capital market "expects" or "estimates," I am speaking, of course, metaphorically. I do not mean that the capital market is like a person who has expectations. In fact, only market participants have expectations and make estimates, and market mechanisms discipline these expectations and estimates. Cf. Gilson & Kraakman, *supra* note 96 (describing how interaction between capital-market mechanisms and the information market influences market efficiency)

billion in damages and is certain to cause at least as much harm within the next ten years, in another single, sudden outbreak of disease. The mass tort firm is worth only \$2 billion; pursuant to a reorganization, \$2 billion is placed in trust for present and future tort claimants. Present claimants make claims for \$1 billion in the first year of the trust, and the trust issues them trust shares with a face value of \$1 billion. In the tenth and last year of the trust, just before its liquidation, another \$4 billion in damages suddenly manifests itself. We now have two groups of victims that have suffered different amounts of harm at different times. If there were no interest term, the trust shares of the present claimants would entitle them as a class to \$1 billion/ N of the total liquidation value of the trust, where N represents the total face value of all shares issued by the trust prior to its liquidation.

This approach would be unfair, however, in the sense that prospective mass tort bankruptcy claimants would not agree to it in the hypothetical contract setting. Without an interest term, the present claimants would receive a claim for 20% of the liquidation value of the trust.¹⁰⁷ Invested at a risk-free rate of, say, 5%, however, the liquidation value of the trust in year ten would be \$3.26 billion.¹⁰⁸ If market participants anticipate correctly that the mass tort will produce another \$4 billion in injuries in year ten, then they will offer at most the present value of 20% of \$3.26 billion, or approximately \$400 million,¹⁰⁹ for the trust shares of present claimants; consequently, present claimants will receive about 40 cents per dollar on their claims when they sell their trust shares.¹¹⁰ Without an interest term, however, future claimants would get 80%¹¹¹ of the value of the trust upon termination, or \$2.61 billion. Selling (or cashing in) their claims for this amount will yield them about 65 cents per dollar of their claims¹¹²—more than one and a half times what present claimants receive. Risk-averse prospective claimants would not agree

107. The earlier claimants would receive trust shares with a face value of \$1 billion, which without an interest term would be divided by the total claims outstanding at the termination of the trust, or \$5 billion; \$1 billion divided by \$5 billion would give them 20% of the liquidation value of the trust.

108. The formula for determining the terminal value (TV) of an amount of money is

$$TV = X_0 (1 + r)^n$$

where TV is the terminal value, X_0 is the original amount of money, r is the interest rate received on that amount, and n is the number of years over which the interest is paid. This formula assumes that compounding occurs once a year. See VAN HORNE, *supra* note 99, at 13–18.

109. Twenty percent of \$3.26 billion is \$652 million. The present value of \$652 million, using a discount rate of 5% and a period of 10 years, is approximately \$400 million. The formula for determining the present value (PV) of an amount of money received in the future is

$$PV = TV / (1 + r)^n$$

where PV is the present value, TV is the terminal value of the money, r is the interest rate, and n is the number of years between the present year and the terminal year. This formula also assumes that compounding occurs once a year.

110. Note that present claimants receive 20% of their total claims when they sell their trust shares. The rate of return on the invested trust money (5%) and the discount rate (5%) are a wash.

111. This percentage is calculated by taking \$4 billion (late claimants' total claims) and dividing it by \$5 billion (the total of all claims).

112. To calculate cents per dollar of claim, take the amount received (\$2.61 billion) and divide it by the total amount of claims (\$4 billion), yielding a quotient of .652—about 65 cents per dollar of claim.

to this disparate treatment any more than they would agree to a scheme that favored present over future claimants.

To remedy this problem, the shares that the trust distributes must bear interest. Since the trust funds will be invested in risk-free securities, the trust shares should bear the risk-free interest rate. At a risk-free rate of 5%, the nominal terminal value of the present claimants' \$1 billion face-value trust shares will be \$1.63 billion in year ten. The future claimants who appear in year ten with their claim for \$4 billion receive no interest since their claim coincides with the termination of the trust. By distributing the \$3.26 billion termination value of the trust to early and late claimants on a pro rata basis, each class will receive the same payout ratio.¹¹³ Claimants receive the same payment per dollar of claim regardless of whether they were early or late. This is the equal treatment that risk-averse prospective tort claimants would choose in the hypothetical contract setting.¹¹⁴

C. *A Capital Markets Approach to Mass Tort Bankruptcy at Work*

The market for trust shares would resemble in many respects the market for stock and debt in publicly traded companies. The markets for these capital assets take account of information much more efficiently than could any administrative process. Prices of trust shares would change rapidly to reflect new information that bears on the value of future tort claims.

1. *Marketable Trust Shares and New Information*

Consider the response speeds of a liquid capital market and an administrative process to new epidemiological information relevant to the value of future claims. Imagine that a scientist discovers evidence suggesting that the

113. Given that future claimants are entitled to \$4 billion and that present claimants are entitled to \$1.63 billion, the trust will not contain enough funds at termination (only \$3.26 billion) to satisfy all claims fully. Holders of present claimants' shares will get a pro rata share of the trust's value equal to the percentage their claims constitute of the total of all claims. Present claimants have claims of \$1.63 billion, and future claimants have claims of \$4 billion, so total claims are \$5.63 billion. Present claims constitute 29% of \$5.63 billion. Thus holders of present claimants' trust shares should receive 29% of the trust's terminal value of \$3.26 billion, or approximately \$940 million. The remaining \$2.32 billion (71% of the trust fund) should go to holders of the trust shares of the future claimants. Their trust shares thus entitle them to receive \$2.32 billion in satisfaction of their claim of \$4 billion, or 57.9 cents per dollar of claim. Holders of present claimants' trust shares receive, as I note above, \$940 million for their shares. Recall, however, that this is what holders receive in year 10, when the trust is liquidated. The question is, how much will present claimants receive in year 1 when they sell their trust shares into the capital market? The present claimants will be able to sell their entitlement to receive \$940 million out of a risk-free asset pool 10 years from now for that amount, discounted at the 10-year risk-free rate of 5%, or \$579 million. This amount is 57.9% of the present claimants' \$1 billion claim. Thus present claimants, like future claimants, will receive about 58 cents on each dollar of their respective claims.

114. Fairness between present and future claimants also requires that the principal and accumulated interest of trust shares receive equal priority in the liquidating distribution of the trust. This prioritizing would make it less likely that separate markets would develop for trust-share coupons and strips, except perhaps as a way of converting large shares into more tradeable denominations.

damage caused by a toxic tort will be significantly greater than had been previously thought. Under the capital markets approach, prices would adjust quickly to this new information. Price adjustments would also reflect the probability of truth that the market attributed to the discovery.¹¹⁵ Indeed, the efficient capital markets hypothesis (ECMH) suggests that price adjustments take place so quickly that traders cannot profit systematically from trading on new information after it becomes public.¹¹⁶ Efficient capital markets operate in sharp contrast to likely scenarios of administrative price setting.¹¹⁷

115. GILSON & BLACK, *supra* note 47, at 220 (providing illustrative hypothetical about market impact of conflicting information relating to same event).

116. See JAMES H. LORIE ET AL., *THE STOCK MARKET: THEORIES AND EVIDENCE* 65–73 (2d ed. 1985) (concluding that literature supports semistrong form of efficient capital markets hypothesis). For empirical support for ECMH, see Eugene F. Fama et al., *The Adjustment of Stock Prices to New Information*, 10 INT'L ECON. REV. 1 (1969); Michael C. Jensen, *Problems in Selection of Security Portfolios: The Performance of Mutual Funds in the Period 1945–1964*, 23 J. FIN. 389 (1968). For a more recent review of ECMH evidence, see Eugene F. Fama, *Efficient Capital Markets: II*, 46 J. FIN. 1575, 1582–86 (1991).

117. *Manville* provides a good illustration. The following is an excerpt of an order quashing a notice of deposition from a plaintiffs' lawyer who sought disclosure of the methods being used to value future claims. It illustrates exceptionally well the pace and style of administrative valuation of future claims:

At a fairness hearing Professor Berger suggested a court-sponsored independent study to predict the flow of future claims. She recommended the appointment of [several medical and epidemiological experts from prestigious medical schools] as neutral, independent experts. . . . On April 22, 1991, the courts approved Professor Berger's proposals.

After extensive computer and other studies and discussion with consultants, the courts, interested counsel and the Trust, on August 11, 1993 [more than two years later] the 706 Panel issued a draft report (the "Report"). The 70 page draft was supported by hundreds of additional pages of calculations, charts, graphs and tables projecting claims to the year 2049. It was filed and docketed and widely distributed.

On August 12, 1993 the courts issued a memorandum and order setting out the method of informal discovery that would be used in an initial evaluation of the Rule 706 Report. "All parties are entitled to be notified of the court's intention to utilize [the Report] and must be provided with some opportunity to review the expert's qualifications and work in advance."

A hearing was set designed to permit all parties to participate in evaluation of the Report. It is described in the order as follows: "The authors of the Rule 706 report will be asked to present their report in the form of sworn testimony. They may be cross-examined. The parties may present their own testimony and exhibits relevant to the question of estimating numbers and volume of future asbestos claims."

Thereafter, under the direction of the courts, the Report was made available to all parties so they could study and evaluate it. Further data was provided by the Trust. At informal meetings among parties, Panel members and experts for the Trust, details of methodology and suggestions for improvements were thoroughly evaluated. The courts did not attend these sessions.

A hearing on the Report was scheduled for September 28, 1993. On motion of the Trust and all class and sub-class counsel, the hearing was adjourned *to allow more time to analyze the results*.

The authors of the Report *requested time to provide additional information in response to comments on the first draft*. Thereafter, the Panel issued a supplemental draft supported by graphs responding to issues raised by the parties. It was 79 pages in length. *Still more meetings were held* with counsel to the parties at which the Panel answered questions. *The Panel remains open to comments on its Report and continues to undertake further analyses suggested by the parties*.

A draft report of the experts retained by the Trust was circulated by the Trust to all interested parties. It provided further opportunity for criticism and analyses of the Panel's drafts. *In re Joint E. & S. Dist. Asbestos Litig.*, 151 F.R.D. 540, 542–43 (S.D.N.Y. 1993) (citations omitted) (emphasis added). The process described above is not one that can respond quickly to new information. In spite of its length and complexity, there is no reason to think that this process will produce valuations

Trustees would presumably consult their own experts for an opinion on the validity of the scientific discovery of an outside expert.¹¹⁸ How long would this evaluation take? A week? A month? A year? Readers familiar with the frequent delays involved in federal environmental law processes,¹¹⁹ for example, or in the approval of new drugs by the Food and Drug Administration¹²⁰ realize that even estimates of many months may be optimistic. Moreover, administrative agencies typically take pains to ensure the public's continued confidence in their expertise. The trustees of a mass tort trust would be unlikely to reduce their payout on the basis of a report that they regarded as only probably true. They would more likely direct their own experts to study new reports until they could confidently judge them to be correct or incorrect. This process would almost certainly entail long delays.

2. *Capital Markets and Biased Price Determination*

In addition to the problems of delay noted above, the judgment of trust administrators concerning new information would not be impartial. New information might suggest not only that harm would be greater than previously expected, but also that the trust experts should have been aware of this information before initially valuing claims. New information that reflected badly on the past judgments of trust administrators would be incorporated especially slowly—or not at all—in payout rates. Price adjustment in efficient or even somewhat efficient capital markets is much less subject to these problems. Indeed, tests of price movements in capital markets indicate that prices have little or no “inertia,” suggesting there is little or no commitment to past mistakes and no hesitation by market participants to reevaluate assets on the basis of new information.¹²¹

on which investors would be willing to risk capital.

Another way of conceptualizing the trade-off between market and administrative processes is to think in terms of differing strategies for dealing with complexity. See generally Peter H. Schuck, *Legal Complexity: Some Causes, Consequences, and Cures*, 42 DUKE L.J. 1, 1-18 (1992) (describing and evaluating legal complexity).

118. Administrators prefer to be autonomous, not subject to the review of outside authorities. To foster autonomy, administrators rely on their own experts. Cf. JAMES Q. WILSON, *BUREAUCRACY: WHAT GOVERNMENT AGENCIES DO AND WHY THEY DO IT* 244-48 (1989) (arguing that technical tasks make federal agencies more independent of Congress).

119. A depiction of delay in the federal environmental law context can be found in Daniel Ackman, *Highway to Nowhere: NEPA, Environmental Review and the Westway Case*, 21 COLUM. J.L. & SOC. PROBS. 325, 330-32 (1988).

