

REORGANIZATIONS AND STOCHASTIC COLLATERAL VALUE

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Bebchuk and Fried propose using a series of auctions to implement a market-based methodology for valuing secured claims in a reorganization. This Article demonstrates their procedure can result in a secured creditor receiving more than its ex ante bargain, and that the probability distribution of possible collateral values can be relevant to fulfilling the ex ante bargain.

This Article further develops and examines a refinement of the Bebhuk and Fried procedure that provides an approximate solution to the overcompensation of secured creditors. This refinement reconceptualizes collateral as comprising two components: (i) a call option on that property, exercisable at the time the secured claim would become due, with an exercise price of the amount that would be due on the secured claim at the corresponding time, and (ii) the property subject to that call option. This Article details how revising the Bebhuk and Fried proposal in light of this insight can yield a market-based methodology that produces an approximation of the ex ante bargain.

INTRODUCTION

In the 1980s, Baird¹ and Jackson² separately examined the use of an auction procedure as a substitute for bankruptcy reorganizations.³ Their analyses were followed by a torrent of scholarship examining various market-based substitutes for contemporary reorganization procedures,⁴ which has continued unabated. Some have proposed allowing a debtor to

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¹ Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 J. LEGAL STUD. 127, 128 (1986).

² THOMAS H. JACKSON, *THE LOGIC AND LIMITS OF BANKRUPTCY LAW* 223–24 (1986).

³ This work followed Roe's proposal for valuing bankrupt public firms through a reorganization in which the reorganized debtor's capital structure would consist solely of common stock, where the issuer's value would be ascertained by an offering of ten percent of the reorganized firm's equity. See Mark J. Roe, *Bankruptcy and Debt: A New Model for Corporate Reorganization*, 83 COLUM. L. REV. 527, 530 (1983).

⁴ See Lynn M. LoPucki, *Strange Visions in a Strange World: A Reply to Professors Bradley and Rosenzweig*, 91 MICH. L. REV. 79, 79 (1992) ("The beating of the drums grows louder. In academia, they beat for a market-based solution to the problem of bankruptcy reorganization. The product is a steady procession of articles, each calling for the market to play a larger role. Most deposit a specific proposal for reform as their offering on the academic altar."); Elizabeth Warren & Jay Lawrence Westbrook, *Searching for Reorganization Realities*, 72 WASH. U. L.Q. 1257, 1260 (1994) ("So far as we know, the semi-automatic market solution has had no presence or even close analogy in the financial world. Yet the article has been a terrific success in the academic world. The piece has spawned a generation of speculative articles proposing various formulaic solutions to the bankruptcy problems of unspecified worlds. And its form of speculation without reference to reality—which had many precedents—has since been widely imitated." (footnote omitted) (referencing Lucian Arye Bebchuk, *A New Approach to Corporate Reorganizations*, 101 HARV. L. REV. 775 (1988))).

select the law that will govern any subsequent bankruptcy.⁵ Alternatively, a wealth of recent legal scholarship has proposed different details for market-based substitutes for current reorganization procedures.⁶ For example, Bebchuk proposed effecting reorganizations through issuance of certain options to various holders of claims or interests.⁷ Adler and Ayres have recently proposed a market-based solution they term a “dilution mechanism,” in which a “court would issue . . . shares in the reorganized firm to the senior claimants and would then solicit schedules of firm offers to buy [from junior claimants] or sell [from senior claimants] at a fixed price,” after which transactions in the shares would be effected at the clearing quantity.⁸

All these proposals seek to address a basic valuation problem, in which the holders of claims or interests in a debtor attribute different valuations to the debtor’s assets. As Adler and Ayres assert, “[V]aluation is the most hotly contested and debated topic in the realm of corporate bankruptcy law.”⁹

Bankruptcy law has to address various valuation problems. Property values may change during the course of a bankruptcy proceeding. As an illustration of this type of valuation problem, in the case of a post-petition increase in the value of collateral, the law must address whether the secured creditor or other holders of claims or interests should benefit from the

⁵ See, e.g., Robert K. Rasmussen, *Debtor’s Choice: A Menu Approach to Corporate Bankruptcy*, 71 TEX. L. REV. 51, 53–54 (1992) (arguing firms should have the option to select one of a variety of legal options to govern upon any insolvency of the firm); Steven L. Schwarcz, *Rethinking Freedom of Contract: A Bankruptcy Paradigm*, 77 TEX. L. REV. 515 (1999) (analyzing favorably the enforceability of certain pre-bankruptcy waivers of specified bankruptcy provisions); Alan Schwartz, *A Contract Theory Approach to Business Bankruptcy*, 107 YALE L.J. 1807, 1819 (1998); Alan Schwartz, *Contracting About Bankruptcy*, 13 J.L. ECON. & ORG. 127, 129 (1997) (“[T]he current ban on contracting for bankruptcy procedures should be repealed.”).

⁶ Illustrative articles calling for repeal of, or substantial revision to, contemporary reorganization practice include those referenced *infra* notes 7–8, as well as Barry E. Adler, *Bankruptcy and Risk Allocation*, 77 CORNELL L. REV. 439, 489 (1992) (arguing for the repeal of bankruptcy’s reorganization provisions); Barry E. Adler, *Financial and Political Theories of American Corporate Bankruptcy*, 45 STAN. L. REV. 311, 323–33 (1993) (proposing a unique type of security as a contractual arrangement that could eliminate the need for reorganizations); James W. Bowers, *Groping and Coping in the Shadow of Murphy’s Law: Bankruptcy Theory and the Elementary Economics of Failure*, 88 MICH. L. REV. 2097, 2141 (1990) (“[W]e lack any persuasive theory for why we have or ought to have bankruptcy legislation.”); Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 YALE L.J. 1043, 1049 (1992) (providing evidence putatively supporting the conclusion that adoption of the Bankruptcy Code, Bankruptcy Reform Act of 1978, Pub. L. No. 95-598, 92 Stat. 2549, produced a bankruptcy regime that increased the cost of reorganization to shareholders and bondholders, relative to prior law); and Robert G. Hansen & Randall S. Thomas, *Auctions in Bankruptcy: Theoretical Analysis and Practical Guidance*, 18 INT’L REV. L. & ECON. 159, 161–62 (1998) (proposing mandatory liquidating auctions if either a debtor in possession does not file a proposed plan of reorganization within 120 days or the plan is not accepted within sixty days (both being firm deadlines)).

⁷ Bebchuk, *supra* note 4. See also Lucian Arye Bebchuk, *Chapter 11*, in 1 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 219, 222–23 (Peter Newman ed., 1998).

⁸ Barry E. Adler & Ian Ayres, *A Dilution Mechanism for Valuing Corporations in Bankruptcy*, 111 YALE L.J. 83, 101 (2001).

⁹ *Id.* at 85.

increase.¹⁰ As a second example, changes in collateral value can implicate a secured creditor's right to adequate protection under section 363(e).¹¹

The preceding valuation issues arise from values that change over time. Courts also have to address valuation of rights having a stochastic (random) component. Future tort claims, e.g., those of asbestos claimants, are one example.¹²

The presence of secured claims may create additional valuation issues in implementing a market-based substitute to reorganizations. Valuation of the collateral is required to value a corresponding secured claim. The value to be received by the creditor is limited by the amount of its claim, even if the collateral is worth