120. The long delays involved in the approval of new drugs have recently become controversial as terminally ill patients have become more vocal in demanding the right to seek experimental treatment. For the (arguable) benefit of future consumers, federal regulation imposes heavy costs on persons with much shorter time horizons. For the regulatory and political background of this issue, see generally Barry S. Roberts & Sara M. Biggers, *Regulatory Update: The FDA Speeds up Hope for the Desperately Ill and Dying*, 27 AM. BUS. L.J. 403 (1989); Lisa C. Will, Note, *Accelerated FDA Approval of Investigational New Drugs: Hope for Seriously Ill Patients*, 94 DICK. L. REV. 1037 (1990).

121. If market participants were reluctant to react to new information, stock prices would presumably show signs of autocorrelation—that is, one could predict future prices in part just by looking at past price

In addition, administrators' judgment can sometimes be influenced by politics. Scientific debates over nuclear power, global warming, and destruction of tropical rainforests seem to be affected by the participants' attitudes toward such charged issues as the moral status of market-based economies, the desirability of technological progress, and the relationship between rich and poor countries. The trustees of a large mass tort trust, to the extent they exercised discretionary powers, could easily become enmeshed in political controversy. Just as politics has played a role in the making of regulatory decisions in the environmental arena,¹²² political considerations might influence administrative estimates of the magnitude of future claims. Market pricing of trust shares would be less subject to political influences than would an administrative process. Traders in trust shares who let their politics cloud their view of the real facts concerning the magnitude of damages, for example, would be penalized by traders with cooler heads. Trustees in an administrative process who bent with the prevailing political winds, by contrast, could hope to receive the various rewards, such as appointment to more desirable offices, that politics can offer to its skillful players.

Market institutions, of course, are not perfectly rational. Capital markets, however, do create powerful incentives to take account of existing information and to respond quickly to new information. Nor in a market system is there any requirement that all market participants follow the same model in determining whether to buy shares (because they think the shares are underpriced) or sell them (because they think the shares are overpriced). Capital markets permit different estimating methodologies to compete against one another, and allow those who subscribe to a given method to risk their own money on its accuracy. Trust administrators would not have such flexibility.

3. *Capital Markets and the Cost of Rent Seeking*

Under the capital markets approach, the trust share pricing process would be decentralized; in an administrative process, it would be centralized.

information. Evidence of autocorrelation, however, is weak in spite of exhaustive study. Economists have searched for autocorrelation in seeking to confirm the hypotheses that markets overreact to new information or follow fads. Critics of ECMH have argued that the market may behave this way. See Lawrence H. Summers, *Does the Stock Market Rationally Reflect Fundamental Values?*, 41 J. FIN. 591 (1986) (presenting evidence indicating irrational stock market reactions to information). Empirical studies, however, suggest that such irrationalities are not prevalent. See Eugene F. Fama & Kenneth R. French, *Permanent and Temporary Components of Stock Market Prices*, 96 J. POL. ECON. 246 (1988) (finding only weak evidence of autocorrelation).

122. The classic account is BRUCE A. ACKERMAN & WILLIAM T. HASSLER, *CLEAN COAL/DIRTY AIR* (1981). For a recent, detailed, and impressive account of the regulatory process in the electric power industry, including political distortions of that process, see Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electricity Industry*, 93 COLUM. L. REV. 1339 (1993).

Decentralized processes are more costly for interested parties to manipulate. Compare, for example, how the current reorganization negotiation process and the capital markets approach would determine the payout rules for a mass tort trust. In reorganization, equity holders and present claimants have representatives who negotiate face to face and can agree on structures that will price present claims too high and future claims too low. Alternatively, if independent trustees make valuation decisions, present claimants have one locus of decisionmaking authority to which they can make their humanitarian and political appeals. Rent seeking in the current bankruptcy process involves little risk and promises large gains. If present claimants collude to drive up the price of trust shares, individual claimants would tend to defect from the cartel, underbid the cartel, and cause a competitive market price to reemerge.¹²³ Market processes, on the other hand, are not so readily "gamed." While traders sometimes attempt to manipulate markets, these strategies tend to fail and usually risk large losses.

4. *The Liquidation Process and Rational Expectations*

Because the liquidation process is independent of trust administration, the capital markets approach would also tend to defeat bias in favor of present (or other) claimants in the liquidation process. Suppose, for example, that liquidators (whether jurors or administrators) decide that present claimants deserve to be fully compensated notwithstanding the negative distributional effect this will have on future claimants. The liquidators decide to award the present claimants twice the amount of damages that they have suffered, intending that the present claimants receive about full compensation once their shares are discounted under the capital markets approach. The capital markets, however, will embody rational expectations about the liquidation process.¹²⁴ If the liquidation process inflates claims, then the market will expect future liquidations to be inflated as well, and so will discount accordingly the shares traded by present claimants. Therefore, efforts by liquidators to favor present claimants by inflating estimates of their damages will tend to be self-defeating. The market acts as a check on the psychological, political, and other influences that tend to distort the liquidation process away from a fair distribution.

123. An attempt to manipulate trust share prices would encounter problems similar to those of attempting to enforce a cartel. See GEORGE J. STIGLER, *A Theory of Oligopoly*, in *THE ORGANIZATION OF INDUSTRY* 39 (1968).

124. Rational expectations theory is perhaps most familiar in monetary economics. This theory holds that the monetary authority cannot affect real economic activity in the long term because households and firms have rational expectations about the inflationary effects of expansive monetary policy, and so will not change their real economic activity in response to it. See generally THOMAS J. SARGENT, *RATIONAL EXPECTATIONS AND INFLATION* (1986); J.J. SUBEN, *RATIONAL EXPECTATIONS AND MONETARY POLICY* (1980); Eduard J. Bomhoff, *Inflation, the Quantity Theory, and Rational Expectations*, in *5 STUDIES IN MONETARY ECONOMICS* 11-14 (Karl Brunner ed., 1980).

5. *The Market for Trust Shares*

Because the trust shares would be rather exotic securities, trading in trust shares would probably be limited to institutions. Successful trading would require a sophisticated understanding of market dynamics and the scientific and other factors influencing the mass tort. Rival market institutions would likely employ their own analysts with specialized expertise and their own networks of contacts in the relevant scientific and other fields. In contrast to an administrative approach that compensates administrators without regard to the accuracy of their estimates, the capital markets approach would reward these analysts, traders, and financial institutions for successfully estimating the size of future claims.

While trust shares would be somewhat exotic, they would be no more exotic than some securities that are already traded. Compared to various derivative instruments, for example, trust shares would not be unusually complex. Derivatives may be divided into two basic categories: options and futures.¹²⁵ An option is the right to buy or sell an underlying asset at or before a certain time for a certain price. A future or "forward-based contract" is a contract in which a party buys an asset at a given price from another party now, with delivery and payment to be made at some future date. Forward-based contracts, in essence, "freeze" the price of the asset for the buyer and seller.¹²⁶

Trust shares would more closely resemble forward-based contracts than options. Imagine an investor who buys a forward-based contract for cotton with a price of \$10 a bushel and a delivery date of ten months from the present. Of course, determining the rational price to pay for such a contract is complex. Among the factors that the buyer and seller must consider is the likelihood of good weather. The more cotton grown, the less, other things being equal, the forward contract will be worth—an increase in supply will bring the price of cotton down and decrease the margin between the price agreed upon in the forward contract and the actual price. Trust share pricing would be somewhat analogous. Investors would seek to estimate as best they could the "crop" of injuries that a given mass tort would produce. Since the trust share is a pro rata claim on an underlying pool of assets, the fewer the number of future claimants and the less severe their injuries, the more each trust share would be worth.

While sophisticated investors would employ complicated models to price trust shares, the trust shares, as an investment product, are easier to understand

125. See Henry T.C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 *YALE L.J.* 1457, 1464–67 (1993) (describing basic features of options and futures).

126. STAFF OF THE N.Y. INST. OF FIN., *STOCK, BONDS, OPTIONS, FUTURES: INVESTMENTS AND THEIR MARKETS* 175–89 (Stuart R. Veale ed., 1987).

and might be easier to price than many of the bewilderingly complex instruments now traded in huge volumes on the international capital market.¹²⁷ The over-the-counter market in derivatives is large and deep; major financial institutions and their sophisticated clients trade volumes of very complicated instruments on the market every day.¹²⁸ Individual claimants would lack the sophistication necessary to trade in the trust share market, but they could trade through intermediaries. So long as the underlying asset pool was large enough, intermediaries would be interested in pooling trust shares and selling them in blocks of a size sufficient to interest large institutions. Alternatively, it is possible that trust shares, which would have standardized terms, could be listed on a public securities market and traded like equity securities. Whether trust shares would trade over the counter or on the floor would depend on the level of interest in the shares. If only large and sophisticated investors were interested in trading in trust shares, then the shares would trade in “customized” over-the-counter transactions without listing on any public securities exchange.

Several institutions would have to participate in the trust share market to establish a competitive price. Participation seems likely given the large size of the asset pools that would be involved. The New York Stock Exchange generally requires, for example, that shares of a listed firm have a minimum value of as little as \$9 million.¹²⁹ The Manville Trust, in contrast, was capitalized at \$5 billion—nearly *three* orders of magnitude greater.¹³⁰ Where mass tort trust funds represented large capital pools, as they often would given the scale of most mass torts, sophisticated market players would likely evince interest in trading trust shares, and the market would likely have sufficient depth and liquidity for a viable pricing process to emerge.

127. For specimens from this financial menagerie, see BANK FOR INT'L SETTLEMENTS, RECENT INNOVATIONS IN INTERNATIONAL BANKING 17–126 (1986) (discussing note issuance facilities, currency and interest rate swaps and options, forward rate agreements, and other instruments). Hu argues, however, that risk is created because the banks and other institutions trading these new products do not understand them. See Hu, *supra* note 125, at 1460–63; see also John D. Finnerty, *An Overview of Corporate Securities Innovation*, 4 J. APPLIED CORP. FIN. 23 (1992) (showing types and characteristics of innovative financial products).

128. Typically, derivative securities are bought and sold by sophisticated end-users. The average contract size of an interest rate swap in 1991, for example, was \$30 million. See Hu, *supra* note 125, at 1465 n.29. The market volume of derivatives traded “over the counter,” or off the stock exchanges, is quite large—for selected derivatives on a “notional amount” basis, it was over \$4 trillion by year-end 1991, more than the combined value of all shares listed on the New York and Tokyo stock exchanges. See *id.* at 1458–60. See generally Henry T.C. Hu, *New Financial Products, the Modern Process of Financial Innovation, and the Puzzle of Shareholder Welfare*, 69 TEX. L. REV. 1273 (1991).

129. See INTERNATIONAL SECURITIES REGULATION: STOCK EXCHANGES OF THE WORLD SELECTED RULES AND REGULATIONS app. B-1 (Robert C. Rosen et al. eds., 1994); see also RICHARD J. TEWELES ET AL., *THE STOCK MARKET* 137–38 (6th ed. 1992).

130. See *supra* note 6 and accompanying text.

6. *Risk Sharing Among Participants in the Trust Share Market*

Insurance companies and pension funds seem the most probable participants in the trust share market. These institutions have large portfolios in which trust shares could play a useful diversification role, and they may have a comparative advantage in analyzing the epidemiological and other factors that would bear on trust share value. An institutional investor could profitably use trust shares in a portfolio for hedging purposes, a typical use of derivative products.¹³¹ An investor might suppose that advances in medical technology, for example, would reduce the harm suffered by mass tort claimants and consequently reduce the total number of trust shares received by tort claimants. This medical advance would make outstanding trust shares, as pro rata claims, more valuable. Buying trust shares, therefore, would be a way to bet on advances in medical technology. An investor could simply buy stock in the underlying medical technology companies, of course, but like derivative instruments, trust shares might offer a cheaper means of investing in underlying assets than buying shares directly in the companies involved.¹³² An investor might want to invest in medical progress simply because he thought it offered attractive returns. But an investor might also want to hedge against the risks to which medical progress exposes other parts of his portfolio. For example, a company that is obligated to pay lifetime annuities to persons is betting, in effect, on the reliability of actuarial estimates of the life expectancies of its annuitants. If medical science makes unanticipated gains, enabling annuitants to live significantly longer, the annuity obligor will suffer unexpected liability. The company might wish to insure against this risk by purchasing trust shares, since they are products that constitute a bet in favor of medical progress.¹³³

Other markets and products might also evolve to allow risk-averse tort claimants further to shed the risks caused by the mass tort. For example, some health insurance companies might be willing to exchange whole or partial health or disability insurance policies for trust shares. An insurance company might believe, say, that 100,000 trust shares were worth \$50,000 at a given

131. Hu, *supra* note 125, at 1466. Hu notes, for example, that the state of Texas purchased hedges to guard against drops in oil prices. *Id.* at 1466 n.39. Airline companies insulate themselves from rises in fuel prices by purchasing derivatives (such as call options) that rise with the price of oil. *Id.*

132. *Id.* at 1466.

133. The capital markets approach to mass tort bankruptcy would also create an incentive to conduct research on the liability-generating effects of technologies and substances that might cause liability sufficient to drive their producers into bankruptcy. Professor Mary Lyndon has argued that commercial incentives are currently inadequate to cause producers of toxic chemicals to invest sufficiently in research concerning the toxicity of chemicals. See Mary L. Lyndon, *Information Economics and Chemical Toxicity: Designing Laws To Produce and Use Data*, 87 MICH. L. REV. 1795 (1989). Investors and potential investors in trust shares would have strong incentives to determine the long-term effects of a toxic chemical, even to the point, perhaps, of partially funding research. The production of this knowledge is likely to have external social benefits, increasing society's stock of knowledge concerning the relationships of various substances and technologies to various diseases and other forms of harm.

time. For \$50,000 in share value, the company might be willing to provide health or disability insurance to a claimant against harms related to the tort. If direct exchanges of this kind were not possible, many claimants would sell their shares in order to raise cash to buy insurance policies that reduce the risks implicit in the inevitable trust share price fluctuation. Some claimants might want to exchange their trust shares for annuities, and insurance companies might be interested in this commerce. Thus trust shares could well be traded on multiple markets and have not only a cash value, but also an exchange value for insurance products.

D. *The Fairness of the Capital Markets Approach*

Critics of the capital markets approach to mass tort bankruptcy may argue that it is not fair to give claimants a marketable security, which would undoubtedly sell on the market at a substantial discount to its face value, instead of compensation determined by an administrative process. This criticism might be combined with a more general skepticism about the efficiency of the capital market or a more specific criticism about the market's efficiency with respect to the trust shares. The soundness of these fairness concerns depends on the form they take. Critics might merely object that the capital markets approach would give claimants less than full compensation. In most instances, indeed, the approach will provide less than full compensation. This "unfairness," however, derives from the unavoidable fact that the fund available for compensation in bankruptcy is limited. Were it not, the question of what to do about insolvency would never arise. This limitation is a consequence in part of other legal doctrines, such as limited corporate liability. The problem and proposal addressed by this Article occurs within the mass tort bankruptcy setting where, as the concept of insolvency implies, there is not enough value available to satisfy all claimants fully. The question is how limited funds ought to be allocated. In this Section, I first address the role of government and second, the different forms of skepticism about capital market efficiency.

1. *The Role of Government*

No minimally decent society, one might argue, would permit certain basic needs of its citizens, such as the need for medical care, to go unmet.¹³⁴ There

134. A similar sentiment was expressed by James S. Todd, Executive Vice President of the American Medical Association, in *Finding the Common Ground: The Path to Health System Reform*, Address Before the Commonwealth Club of California (Nov. 5, 1993), in 60 VITAL SPEECHES 178 (1994) (endorsing idea of universal access to health care); see also Susan Dentzer, *Precious Principles of Health Reform*, U.S. NEWS & WORLD REP., Feb. 14, 1994, at 43 (endorsing principle in President Clinton's health care plan that would guarantee all American citizens some kind of health coverage).

is no necessary conflict between a capital markets approach to mass tort bankruptcy and this ethical position. It may be that the capital markets approach in a given mass tort bankruptcy would result in claimants receiving only 10 cents on each dollar of proven claims. It is not necessary, however, that these victims endure uncompensated 90% of their losses in order for the capital markets approach to have its desired effects. The general population, acting through the national government, might provide itself with insurance against such shortfalls in compensation. The important policy point, however, is that such supplemental mass tort bankruptcy insurance, whatever form it takes, should be secondary to the primary compensation provided through the capital markets approach. This is important because of the incentive effects the capital markets approach will have on prospective mass tort bankruptcy debtors. In the absence of a capital markets approach, a national insurance scheme would simply make it easier for claimants like equity holders, with claims inferior to tort claimants, to secure for themselves a disproportionate share of the value of the debtor firm. The presence of a national insurance scheme would ease what little pressure there currently is on present claimants, other creditors, and the courts to give full weight to the interests of future claimants in the mass tort bankruptcy setting. A government insurance scheme would make easier a supposition that the pressing medical needs of future claimants will be met. Indeed, if more of a firm's tort liability could be shifted to a national insurance scheme, then more of the value of the debtor firm would be available for distribution to equity holders and present claimants.

The problem with this shifting is not undercompensation of future claimants; the problem is distortion of the incentives of equity holders and the managers of prospective mass tort firms with respect to risk, precisely as corporate limited liability for torts distorts incentives.¹³⁵ Limited tort liability for large public corporations is controversial; few would argue that its protections should be extended. If mass tort firms were able to shift the costs of torts onto a national insurance scheme, they would depart from optimal liability-avoidance behavior even further than they already do. To create proper incentives, national insurance should apply only after the mass tort trust allocates all of the assets of the mass tort firm to present claimants, future claimants, and other creditors.

135. For a recent interesting debate on the costs, benefits, and capital market consequences of corporate limited liability, see Henry Hansmann & Reinier Kraakman, *Toward Unlimited Shareholder Liability for Corporate Torts*, 100 YALE L.J. 1879 (1991); Joseph A. Grundfest, *The Limited Future of Unlimited Liability: A Capital Markets Perspective*, 102 YALE L.J. 387 (1992) (response to Hansmann and Kraakman); Henry Hansmann & Reinier Kraakman, *Do the Capital Markets Compel Limited Liability? A Response to Professor Grundfest*, 102 YALE L.J. 427 (1992); Janet Cooper Alexander, *Unlimited Shareholder Liability Through a Procedural Lens*, 106 HARV. L. REV. 387 (1992) (response to Hansmann and Kraakman); Henry Hansmann & Reinier Kraakman, *A Procedural Focus on Unlimited Shareholder Liability*, 106 HARV. L. REV. 446 (1992) (response to Alexander and Grundfest).

The capital markets approach would reveal the extent to which a bankruptcy plan undercompensated mass tort claimants. Revealing undercompensation, however, does not make the capital markets approach responsible for it. If undercompensation represents a sufficiently compelling moral and political problem, it can, and should, be addressed directly by legislation.

2. *The Problem of Inefficient Capital Markets*

Some criticism of the capital markets approach is based on skepticism about the efficiency of capital markets. Emboldened by the capital markets events of October 1987, some commentators have argued in both the finance¹³⁶ and the law review¹³⁷ literature that capital markets suffer irrationalities that distort prices away from their efficient levels. Significant irrationality in the market for trust shares, if it occurred, could lead to unfair results. If the market priced trust shares at significantly less than their actual liquidation value, claimants and purchasers of trust shares who held their shares until liquidation would receive a windfall.

An adequate response to criticism in this naive form is that it is unlikely that someone will "somehow know" that the implicit market estimate of mass

136. In the last several years, especially those since the market events of October 1987, criticisms of the efficient capital markets hypothesis have appeared frequently in the finance literature. See, e.g., Fischer Black, *Noise*, 41 J. FIN. 529 (1986); Werner F.M. De Bondt & Richard H. Thaler, *Does the Stock Market Overreact?*, 40 J. FIN. 793 (1985) [hereinafter De Bondt & Thaler, *Does the Stock Market Overreact?*]; Werner F.M. De Bondt & Richard H. Thaler, *Further Evidence on Investor Overreaction and Stock Market Seasonality*, 42 J. FIN. 557 (1987) [hereinafter De Bondt & Thaler, *Further Evidence on Overreaction*]; Robert A. Haugen et al., *The Effect of Volatility Changes on the Level of Stock Prices and Subsequent Expected Returns*, 46 J. FIN. 985 (1991); Wayne Joerding, *Are Stock Prices Excessively Sensitive to Current Information?*, 9 J. ECON. BEHAV. & ORGANIZATION 71 (1988); Simon M. Keane, *Paradox in the Current Crisis in Efficient Market Theory*, J. PORTFOLIO MGMT., Winter 1991, at 30; Allan W. Kleidon, *Anomalies in Financial Economics: Blueprint for Change?*, 59 J. BUS. 469 (1986); Charles M.C. Lee et al., *Anomalies Closed-End Mutual Funds*, J. ECON. PERSP., Fall 1990, at 153; Bruce N. Lehmann, *Fads, Martingales, and Market Efficiency*, 105 Q.J. ECON. 1 (1990); Edward M. Miller, *Bounded Efficient Markets: A New Wrinkle to the EMH*, J. PORTFOLIO MGMT., Summer 1987, at 4; John O'Brien & Sanjay Srivastava, *Dynamic Stock Markets with Multiple Assets: An Experimental Analysis*, 46 J. FIN. 1811 (1991); Robert J. Shiller, *Speculative Prices and Popular Models*, J. ECON. PERSP., Spring 1990, at 55; Andrei Shleifer & Lawrence H. Summers, *The Noise Trader Approach to Finance*, J. ECON. PERSP., Spring 1990, at 19; Jeremy Stein, *Overreactions in the Options Market*, 44 J. FIN. 1011 (1989); Lawrence H. Summers, *Does the Stock Market Rationally Reflect Fundamental Values?*, 41 J. FIN. 591 (1986); Jack L. Treynor, *Market Efficiency and the Bean Jar Experiment*, FIN. ANALYSTS J., May-June 1987, at 50; Langdon B. Wheeler, *The Oscillation of Systems: The Missing Link Between Price Volatility and Market Efficiency*, FIN. ANALYSTS J., July-Aug. 1989, at 7.

137. Criticisms of ECMH have found their way from the finance literature into the law review literature. See, e.g., Ian Ayres, *Back to Basics: Regulating How Corporations Speak to the Market*, 77 VA L. REV. 945 (1991); Thomas Lee Hazen, *Rational Investments, Speculation, or Gambling?—Derivative Securities and Financial Futures and Their Effect on the Underlying Capital Markets*, 86 NW U L. REV. 987 (1992); Thomas Lee 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 (1991); Donald C. Langevoort, *Theories, Assumptions, and Securities Regulation: Market Efficiency Revisited*, 140 U. PA. L. REV. 851 (1992).

tort damages is wrong, at least not for long. Persons who know that the market has erred in pricing trust shares have valuable knowledge on which they have every incentive to trade. Market mechanisms exist that will propagate this information through the capital market and push the price of trust shares to its appropriate level.¹³⁸

In light of recent work by financial economists, however, more sophisticated criticisms are possible. Some economists argue that market prices of assets can linger at inefficient levels because, for example, of “noise” trading,¹³⁹ or overreaction by traders to information.¹⁴⁰ The criticism of efficient capital markets most pertinent to the capital markets approach, however, has to do with the so-called “closed-end fund anomaly.”

A liquidating trust that issues marketable shares on a diversified fund, but does not provide redemption rights according to a preset formula, resembles a “closed-end fund.” A closed-end fund is a fairly popular investment vehicle that comprises a pool of marketable securities, usually stocks or bonds, in which investors buy shares. Shares in a closed-end fund, as distinguished from shares in an open-end fund, are not redeemable. While open-end fund investors may present their shares to the fund for redemption at an amount close to their net asset value per share, investors in closed-end funds who want to liquidate their investment must sell their shares into the market. Closed-end fund shareholders, therefore, are in exactly the same position as common shareholders in a public corporation. Moreover, closed-end funds typically do not offer shares on a continuous basis throughout their existence.¹⁴¹

It is well established that shares of closed-end funds generally sell at a substantial discount to their actual value.¹⁴² This value is readily

138. See Gilson & Kraakman, *supra* note 96.

139. See Shleifer & Summers, *supra* note 136.

140. See De Bondt & Thaler, *Does the Stock Market Overreact?*, *supra* note 136; De Bondt & Thaler, *Further Evidence on Overreaction*, *supra* note 136.

141. The proposed mass tort trust would *not* resemble a closed-end fund in this respect. The trust would continuously issue shares to compensate claimants who had had their claims liquidated. In this respect, the trust more closely resembles the traditional open-end mutual fund, which is open in the sense that it continues to issue shares after the initial issuance. See 12 C.F.R. § 225.125(c) (1993) (defining open-end mutual fund and closed-end investment fund).

142. See Abraham Abraham et al., *Does Sentiment Explain Closed-End Fund Discounts? Evidence from the Bond Funds*, 28 FIN. REV. 607 (1993) (recounting long-standing puzzle of closed-end fund discounts and arguing that existence of small premiums for closed-end bond funds suggests that discounts are not due to systematic risk); Kenneth J. Boudreaux, *Discounts and Premiums on Closed-End Mutual Funds: A Study in Valuation*, 28 J. FIN. 515 (1973); James A. Brickley & James S. Schallheim, *Lifting the Lid on Closed-End Investment Companies: A Case of Abnormal Returns*, 20 J. FIN. & QUANTITATIVE ANALYSIS 107 (1985); Nai-fu Chen et al., *Are the Discounts on Closed-End Funds a Sentiment Index?* 48 J. FIN. 795 (1993) (rejecting claim that discount is attributable to small investor sentiment); Navin Chopra et al., *Yes, Discounts on Closed-End Funds are a Sentiment Index*, 48 J. FIN. 801 (1993) (defending argument that closed-end fund discounts are due to irrational sentiments of small investors); J. Bradford De Long & Andrei Shleifer, *Closed-End Fund Discounts*, J. PORTFOLIO MGMT., Winter 1992, at 46 (tracing history of discount and arguing that discount is due to sentiments of small investors); Charles M.C. Lee et al., *Investor Sentiment and the Closed-End Fund Puzzle*, 46 J. FIN. 75 (1991) (presenting evidence that discount fluctuations are caused by changes in investor sentiment); David C. Leonard & Nicholas R. Noble, *Estimation of Time-Varying Systematic Risk and Investment Performance: Closed-End Investment*

determinable because closed-end funds consist of securities that trade in other markets. Financial newspapers commonly publish prices of closed-end fund shares and the net asset value of the funds per share.¹⁴³ These figures frequently diverge; the closed-end fund share price usually is lower than the net asset value of the fund per share. The reasons for this discount are sufficiently mysterious for the phenomenon to merit the moniker of the "closed-end fund anomaly." Some empirical studies show that the discount is not the result of misinformation about the underlying value of fund assets; nor do tax liabilities and management costs fully explain the discrepancy.¹⁴⁴ When closed-end funds liquidate or convert into open-end mutual funds, the discount typically disappears.¹⁴⁵ Some evidence suggests that discounts like those of closed-end funds might be widespread in the capital markets.¹⁴⁶ Commentators unwilling to abandon the standard account of pricing in financial markets tend to attribute the closed-end fund discount to doubts about the future performance of fund managers.¹⁴⁷ Other commentators view the discount as evidence that the standard model of pricing in financial markets is fundamentally flawed.¹⁴⁸

If discounts of this kind affected trust shares, distributional problems might arise. The existence of a discount would mean the full value of the debtor's assets was not made available to claimants. Rather, the amount available would be the full amount in the trust, discounted by some amount attributable to the structure of the fund and financial market operations. This discounting would mean that the structure of the trust itself causes a misallocation, unfairly penalizing some claimants for selling their shares before liquidation, and unfairly rewarding other claimants and trust share purchasers for holding their shares until the trust liquidated.

Companies, 4 J. FIN. RES. 109 (1981); Burton G. Malkiel, *The Valuation of Closed-End Investment-Company Shares*, 32 J. FIN. 847, 847 (1977); Rex Thompson, *The Information Content of Discounts and Premiums on Closed-End Fund Shares*, 6 J. FIN. ECON. 151, 180-82 (1978) (describing heterogeneous demands as possible source of closed-end funds discount).

143. *The Wall Street Journal* currently does so on Mondays

144. See Morris Mendelson, *Closed-End Fund Discounts Revisited*, FIN. REV., Spring 1978, at 48, 53-56. But see Raman Kumar & Gregory M. Noronha, *A Re-Examination of the Relationship Between Closed-End Fund Discounts and Expenses*, 15 J. FIN. RES. 139 (1992) (noting that better specification of expense variable indicates that discounts are strongly related to expenses of fund management)

145. Gregory A. Brauer, "Open-Ending" *Closed-End Funds*, 13 J. FIN. ECON. 491, 503-06 (1984)

146. For an interesting treatment of discounts in a variety of capital-market contexts, see Reinier Kraakman, *Taking Discounts Seriously: The Implications of "Discounted" Share Prices as an Acquisition Motive*, 88 COLUM. L. REV. 891 (1988).

147. See, e.g., Boudreaux, *supra* note 142, at 517; Rodney L. Roenfeldt & Donald L. Tuttle, *An Examination of the Discounts and Premiums of Closed-End Investment Companies*, 1 J. BUS. RES. 129 (1973) (arguing that discounts reflect market expectations of poor performance by fund managers)

148. See, e.g., Thompson, *supra* note 142, at 182 (arguing that discount reflects either failure of two-parameter asset pricing theory or market inefficiency); see also Eugene J. Pratt, *Myths Associated with Closed-End Investment Company Discounts*, FIN. ANALYSTS J., July-Aug. 1966, at 79 (attributing discount to lack of selling efforts and to public misunderstanding about nature of closed-end funds)

These problems, if they exist, cannot be solved consistently with the capital markets approach by making the trust an open-end rather than a closed-end fund. In an open-end fund, shareholders have the right to redeem their shares with the fund at something close to the net asset value per share. Naturally, there is little discrepancy between the market prices of shares in an open-end fund and that fund's net asset value per share. Making a mass tort trust an open-end fund, however, would defeat the solution to the fair distribution problem that the capital markets approach proposes. If present claimants could redeem their shares for the net asset value per share of the trust fund on the basis of the number of shares that had already been issued by that time, they would receive a distribution that would fail to take into account the number and magnitude of future claims that the capital market expected to emerge over the life of the trust fund. Redemption would therefore lead, in all likelihood, to overcompensation of present claimants. Attempting to use an administrative formula that would make the value of the redemption right turn on the trust's (rather than the capital market's) expectations concerning future claims would introduce the same set of problems to which mass tort trusts are now subject, and which the capital markets approach set out to resolve in the first place.

Careful design of the trust fund can probably ameliorate any closed-end fund discount effect. The trust fund under the capital markets approach should not have certain features common to closed-end funds, features that are likely responsible for part of the discount. First, antitakeover devices frequently protect the managers of closed-end funds.¹⁴⁹ These devices are likely to increase both monitoring costs and the risk of mismanagement, misinvestment, and misappropriation by trust managers, thereby reducing the value of closed-end fund shares.¹⁵⁰ While the terms of the instrument setting up the mass tort trust must be inviolable in order to prevent opportunism by present claimant/trust shareholders against future claimant/trust shareholders-to-be, trust shares nevertheless should embody limited voting powers to enable shareholders to replace incompetent or dishonest management. Shareholders should, at a minimum, be able to elect directors and remove them for cause. These customary shareholder rights¹⁵¹ will help prevent some forms of

149. See Mendelson, *supra* note 144, at 67.

150. These effects have been observed in financial institutions. See Christopher James, *An Analysis of the Effect of State Acquisition Laws on Managerial Efficiency: The Case of the Bank Holding Company Acquisitions*, 27 J.L. & ECON. 211, 226 (1984) (concluding that salary expenses, occupancy expense, and total employment are higher for banks in states prohibiting acquisitions than for banks in states not restricting acquisitions); Mary S. Schranz, *Takeovers Improve Firm Performance: Evidence from the Banking Industry*, 101 J. POL. ECON. 299, 323 (1993) (concluding that banks are less profitable in states that restrict bank acquisitions, even when state provides other incentives to managers).

151. The right to remove a director for cause is among the most basic rights of shareholders in a corporation. See, e.g., *Campbell v. Loew's, Inc.*, 134 A.2d 852, 857-58 (Del. Ch. 1957).

opportunism by the trustees. Second, any closed-end fund discount might be mitigated by specifying a liquidation date in the terms of the trust.¹⁵²

Finally, a large part of the closed-end fund problem could be eliminated by designing the trust so that the trust fund consisted entirely of risk-free investments, such as U.S. Treasury securities. There is some evidence that closed-end bond funds sell not at a discount, but at a small premium to their underlying value.¹⁵³ A trust fund composed of U.S. Treasury obligations would presumably behave more like a closed-end bond fund than like a closed-end equity fund. Moreover, this portfolio, which would be required to remain as risk-free as possible, would give the trust managers little opportunity to incur the management costs to which closed-end investment funds are subject—costs that some recent commentators believe account for a significant part of the discount.¹⁵⁴ By greatly reducing both legitimate management costs and management opportunism, this investment strategy would probably also reduce any closed-end fund discount that might exist on trust shares because of their lack of a redemption feature.

3. *Administrative and Capital Markets Approaches as Risk Management*

Even with the features suggested above, there is, of course, no absolute guarantee that trust shares will sell at a price that accurately reflects all information, or even all publicly available information, that bears on the ultimate magnitude of the mass tort debtor's liability to present and future claimants. Indeed, critics of ECMH have gathered evidence suggesting that capital markets are not absolutely efficient.¹⁵⁵ Even if capital markets are not perfectly efficient, however, the capital markets approach will still be superior to administrative approaches; and it is the irrationalities inherent in administrative approaches with which capital market irrationalities must be

152. See Brauer, *supra* note 145; see also Gregory A. Brauer, *Closed-End Fund Shares' Abnormal Returns and the Information Content of Discounts and Premiums*, 43 J. FIN. 113 (1988) (discussing valuation effects of probability of fund opening).

153. See Abraham et al., *supra* note 142, at 611. Casual empiricism, however, suggests that discounts on closed-end bond funds are common. Recently, closed-end bond funds were selling at a discount of 1.4% to their net asset value, compared to a 4.2% discount for closed-end stock funds. WALL ST. J., July 7, 1994, at R13.

154. See Kumar & Noronha, *supra* note 144.

155. See sources cited *supra* note 136. A relevant kind of capital-market imperfection might be evident in the apparent inability of the stock market and bond rating agencies to identify problems in large bank holding companies in the 1980's. See Richard E. Randall, *Can the Market Evaluate Asset Quality Exposure in Banks?*, NEW ENG. ECON. REV., July/Aug. 1989, at 3, 18 (documenting market's failure to predict bank holding company problems of 1980's until after damage was done). Banks, however, probably face greater principal-agent problems than would a mass tort trust. The asset pool of the latter would be relatively simple in comparison; a mass tort trust would emphasize the minimization of risk, and it would not compete for deposits, loans, and profits. Nor would a trust's managers have much opportunity to conceal risk. Cf. John Kambhu, *Concealment of Risk and Regulation of Bank Risk Taking*, 2 J. REG. ECON. 397 (1990) (discussing concealment of risk that is endemic in banking industry). As I note above, mass tort trust directors should have minimal discretion. See *supra* note 154 and accompanying text.

compared. The question, then, is not whether the capital markets approach is absolutely efficient or rational; rather, the question is whether the capital markets approach can allocate available funds to claimants more fairly and with lower transaction costs than can administrative approaches. The intuitive case is strong that while the capital markets approach will not be perfectly efficient, it will be more efficient than any administrative alternative.

The main argument for the relative efficiency of the capital markets approach lies in a comparison of the ability of the two contending approaches to process relevant information. Taking account of both existing and new information by administrative means is quite costly. How costly is difficult to predict, but the administration of mass tort bankruptcy funds historically has involved huge transaction costs.¹⁵⁶ In the Manville reorganization, as much as two-thirds of the trust fund was spent on the transaction costs of allocating the remaining third to claimants.¹⁵⁷ Reformers might be able to reduce these costs, it should be noted, by streamlining the tort system and by using alternative dispute resolution techniques, scheduled damages, and other cost-saving measures.¹⁵⁸ The proper comparison is thus perhaps between some reformed administrative approach and the capital markets approach. Because this is a comparison of two hypothetical entities, any conclusions will be somewhat speculative.

Comparison of capital markets and administrative approaches is complicated by the fact that when prospective mass tort claimants choose rules for mass tort bankruptcy compensation, they are essentially making a risk-management decision; they are deciding what portion of the mass tort firm's value will be spent to ensure that compensation is independent of the timing of a claim. If the prospective tort claimants adopt an administrative approach, they decide to pay administrators to use their information-processing capabilities to allocate the available funds fairly. If they choose a capital markets approach, they pay arbitrageurs for the same service. One dimension of comparison between administrative approaches and capital markets

156. An often-cited 1984 Rand study concluded that for every dollar paid to compensate an asbestos plaintiff, an additional \$1.59 was spent on litigation and transaction costs. JAMES S. KAKALIK ET AL., VARIATION IN ASBESTOS LITIGATION COMPENSATION AND EXPENSES 91 (1984). Judge Weinstein has stated that, "including overheads, insurance costs and expenditures for courts, the percentage available to plaintiffs is probably closer to 30 cents for every dollar expended." *In re Joint E. & S. Dist. Asbestos Litig.*, 129 B.R. 710, 749 (Bankr. E. & S.D.N.Y. 1991), *vacated on other grounds*, 982 F.2d 721 (2d Cir. 1992), *modified*, 993 F.2d 7 (2d Cir. 1993). The Manville Trust "was spending approximately one million dollars a week on outside counsel litigation defense costs alone in 1990 in addition to its own staff counsel and overhead costs at a time when it had almost no unrestricted cash." *Id.* at 750. Most of these costs, of course, are due to the expensive nature of tort litigation. Under the capital markets approach, some of these costs would still accrue if litigation were used to liquidate claims. These costs might be substantially eliminated by awarding tort claimants a scheduled amount derived from historical averages of jury awards and settlements for similar claims.

157. 129 B.R. at 749.

158. This approach is the one taken by the proposed class action settlement between the 20 defendant companies that formerly produced asbestos and the class of plaintiffs. *See supra* note 10 and accompanying text.

approaches, therefore, should be the relative size of this payment—the portion of available funds used to pay administrators, in the former case, and the portion of the terminal value of the trust fund that becomes the profit of arbitrageurs, in the latter case. To the extent the capital market irrationally discounts the value of trust shares (for example, because the trust is a closed-end fund), we may assume arbitrageurs holding trust shares at the liquidation of the trust will profit.¹⁵⁹ Thus, the deeper this discount is, the higher the risk-management costs associated with the capital markets approach will be.

The magnitude of these charges, however, is not the only basis of comparison. Administrative and capital markets approaches must also be compared in terms of the quality of risk management they provide. The quality of risk management, for this particular purpose, might be thought of as a measure of how evenly the respective compensatory schemes spread out the funds available from the debtor, net of the risk-management charge, among all claimants, present and future. Thus, skewing toward present claimants under administrative approaches reduces quality of risk management. Noise in capital markets that randomly benefits claimants who sell at one time, while penalizing claimants who sell at another time, also reduces the quality of risk management.

In using a hypothetical contract approach, we are asking what sort of risk-management scheme prospective mass tort bankruptcy claimants would prefer to buy. Extremely risk-averse prospective tort claimants might opt for an administrative approach, even if its premium were much higher than that of the capital markets approach, if they thought administrators could guarantee that compensation would in no event be less than a very low minimum. It seems implausible, however, that rule choosers would be this risk averse, given that they would make their decisions in light of existing social insurance schemes.¹⁶⁰ As I have argued, even if they were extremely risk averse, administrative approaches can hardly make a credible guarantee of even a minimum compensation for disempowered future claimants, which prospective claimants will worry they might become.

While many of the relevant quantities in this comparison are likely to remain elusive, the reaction of the Manville Trust to unanticipated events vividly illustrates the shortcomings of administrative processes in responding to new information. The confirmation of the Manville Plan was based on the estimate that there would be a total of 83,000 claimants against Manville. During the pendency of the bankruptcy, more claimants emerged and Manville had to revise its estimate to 100,000. Manville persuaded the court that claims should be valued initially at \$25,000 each, and that claims would increase at

159. Tort claimants holding trust shares at the liquidation of the trust will also profit because they bore market risk and effectively acted as arbitrageurs.

160. Medicare and Medicaid, for example.

4% per year.¹⁶¹ Notwithstanding these estimates, the Trust soon began settling the claims of present claimants for far more than it could afford, given its looming liability to future claimants. Claims adjusters used rough, handwritten file summaries and made little use of the sophisticated spreadsheets for which the Trust had paid outside information-processing consultants millions of dollars.¹⁶² According to Judge Weinstein, "Trust personnel made little effective effort to apportion available cash among total anticipated assets or to maintain the \$25,000 average claim payment level relied upon in devising the Plan."¹⁶³ The response of Trust personnel to the unanticipated flood of claims was not to pay present claimants less than the originally budgeted \$25,000 per claim, but to pay an average liquidated value per claim of almost 70% more than that.¹⁶⁴ Thus the Trust was paying out far more than it could afford to pay out, even under the grossly optimistic assumptions on which the plan of reorganization was based.

While the Manville experience was unique in some respects, it illustrates the inefficiencies of real-life administrative processes. These inefficiencies are of an entirely different order of magnitude than those some financial economists discern in the capital markets.¹⁶⁵ When their own experience indicated that the Manville Plan greatly underestimated future liability, Trust administrators paid present claimants not less, but more. It is difficult to believe that capital markets, even concededly imperfect capital markets, would be this irrational.

161. See *In re Joint E. & S. Dist. Asbestos Litig.*, 129 B.R. 710, 755 (Bankr. E. & S.D.N.Y. 1991) ("The evidence submitted by [Manville] . . . provides a reasonable estimation, based upon known present claimants and reasonable extrapolations from past experience and epidemiological data, of the number and amount of asbestos-related claims that the AH Trust will be required to satisfy.") (quoting *In re Johns-Manville Corp.*, 68 B.R. 618, 635 (Bankr. S.D.N.Y. 1986), *aff'd*, 78 B.R. 407 (S.D.N.Y. 1987), *aff'd sub nom. Kane v. Johns-Mansville Corp.*, 843 F.2d 636 (2d Cir. 1988)), *vacated on other grounds*, 982 F.2d 721 (2d Cir. 1992), *modified*, 993 F.2d 7 (2d Cir. 1993).

162. *Id.* at 755-56.

163. *Id.* at 757.

164. *Id.* at 758 (noting that average liquidated value of each claim amounted to \$42,128 while original projection was \$25,000 per claim). Judge Weinstein's opinion described this as a 40% increase.

165. A more typical attitude is evinced by Burton G. Malkiel, having reviewed the evidence (as of March 1989) for capital market inefficiencies:

So we are again driven back to the position of [efficient market hypothesis]. Pricing irregularities may well exist and even persist for periods of time, and markets can at times be influenced by fads and fashions. Eventually, however, any excesses in market valuations will be corrected. Undoubtedly, with the passage of time and with the increasing sophistication of our databases and empirical techniques, we will document further departures from efficiency and understand their causes more fully. But I suspect that the end result will not be an abandonment of the belief of many in the profession that the stock market is remarkably efficient in its use of information.

Burton G. Malkiel, *Is the Stock Market Efficient?*, 243 SCIENCE 1313, 1318 (1989).

IV. THE CAPITAL MARKETS APPROACH AND UNCERTAINTY ABOUT INSOLVENCY

Thus far I have assumed that the mass tort firm has incurred so much tort liability that it is certainly insolvent, even if we cannot now know with certainty the total mass tort liability and how it will be distributed among present and future claimants. In this Part, I relax this assumption and consider how the capital markets approach might deal with the more complex setting where substantial uncertainty exists about whether tort liability is so large that the mass tort firm is insolvent.

Before considering uncertainty about insolvency, however, I address briefly the situation where there is uncertainty only about whether the entire value of the firm will be needed to satisfy obligations to tort claimants. An uncertainty problem can arise even when the solvency of the mass tort firm is certain. If the firm has other creditors with priority equal to tort creditors, or if a reform of bankruptcy law gave tort creditors priority over other creditors, there may be uncertainty about how much of a solvent firm's assets should be allocated to tort creditors, and how much to other creditors. I argue in Section A that a fair distribution between tort and nontort creditors of equal priority can be achieved by issuing both sorts of creditors trust shares in the mass tort bankruptcy trust. Also, if Congress ever makes tort claims superior to contract claims in bankruptcy, bankruptcy plans could achieve fair distribution by issuing contract creditors a class of shares in the trust that are junior to those issued to tort creditors. The capital markets would price the two classes of trust shares according to its judgment of the severity of the mass tort. The inferior class trust shares would have a positive value only if the capital markets determined that the trust contained sufficient funds to pay fully the tort creditors.

In Section B, I offer a tentative application of the capital markets approach to the difficult question of how mass tort bankruptcy should be triggered. The question of when to trigger bankruptcy is especially difficult in the mass tort context because there may be significant uncertainty about whether the mass tort firm is actually insolvent. Some bankruptcy scholars have argued that mass tort bankruptcy should be triggered early to prevent opportunism by firm managers, shareholders, present claimants, and contract creditors. I propose that a mass tort firm should issue to tort claimants "tort bonds"—securities representing a claim on the assets of a mass tort firm senior to all other claims—at an intermediate stage short of conventional bankruptcy. After this injection of a senior layer of tort claims into the firm's capital structure, the market price of the mass tort firm's equity will provide valuable information about the firm's solvency. A capital markets pricing mechanism will be a more reliable signal for triggering bankruptcy than would a court's estimation that mass tort claims had reached some substantial percentage of the firm's value.

A. *Tranches of Trust Shares and Priority in Bankruptcy*

If the court establishes a mass tort trust when a debtor is reorganized and only places part of the firm's assets in the trust, reserving the rest for other creditors, nontort creditors will have many of the same incentives and strategic advantages that equity holders have and may try to grab for themselves value that rightfully belongs to future claimants. As in the example in Part II,¹⁶⁶ where equity holders kept for themselves 20% of the value of a firm, all of which should have been used to satisfy tort claims, holders of subordinate debt securities can bargain for a share of the debtor's value at the expense of underrepresented future tort claimants.¹⁶⁷ The capital markets approach suggests a natural solution to the difficult problem of allocating the value of the firm among tiers of debt when there is substantial uncertainty about the magnitude of one or more of these levels of claims.

Under the capital markets approach, a court should place the value of a debtor's available assets into a trust fund and issue to claimants shares in the trust. If general nontort creditors receive the same priority as tort creditors, general creditors could receive trust shares in the face amount of their claims, just as tort creditors would. This distribution would dilute the aggregate claim of general unsecured nontort creditors by the amount of the liability for the mass tort and by any other claims that the capital market anticipated would emerge during the life of the trust. The life of the trust should be, as before, sufficiently long to cover the emergence of all liability against the firm. Thus the capital markets approach makes possible a fair allocation among any group of creditors of the same priority. Moreover, the capital markets approach could also be used to allocate the value of the debtor firm among claimants having different priorities. Suppose, for example, that Congress decided to accord tort claimants priority in bankruptcy over other unsecured or over all contract creditors. Suppose further that there exists long-term uncertainty about the magnitude of the liability caused by the mass tort. How should the value of the debtor firm be allocated? In this case, the mass tort trust could issue "tranches," or different classes, of trust shares with different priorities in their claims against the proceeds of the future liquidation of the trust. If there were two such classes, for example, with tort claims being the superior class, then the tort claimants' trust shares would receive their full value before inferior creditors would obtain anything. Payment in full of a trust share would be

166. See *supra* text accompanying notes 73–80.

167. Interestingly, the historical development of the absolute priority rule traces to the strategic cooperation of senior bondholders and equity holders to "squeeze out" intermediate creditors in railroad reorganizations. See Bruce A. Markell, *Owners, Auctions, and Absolute Priority in Bankruptcy Reorganizations*, 44 STAN. L. REV. 69, 74–77 (1991); Cathy R. Iles, Note, *Dewsnup v. Timms: Reinforcement or Vitiating of the "New Value Exception" to Chapter 11's Absolute Priority Rule?*, 35 ARIZ. L. REV. 489, 490–94 (1993). This is an historical analogue to the sort of strategic squeeze-out of future tort claimants that characterizes the mass tort bankruptcy setting.

payment not just of the principal amount (the liquidated value of the injury determined by jury, settlement, or administrative process) but also of the interest that had accumulated at the risk-free rate during the life of the trust.¹⁶⁸ The trust would pay lower-class trust shares the same amount (principal plus accumulated interest),¹⁶⁹ but only if the trust contained sufficient funds after superior-class (tort claimants') trust shares had been paid in full. If the trust could only partially pay inferior-class trust share holders, the trust would pay the inferior claimants pro rata according to the size of their claims.

The capital markets would price the tort claimants' trust shares according to the best available estimates of the total magnitude of mass tort liability and the total value of the trust fund. The price of the inferior trust shares would reflect the judgment of the capital markets as to how much money would be left in the trust fund, if any, after the trust had fully paid off tort claimants. If inferior-class trust shares sold for only a fraction of their face value, the low price would reflect the judgment of the market that the mass tort trust probably contained insufficient funds to pay off tort claimants in full. On the other hand, if the inferior-class trust shares sold for a premium price, this would reflect the

168. For a trust share issued at the inception of the trust with a term of, say, 30 years, this rate might approximate the yield on a 30-year U.S. Treasury STRIP (Separate Trading of Registered Interest and Principal), the close equivalent of a zero-coupon bond issued by the U.S. Treasury. Dr. Marcia Stigum notes that "STRIPs have a lot of appeal to a wide array of investors. They are a pure product about which an investor needn't do a lot of thinking. He knows that, if he invests X dollars today, he will get Y dollars at the end of some known time, T ." MARCIA STIGUM, *THE MONEY MARKET* 692 (3d ed. 1990) (authoritative "bible" describing institutional detail of money market). Goldman Sachs reported that the yield (bid) on a STRIP (principal) due in February of 2019 was 8.83%. *Id.* at 700. More recently these "19's" have been yielding around 7.25%, probably because of a cooling of inflationary expectations. See, e.g., *Treasury Bonds, Notes and Bills*, WALL ST. J., Mar. 8, 1994, at C21. Trust shares issued later in the life of the trust could bear lower interest rates, perhaps corresponding to the rate on U.S. Treasury STRIPs of a similarly shorter term. See *supra* part III.B.

Trust shares would not be exactly like STRIPs and other zero-coupon instruments, however, in the sense that STRIPs and zero-coupon instruments are pure discount instruments, whereas trust shares would have an imputed interest rate that would accumulate and be paid, subject to availability of funds, at the liquidation of the trust. The closest analogue to trust shares might be the Series EE U.S. Savings Bond. See *infra* note 178. Instead of a floating rate like the Savings Bond, however, trust shares could use a simpler approach. The yield-to-maturity of a STRIP could be used as an approximation of the rate that would have to be paid on the face amount of the trust share so that if the trust fund paid all claims, the trust share would sell at its face value (equivalent to full compensation for the claimant) upon its issuance. Thus, a STRIP is a promise by the U.S. Treasury to pay you SY dollars in, say, 20 years. It sells at SX dollars today, and this discount might be equivalent to a yield of, say, 5%. If the U.S. Treasury instead promises to pay you SY plus 5% cumulative interest at the end of 20 years, then that promise should sell upon issuance for SY (and for more as its maturity approaches). More sophisticated designs could better account for inflation risk, but this simple design conveys my basic point: To the extent the trust shares sell for less than SY at issuance, the discount reflects the capital market's expectation that there will not be enough money in the trust to pay all trust share holders the full face amount plus interest.

169. The correct approach to contractual debt in this setting would be to liquidate the claim at the nominal value indicated by the terms of the debt contract. Most debt contracts provide for acceleration of interest, for example, upon event of default. The amount due to the creditor upon event of default would be assumed to bear interest at the risk-free rate, just as would the trust shares. Accordingly, the nominal value of the debt contract would receive pro rata treatment with other negotiated contracts of the same class.

judgment of the market that the trust contained sufficient funds to distribute to claimants of a lower priority. This approach is highly flexible and could accommodate a number of priorities. It deploys the superior information-processing capability and objectivity of the capital markets to allocate the value of the debtor among sets of claimants of different priority. In cases where the claims of creditors might exhaust the debtor firm's value, the trust could also issue trust shares to equity holders in the debtor firm—trust shares entitling the equity holders to receive the residuum of the trust fund after the trust satisfied all creditors' claims. If the capital market determined that some value would remain after these claims had been paid, the former equity holders would be able to sell their trust shares for a positive amount.¹⁷⁰

B. *A Capital Markets Approach to Uncertainty Concerning Insolvency*

My discussion of the capital markets approach has so far assumed that all of the debtor firm's value would be used to finance a trust fund for the compensation of tort claimants, or tort claimants and other claimants of equal or lower priority. This assumption simplifies the discussion considerably. If tort plus other liabilities will certainly exceed firm value, even if it is uncertain by how much, then there is only one problem to solve. One must determine how to allocate the firm's assets to tort claimants, or to tort and other claimants, but one does not need to determine what portion of the firm's assets should be used to satisfy creditors. We know the answer to the latter question by hypothesis: All of the firm's assets should go to satisfy creditors.

If there is uncertainty about whether the value of aggregate tort claims exceeds firm value, however, designing appropriate mass tort procedures and institutions becomes more complicated. I provide in this Section a tentative outline of how the capital markets approach might produce a reasonably good solution to this problem. Here my proposal extends beyond the current bounds

170. Multiple classes of trust shares, however, do raise some difficult and interesting problems of fair allocation. Suppose the trust issues two classes of trust shares, A and B, with A being the superior class, and that the size of the trust and magnitude of claims are such that the B class trust shareholders are effectively the residual claimants of the trust. B class trust shareholders are then analogous to shareholders in a leveraged firm, which carries debt superior to equity. Because leveraged equity is analogous to a call option on the value of the firm, standard option pricing models are instructive here. Of special interest is the phenomenon predicted by option pricing theory called "time decay," which is the tendency of options to be more valuable, all other things being equal, the further they are from their exercise date. This suggests that even if the expected total magnitude of Class B liability remains constant, the Class B claimant who gets her trust share in year one will be able to sell it for more per dollar of underlying claim than will the Class B claimant who received her trust share in year 20. See RICHARD M. BOOKSTABER, *OPTION PRICING AND INVESTMENT STRATEGIES* 106–10 (1991) (discussion of "theta strategies" that use positive and negative biases in theta, or change in price relative to time to maturity, to construct hedge positions). The existence of time decay would raise temporal fairness problems, and suggests that tort claimants with temporally extended claims should not be divided into multiple classes with different priorities. Commentators have suggested prioritizing mass tort claims, for example, according to severity of illness. See, e.g., Peter H. Schuck, *The Worst Should Go First: Deferral Registries in Asbestos Litigation*, 15 HARV. J.L. & PUB. POL'Y 541 (1992).

of bankruptcy law.¹⁷¹ It might best be implemented as part of a separate chapter of federal bankruptcy law that replaces or supplements Chapter 11 in mass tort cases.

1. *Tort Bonds*

When the insolvency of a mass tort firm is certain, the capital markets approach uses capital markets to estimate the magnitude of future harms. Because all of the mass tort firm's assets must be allocated to tort claimants and other creditors, there is no need to determine what portion of those assets should be used for that purpose. When insolvency is uncertain, the capital markets approach can mediate uncertainty about both the value of future tort claims and the value of the assets against which tort victims have a claim. The capital market can determine what portion of the value of the mass tort firm a trust should commit to satisfying tort claims.

Under the capital markets approach, when the insolvency of the mass tort firm is uncertain, the firm should issue to tort claimants marketable securities that have a claim on the value of the firm that is superior to all classes of

171. Roe also discusses the problems raised by uncertainty concerning insolvency. Roe, *supra* note 62, at 874–86. Roe thinks the main difficulty in cases of uncertainty concerning insolvency is a “disparity problem.” Suppose, for example, that a firm commits a mass tort that has an equal probability of causing harm of either \$1 billion or \$3 billion. If the firm contributes the expected claims value of \$2 billion to a compensatory trust, then *ex post* disparity between the size of the actual harm and the funds actually in the trust will emerge. The trust will either undercompensate (if claims are \$3 billion) or overcompensate (if claims are \$1 billion) tort claimants. One could postpone determination of the firm's contribution until the amount of claims was more certain, but Roe stresses that delay would increase the mass tort firm's “operational costs,” that is, the firm's costs of having to operate under the cloud of large and uncertain liabilities. *Id.* at 876–79. To mitigate this problem, Roe suggests that the firm place in trust for tort claimants the expected value of the tort claims structured as a combination of the firm's debt and equity. The trust should contain debt equal to the minimum expected value of the liability (\$2 billion in the example), and equity in an amount equal to the difference between the maximum expected value of tort claims and the amount of debt (an additional \$1 billion in equity). By contributing both stock and debt, the firm increases the chances that *ex post* the value of the firm's contribution and the value of claims will match. *Id.*

Such structured financing of mass tort trust funds, however, is problematic. Roe's proposal contains no market process for determining the expected value of tort claims. The total amount contributed to the compensatory trust and the terms of its payout will be subject to all of the undesirable psychological, institutional, and strategic influences detailed in Part II.A. More important, Roe's formulation of the problem of uncertainty about insolvency as an *ex post* “disparity problem” misconceives, in my view, the main issue in mass tort bankruptcy. The main issue is not whether a disparity exists *ex post*, but rather, *who should bear the risk of a future about which no one can be certain*. Risk is something that exists only from the *ex ante* perspective. The issue is not how to fund the compensatory trust so that *ex post* it has the “best fit” with the actual value of tort claims. In fact, Roe's proposal would make matters worse in terms of risk. Readers armed with calculators can readily determine for themselves that the variances of the value of Roe's structured trusts are greater than the value variances of trusts consisting simply of the expected value of tort damages. Roe's better retrospective “fit” of trust value with actual tort damages has the cost of imposing risk on tort claimants that they would not *ex ante* choose to bear. Indeed, it is not clear what social policy would be served by retroactively matching trust value with damages in this way. The effect would be to divide the risk that the value of the firm's assets will differ from the magnitude of tort claims between tort claimants and other interested parties, such as equity holders of the mass tort firm. This risk allocation is unfair. Tort claimants are involuntary creditors and should not be made to bear any risk not necessary for the treatment of tort claimants as equals.

equity and all other classes of debt.¹⁷² Because the securities would be a form of debt used for compensating tort claimants, they could be called "tort bonds." To prevent equity holders acting through firm management from effectively subordinating tort bonds to equity or new debt, the firm should issue tort bonds pursuant to an indenture that makes all other claims inferior and forbids the payment of dividends, the repurchase of stock, the issuance of debt equal or superior to the bonds, and all other board actions that would impair the value of the bonds.¹⁷³ This set of prohibited actions should include paying present tort claimants in cash, which, given the substantial doubt about the firm's continued solvency, would have the effect of overcompensating present claimants if the payments rendered the firm insolvent before it could fully compensate future claimants.

The indenture would in effect transform the operating mass tort firm into a kind of trust for the tort claimants. This indenture, like the trust fund, should have a term at least equal to the maximum expected period of time over which the injuries caused by the tort would manifest themselves. While secured debt that already exists at the time the tortfeasor issues the bonds could remain superior to the tort bonds, legislation giving these tort bond claims priority over all contract creditors, including secured creditors, would be desirable.¹⁷⁴ The indenture, like the mass tort trust, should specify that the claims of holders of tort bonds against the value of the firm are subject to dilution by the issuance of additional tort bonds and would be paid pro rata with all other tort bonds issued during the term of the indenture.

172. I assume that law reform would make tort claims embodied in tort bonds superior to contract claims. The capital markets approach could be used without this reform, but the inferior priority of tort bonds might result in temporal justice problems of the sort I am striving to eliminate. See *supra* text accompanying notes 162–67. If these effects are counted as trivial, then the approach could be implemented without making tort bonds superior to other debt. The bankruptcy trustee could pay off separately secured and other claims superior to tort claims, and place only the remainder of firm value in trust for tort claimants. Although I concede that this alternative would require less significant changes to bankruptcy law, I view it as inferior.

173. Many other loopholes would have to be closed. Devices for preventing opportunistic behavior by mass tort firm managers could be modeled after trust indenture provisions developed to protect bond holders from managerial opportunism. See Committee on Devs. in Bus. Fin., Report, *Sixth Annual Review of Developments in Business Financing*, 45 BUS. LAW. 441, 454–55 (1989) (discussing emergence and significance of "super poison puts" for protection of bond covenants). These restrictions could have negative effects on the value of the firm to the extent that dividends constrain managerial opportunism. See generally Frank H. Easterbrook, *Two Agency-Cost Explanations of Dividends*, 74 AM. ECON. REV. 650 (1984). Restrictions of this kind are necessary, however, because otherwise directors elected by equity holders might choose to allocate firm value away from tort bond holders by declaring the maximum dividends permitted by law.

174. I do not want to enter this separate debate here, but the proposal to give tort claimants priority over contract creditors has wide support among commentators. See, e.g., David W. Leebron, *Limited Liability, Tort Victims, and Creditors*, 91 COLUM. L. REV. 1565, 1643–49 (1991) (arguing that tort claims should take priority over contractual claims, including secured debt); Christopher M.E. Painter, Note, *Tort Creditor Priority in the Secured Credit System: Asbestos Times, the Worst of Times*, 36 STAN. L. REV. 1045 (1984) (arguing that tort claims should have priority status). In addition to other fairness problems, leaving secured and other contract creditors in a priority position to tort creditors might give rise to temporal justice problems under the capital markets approach (where there is uncertainty about insolvency) because of time decay. See *supra* note 170.

Mass tort indentures of the sort I propose here might be formed under the auspices of a federal law, such as a new chapter of the Bankruptcy Code, that would mandate standardized terms for the indentures and the tort bonds.¹⁷⁵ Federal law could also specify in some detail the conditions under which tort bonds would be issued. For example, the law might require a firm to issue tort bonds when it accrues enough tort judgments to create a significant risk of insolvency and inability to compensate future claimants.¹⁷⁶ Standard terms for tort bonds would promote their trading on the capital market.¹⁷⁷ Similar to trust shares, tort bonds would resemble “zero-coupon” instruments.¹⁷⁸

2. *The Pricing of Tort Bonds*

The price of tort bonds should vary, other things being equal, with two magnitudes: the expected value of the firm’s assets and the expected value of the tort claims against the firm. If the value of the firm’s assets were sufficient to cover the entire tort liability that the capital market expected to emerge over

175. This approach could resemble that taken by the Trust Indenture Act of 1939, Pub. L. No. 76-253, 53 Stat. 1149 (1939) (codified as amended at 15 U.S.C. §§ 77aaa-77bbb (1988)). While the Act leaves determination of much of the indenture’s content to the issuer and the lead underwriter, it does require certain standardized terms. See generally Martin Riger, *The Trust Indenture as Bargained Contract: The Persistence of Myth*, 16 J. CORP. L. 211 (1991) (discussing inadequacy of corporate bond indentures from perspective of bondholders).

176. I have in mind that a court would make this determination on the motion of a plaintiff’s attorney representing or aspiring to represent a class of future claimants. I do not see any market alternative to using a judicial or administrative evaluation to compel a company to start paying tort judgments in tort bonds rather than cash. Neither present claimants nor, in most cases, tortfeasors would have an incentive to initiate this action. Entrepreneurial plaintiffs’ attorneys, however, would have the necessary incentive. The procedure could be analogous to that of a creditor attempting to place a firm in involuntary bankruptcy, except that instead of showing that the firm was unable to pay tort claims as they became due, the petitioner would have to show that paying tort claims currently would place future claimants at substantial risk of having their claims impaired. Cf. BAIRD & JACKSON, *supra* note 20, at 105-07 (discussing insolvency and involuntary bankruptcy). Courts would not have to make a precise estimate of the value of future claims. They would merely have to determine that the risk to future claimants was sufficient in magnitude to warrant the costs of invoking tort bond protections.

177. Standard terms would also allow the exercise of some paternalism toward tort claimants, who, as involuntary and probably unsophisticated “investors” in the mass tort firm, are likely to both need and be entitled to regulatory protection.

178. See *supra* note 168. They would not, however, be standard zero-coupon instruments. Zero-coupon instruments and U.S. Treasury bills do not pay any interest, and they sell at a discount to their face value. They are thus sometimes called “discount instruments.” Investors get their yield by buying them at a discount. So, for example, an investor buys a \$10,000, 6-month “T-bill” for \$9,661.84 and holds it to maturity. The return is \$338.16 (\$10,000 – \$9,661.84). This return equals a current yield or yield-to-maturity of \$338.16/\$9,661.84, or 3.50% over the 6 months. STAFF OF THE N.Y. INST. OF FIN., *supra* note 126, at 94. The trust shares resemble more closely the humble Series EE U.S. Savings Bond. EE bonds are sold at a discount to their face value, but also “pay” a floating interest rate. They do not, however, actually pay out the interest; instead of making periodic payments, the imputed interest accrues and is added to the value of the bonds. The Treasury adjusts the interest rate “paid” on a quarterly basis, so that their yield is equal to 85% of a 5-year Treasury note. *Id.* at 95. The instruments I propose would similarly accumulate imputed interest, at an appropriate risk-free rate in the case of mass tort trust fund shares and at an appropriately higher rate in the case of tort bonds. The interest would not be paid periodically, but would accrue and be paid, subject to availability of funds, at the liquidation of the trust or the maturity of the bonds. If funds were insufficient for full payment of principal and interest, they would be paid pro rata.

the term of the indenture, then a tort bond would sell at the sum of its face value (the principal) plus the present value of the interest that would accrue over the term of the indenture.

The price of equity in the mass tort firm, because equity represents the residual claim, would depend in part on the anticipated size of tort liability—expressed by the amount of tort bonds that the capital market expected the firm would issue during the term of the indenture. Under a simple model, the market might price equity at approximately the present value of the firm's expected future cash flow, minus the value of expected obligations to tort bond holders and other creditors, divided by the number of shares. Thus, if the capital market revised upward its expectation of the magnitude of future tort claims upon the release of a new epidemiological study, the price of equity would decline. The decline in the price of equity would reflect the adjustment in the amount of the firm's value that was "reserved" for tort creditors and in the residual amount left for equity holders. Conversely, the more the value of the firm's assets exceeded what the market expected would be owed to tort bond holders and other creditors, the more valuable equity in the firm would become.¹⁷⁹

To compensate tort claimants for the riskiness of their involuntary investment in the mass tort firm, tort bonds should bear interest, at a rate commensurate with that of similarly risky instruments. The interest term would have to be higher than the risk-free rate appropriate for shares of a mass tort trust, because, unlike trust shares, tort bonds would not represent a claim on a pool of risk-free securities, but a claim on the assets of a single, relatively undiversified debtor. Holders of tort bonds are involuntary investors in a much riskier venture than are trust share holders.

Although some regulatory body could determine this rate, the same pressures that incline reorganization negotiations and trust administrators to favor present claimants would likely affect regulators as well. An administrative process might set unjustifiably low rates, in order to spare equity holders from further subordination of their claims and to spare the firm from increased risk of bankruptcy. Alternatively, the underwriting market might determine the rate.¹⁸⁰ The mass tort firm could negotiate for the lowest rate at which underwriters would accept the risk that a class of nontort bonds (identical to tort bonds, except offered originally into the public market rather than issued to tort claimants) would not be fully subscribed. Capital raised in this way would be part of the firm's working capital, but would otherwise have

179. Therefore, the equity would constitute an option on the value of the firm, and an options pricing model would be appropriate for predicting the value of equity. *See supra* text accompanying note 69.

180. For a good description of the underwriting market and its regulation, see 1 LOUIS LOSS & JOEL SELIGMAN, *SECURITIES REGULATION* 324–80 (3d ed. 1989). For a thorough review of the development of the securities underwriting industry in the United States, see *United States v. Morgan*, 118 F. Supp. 621, 635–55 (S.D.N.Y. 1953).

the same priority as, and be subject to dilution by, the tort bonds. This market trial could establish the rates to be used for the bonds issued to tort claimants.¹⁸¹ Finally, the bonds should be structured like “zero-coupon” instruments.¹⁸² This feature is necessary because unforeseeable developments regarding the magnitude of future claims might require the issuance of additional tort bonds, which might in turn dilute tort claims to the point that the issuer could not fully pay the accumulated interest or perhaps even the face amount of the bonds.

The pricing model for tort bonds presented above is, of course, highly simplified. A problem with pricing tort bonds might arise if they were not made superior to the rest of the tortfeasor’s debts, including secured debt. If tort bonds are junior to other firm debt, the capital market might price them like leveraged equity or call options. As junior debt, tort bonds would, like call options, only have value if firm value at the time of their maturity or exercise date (for example, thirty years hence) was greater than the amount owed on debt senior to the tort bonds. Under these circumstances, tort bond prices might exhibit “time decay,” the term option pricing theorists give to the tendency of option prices to be greater, all other things being equal, the further in the future is the exercise date of the option.¹⁸³ Junior tort bonds issued with thirty-year maturities might therefore sell for a greater percentage of their face value than those with two-year maturities, even if expectations as to the total amount of tort liability were the same at both times. This phenomenon might produce a bias toward earlier claimants. Temporal justice would be served by making tort bonds superior to all other classes of debt. Even if legislators do not make this reform, however, using tort bonds might well achieve a greater degree of temporal justice than administrative approaches.

3. Operational Costs

A possible objection to a capital markets approach in the face of uncertainty concerning insolvency is that such an approach would subject the

181. Cf. Roe, *supra* note 74, at 559–62. Roe, to the best of my knowledge, was the first to suggest that the capital markets should be used to value bankrupt firms—an important insight. My proposal bears some similarity to his, although mine relies much more radically on the ability of markets to make valuations.

182. For example, a tort bond with a face amount of \$1000 would be awarded to a claimant who had suffered \$1000 in damages. It might bear interest at the prime rate, which would vary with inflation, to take account of the additional risk of the potentially insolvent firm. Suppose this interest term in a given year is 10%. If the term of the indenture were also one year, it would entitle the holder to a payment of \$1100 at the expiration of one year, assuming no unanticipated inflation. The holder would not, however, be able to collect any interest before maturity. All of the interest would be paid at the maturity of the bond along with the principal. The present value of the expected future interest payment would be captured only if the holder were to sell the bond on the market.

183. See generally *supra* note 170.

mass tort firm to excessively high operational costs.¹⁸⁴ As the firm issues tort bonds and expectations about the size of tort damages mature, equity in the firm might decrease in value to virtually zero and might cease to be traded at all. My response to the objection is straightforward. This may indeed happen. If it did happen, however, it would merely reflect the judgment of the capital market that expected tort liability equaled or exceeded the value of the firm net of senior obligations. In the mass tort setting, the risk that tort liability will exceed the value of the firm is real. Someone has to bear that risk. It is inefficient and unfair to foist any of this risk upon tort victims, whose relationships with the mass tort firm are involuntary and who would not choose to subsidize their malefactors. Such an allocation would also distribute risk to persons ill equipped to bear it. Equity holders, unlike tort creditors, can diversify their portfolios and pool the risk of mass-tort-induced insolvency with the risks of investing in other firms. If equity holders in the reorganized mass tort firm can find no buyers for their stock, and the stock ceases to trade on appropriate national or other markets, then the mass tort firm should be placed in a more conventional bankruptcy status.

4. *Triggering Bankruptcy*

A difficult problem in devising any mass tort bankruptcy scheme is determining when a firm or its creditors should be able to trigger bankruptcy protections. Roe argues that preserving the viability of a troubled firm requires that bankruptcy be triggered “early,” before equity holders, contract creditors, and present tort claimants divert a disproportionate amount of the firm’s assets to themselves.¹⁸⁵ In Roe’s proposal, a court would determine that tort liabilities had reached a target magnitude, such as 50% of the firm’s value, and then place the firm in bankruptcy. More desirable would be a market determination that tort liabilities were sufficiently large to remove control of the firm from the stockholders and place it in trust for creditors.

The capital markets approach goes a greater distance toward providing such a mechanism than does a scheme like Roe’s. As noted above, if firms compensated present tort claimants with tort bonds, equity prices would vary to reflect the portion of the firm that was effectively reserved for compensatory purposes. If equity prices reached virtually zero, or were sufficiently low that the national securities markets stopped trading on the stock, this would reflect the capital market’s judgment that the firm was either insolvent or on the brink of insolvency. At this point, bankruptcy law could provide that any creditor be able to trigger bankruptcy.

184. Roe is particularly concerned with the high operational costs imposed by unresolved claims on the mass tort firm. See Roe, *supra* note 62, at 856–62.

185. *Id.* at 862–64.

Because tort bonds would in many instances have long maturities, however, even equity that was well “out of the money” might continue to sell at significantly positive, if greatly reduced, prices. If the issuance of tort bonds became accepted practice, firms might write into debt contracts and indentures that depression of equity prices below specified levels (or the issuance of any tort bonds at all) was an event of default permitting acceleration and possibly precipitating involuntary bankruptcy. In the absence of such contractual provisions, however, bankruptcy law could provide that if firm equity reached some arbitrarily low price, any creditor could place the firm in involuntary bankruptcy. Bankruptcy law would then offer tort creditors protections superior to those that tort bond indentures and supporting laws would offer.

Answering the questions of how and when control of the firm should pass from equity holders to tort or other creditors will require further discussion and research. If law can impose adequately protective indentures on firms on behalf of tort creditors, it might be desirable to keep a public firm out of a conventional bankruptcy, so long as its equity is sufficiently valuable to trade in a liquid capital market. Perhaps tort bonds should be convertible under certain conditions into voting equity, as a guard against opportunism by equity holders. In any event, the key point here is that the firm would not necessarily be subjected to all the costs of bankruptcy procedure until a reliable market signal indicated that the firm was actually or virtually insolvent.¹⁸⁶

5. *Current Bankruptcy Law and Tort Bonds*

A workable capital markets approach in the context of uncertainty about insolvency would probably require fundamental changes in bankruptcy law. The approach might be implemented most cleanly as a separate chapter of

186. I am unsure that insolvency in any sense is the event that contract creditors would choose to trigger collective debt collection rights in the ideal contract they would make with the debtor in the absence of transactions costs. Even if it were, however, it seems unlikely that prospective involuntary creditors designing a compensatory scheme would choose the same trigger as voluntary creditors. For the reasons I discuss above, *see supra* part I.B, involuntary creditors will be more risk averse than voluntary creditors. Consequently, involuntary creditors would prefer that special steps be taken to secure the value of the assets from which they will be compensated earlier than would less risk-averse contract creditors, who can in any event adjust the other terms of their contracts to take account of the risks implicit in the timing of the bankruptcy trigger. At the same time, assuming that bankruptcy law represents, as Thomas Jackson and others have argued, *see supra* note 52, something like the set of collective rights contract creditors would bargain for in the absence of transaction costs, then it does not make sense to trigger these rights at the same time as the rights of more risk-averse tort creditors. Whatever steps are taken to protect involuntary claimants should probably be different in substance and timing from steps taken to protect voluntary creditors. I propose a scheme involving tort bonds, an accompanying indenture, and duties owed to tort claimants by firm officers and directors—triggered whenever a court finds there is a substantial danger that without these protections the interests of tort claimants would be prejudiced. Whatever the details of a proposed scheme, however, the fact should not be overlooked that the same set of protections triggered at the same time may not protect fairly both voluntary and involuntary creditors. The protections that voluntary creditors would choose will impose unwanted risk on involuntary creditors, the protections that involuntary creditors would choose will force voluntary creditors to bear the cost of unwanted insurance

federal bankruptcy law that would apply specifically to firms with mass tort liability. Currently, mass tort liability is unsecured debt and is subject to impairment in the reorganization process. In any subsequent reorganization process, tort bond obligations would be subject to the same "hold-up" activity by equity that makes compensation of future claimants so difficult in the first place. Capital markets would foresee this contingency and discount tort bonds to take account of the difficulty their holders would have collecting on them in bankruptcy. For tort bonds to be properly priced, therefore, the bankruptcy process must also treat mass tort claims properly. Consistent with my proposal, tort bonds should be converted into trust shares if the mass tort firm issuer enters bankruptcy.

Currently, the market price of bankrupt debtors' securities reflects the power of equity holders to force reorganizations that are inconsistent with absolute priority.¹⁸⁷ If tort bonds are to trade at prices that reflect reasonable market assessments of the firm's value and tort liability exposure, and to allocate available assets fairly among present and future tort claimants, then there must be little risk that value in the firm will be diverted to inferior claimants, such as equity holders. In any event, a tort bond scheme can only work as well as the bankruptcy procedure it may presage. Whether or not mass tort liability is involved, it seems doubtful that corporate reorganization in its current form is the best way in all plausible circumstances to serve the interests of creditors.¹⁸⁸ If a capital markets approach to mass tort bankruptcy

187. See *supra* note 46.

188. See Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 YALE L.J. 1043 (1992) (arguing that decision to file bankruptcy has become increasingly "endogenous," resulting in increased costs or losses, and that Chapter 11 should be repealed). Significant articles that argue for fundamental reform of Chapter 11 include Baird, *supra* note 67; Douglas Baird & Randal Picker, *A Simple Non-Cooperative Bargaining Model of Corporate Re-Organization*, 20 J. LEGAL STUD. 311 (1991) (comparing effects of selective stay to general automatic stay of creditors); Lucian A. Bebchuk, *A New Approach to Corporate Reorganizations*, 101 HARV. L. REV. 775 (1988) (suggesting that creditors should receive a set of options on postbankruptcy firms); Robert K. Rasmussen, *Debtor's Choice: A Menu Approach to Corporate Bankruptcy*, 71 TEX. L. REV. 51 (1992) (maintaining that law should require firms to choose, upon formation, one option from menu of bankruptcy options). A creative argument that the mandatory bankruptcy approach could be replaced by investor contracts may be found in Adler, *supra* note 68 (proposing that "chameleon equity" firms with sequential priority classes of investors could eliminate need for traditional reorganizations); Phillippe Aghion et al., *The Economics of Bankruptcy Reform*, 8 J.L. ECON. & ORGANIZATION 523 (1992) (proposing new bankruptcy procedure in which noncash bids are possible). Some of these proposals rely in varying degrees on what might be termed the substitution of capital markets for the performance of allocation functions now carried out by the legal process of bankruptcy reorganization. To my knowledge, however, this Article is the first to apply the capital markets approach systematically to mass tort bankruptcy.

Capital markets and other alternative approaches to bankruptcy have their critics. See, e.g., Lynn M. LoPucki, *Strange Visions in a Strange World: A Reply to Professors Bradley and Rosenzweig*, 91 MICH. L. REV. 79 (1992) (arguing that Bradley and Rosenzweig relied on flawed methodology and skewed assumptions); Elizabeth Warren, *The Untenable Case for Repeal of Chapter 11*, 102 YALE L.J. 437 (1992) (discussing redistributive consequences of abandoning Chapter 11 and arguing that alternative legal responses to business failure would entail high social costs); see also Frank H. Easterbrook, *Is Corporate Bankruptcy Efficient?*, 27 J. FIN. ECON. 411 (1990) (arguing that current bankruptcy regime is probably efficient); Korobkin, *supra* note 52 (explaining how many different interests are able to express themselves in reorganization proceedings); LoPucki & Whitford, *supra* note 43, at 126 (asserting that economic

is in place, a similar approach can liquidate uncertain mass tort claims prior to bankruptcy and, by giving them the appropriate priority relative to other claims, allocate the value of the debtor among mass tort claimants and other claimants before bankruptcy becomes necessary. If bankruptcy procedures, like the current Chapter 11 procedure, are fraught with opportunities for hold-ups, rent seeking, and other strategic ploys, however, holders of tort bonds will not be fairly compensated.¹⁸⁹

6. *Controlling Opportunism by Equity Holders and Managers*

While the capital markets approach might provide a bankruptcy trigger for mass tort firms that is attractively rooted in market rather than administrative appraisal of asset value and tort liability, it would do so at a cost. If a mass tort firm with uncertain mass tort liability issued tort bonds, it would increase the “leverage” of its equity; that is, it would increase its ratio of debt to equity.¹⁹⁰ Increasing the leverage of a firm would change the incentives of the firm’s managers to the extent they were influenced by the interests of equity holders. As a mass tort firm issued more and more tort bonds to tort claimants, managers would acquire incentives to manage the firm in an ever-riskier manner. A more risk-preferring management would emerge because as the liability to tort claimants increased, the equity in the corporation would be equivalent to options that were less and less “in the money.” The minimum amount that the assets of the firm would have to be worth in order for the equity to have any value would increase. Standard option pricing theory indicates that the value of an option increases with the variance of the value of the underlying asset—in this case the value of the underlying firm.¹⁹¹ The more tort bonds the firm issued, the more managers of the firm (to the extent they responded to the interests of equity holders) would be inclined to deploy the firm’s assets in excessively risky ventures—ventures that would increase the value of the equity, but decrease the value of the claims of tort (and other) creditors.¹⁹²

analysis of bankruptcy law is indeterminate and thus not useful for suggesting changes to Chapter 11).

189. Implementing the capital markets approach where there is uncertainty concerning insolvency would raise the constitutional issue of whether bankruptcy law may permit a debtor to impair claims (which would occur when present tort claimants received tort bonds instead of cash) before certain insolvency. To take this approach, Congress would have to amend the Bankruptcy Code to create a category of “insolvency” for firms that are not technically insolvent, but that have large mass tort liability. Arguably, bankruptcy courts have already placed asbestos bankruptcy debtors in such a category, but my proposal would involve extending bankruptcy powers further than courts have been willing to go without congressional authorization. The question arises whether or not the Bankruptcy Clause of the U.S. Constitution, U.S. CONST. art. I, § 8, cl. 4, empowers Congress to pass laws that effectively impair tort claims against firms that are not (yet) bankrupt in the conventional sense.

190. Alternatively, from an options-pricing perspective, it increases the exercise price of the equity holders’ option on the firm’s value.

191. See sources cited *supra* note 69.

192. This important point receives an elegant treatment in GILSON & BLACK, *supra* note 47, at 245–48.

The inevitable response to this problem is some form of regulation of firm management. Voluntary creditors can regulate managerial behavior *ex ante* by specifying financial covenants that forbid managers from taking excessive risk at pain of triggering loan defaults, or by compensating themselves for the risk of mismanagement by charging higher interest rates. Because tort creditors are involuntary, they lack these options. Federal law could instead impose a regulatory regime on firms when they issue enough tort bonds to affect significantly the incentives of the firm's management. In addition to restrictions in tort bond indentures, federal and state courts could develop fiduciary or similar duties that firm directors and officers would have toward tort creditors. Under these duties, directors and officers could be held personally liable for transactions that diverted value from tort creditors to shareholders or other claimants. Such a duty would not be entirely novel. Some Delaware courts have already suggested that directors may have a fiduciary duty to creditors in settings of near insolvency.¹⁹³ Alternatively, fraudulent conveyance law might provide an adequate source of restrictions on managers of firms carrying significant mass tort liability in this form.¹⁹⁴ It may be preferable, however, to leave federal courts under broad statutory guidance to develop directors' duties to holders of tort bonds and to identify actions and decisions that would breach those duties.¹⁹⁵

V. CONCLUSION

Mass tort bankruptcy is currently plagued by two related problems. First, because mass torts often inflict damage that becomes evident over a long

193. See *Credit Lyonnais Bank Nederland, N.V. v. Pathe Communications Corp.*, Civ. A. No. 12150, 1991 WL 277613, at *34 n.55 (Del. Ch. Dec. 30, 1991) (mem.) (arguing that directors have fiduciary duty to debtholders when firm approaches insolvency); see also *Geyer v. Ingersoll Publications Co.*, 621 A.2d 784 (Del. Ch. 1992) (holding that fiduciary duty exists when firm is actually insolvent).

194. See Laura Lin, *Shift of Fiduciary Duty upon Corporate Insolvency: Proper Scope of Directors' Duty to Creditors*, 46 VAND. L. REV. 1485 (1993) (arguing that courts, notwithstanding their invocation of broad fiduciary language, are in fact enforcing creditors' existing contractual rights rather than imposing independent duty to act in creditors' best interests).

195. An attractive alternative to imposing direct regulation on the firm issuing tort bonds might be to make the tort bonds convertible into voting equity. Conversion rights control against opportunism by equity-oriented managers, because if managers allocate too much firm value to equity (for example, by increasing the riskiness of firm returns) holders of tort bonds could convert some or all of their debt into equity, thus diluting equity and taking a share of the opportunistically increased equity returns. See generally Michael J. Brennan & Eduardo S. Schwartz, *The Case for Convertibles*, 1 J. APPLIED CORP. FIN. 55 (1988), which extends ideas about the role of convertibles found in Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure*, 3 J. FIN. ECON. 305 (1976). Attractive as convertibles seem for this purpose, they might give rise to temporal justice problems. The conversion privilege is, in effect, an option on an option: an option to convert the tort bond into equity, which itself is an optionlike residual claim on firm value. The conversion privilege will presumably be more valuable to claimants who get the right earlier, resulting in a higher level of compensation to earlier claimants. Moreover, conversion privileges might create more pressure for opportunism by present claimants against future claimants: Present claimants might convert to equity as soon as possible and then seek to have the firm circumvent legal barriers to distributing firm value to present claimants and other shareholders.

period of time, it is virtually impossible for administrative procedures to estimate accurately the total magnitude of tort liability. Without such an estimate, courts cannot structure bankruptcy plans that treat tort or other claimants fairly. Second, the process of estimating the magnitude of tort claims and of structuring the mass tort bankruptcy severely disadvantages future claimants. Present claimants evince seemingly more pressing needs. They are better represented and strategically better placed than future claimants to bargain for a reorganization that favors them. Present claimants can reach a bargain with equity holders that essentially excludes future claimants from the reorganization. The Manville bankruptcy illustrated this dynamic. There, present claimants took part in the structuring of a plan that permitted a mass tort trust fund to distribute in less than two years most of the funds available to compensate tort claimants expected to emerge over several decades.

In order to counteract the considerable advantages held by present tort claimants, a process of determining liability must take account of all publicly available information that bears on the expected total magnitude of tort claims and remain free from psychological biases and strategic manipulation by participants in the process. The capital market naturally suggests itself. The efficient capital markets hypothesis, somewhat qualified though it may be by post-October 1987 scholarship, is well supported and strongly suggests that capital markets have powerful capabilities to process complex information efficiently. Capital markets, as opposed to courts and administrative bodies, are especially suited to estimate the magnitude of a liability that is a multivariable function. Moreover, markets are far less subject to bias and manipulation than is the current reorganization process or any plausible claims magnitude estimation process that a court might establish.

The capital markets approach to mass tort bankruptcy uses a relatively simple institution—a trust fund that would issue shares to claimants giving them a pro rata interest in the trust fund at a time sufficiently in the future to give all or nearly all tort claims time to emerge. If the market concluded that the trust had sufficient funds to pay all tort claims fully, the market price of the trust shares would closely approximate the damages that a jury trial, settlement, or an administrative board awarded to a claimant. The market price of the trust shares would indicate the capital markets' expectations as to the total magnitude of tort liability over the period during which all or nearly all of that liability was expected to emerge.

A more complicated version of the capital markets approach could handle situations involving uncertainty about whether the mass tort would render a firm insolvent. It would probably require abandoning the Chapter 11 process as we know it—something some sophisticated bankruptcy commentators advocate in any event. In this version, a mass tort firm would issue to tort claimants tort bonds that would be superior to the firm's other debt and equity. Courts would require mass tort firms to compensate present tort claimants with

tort bonds whenever compensating them with cash would prejudice the ability of future tort claimants to collect on their claims. The firm would be subject to a tort bond indenture and regulated by a fiduciary duty owed to holders of tort bonds or by doctrines protecting creditors, such as fraudulent conveyance law. Imposing a layer of tort bonds upon the capital structure of the mass tort firm would allow the pricing of the firm's equity to reflect the capital markets' valuation of both the value of the firm's assets and the expected total magnitude of its mass tort liability. A decline in the value of the firm's equity to a nontradeable level would provide a more reliable signal for triggering bankruptcy than would a court's estimation that mass tort liability had reached some specified level.

Perhaps most important, using the capital markets approach would assure an allocation of the mass tort firm's value among present and future mass tort claimants that was as fair as possible. The capital markets approach would result in relatively unbiased estimates of total tort liability based on all publicly available information (which is the most for which one can reasonably hope), and would create a distribution process that is difficult for interested parties to manipulate. This approach offers a promising program for the reform of our troubled mass tort bankruptcy process.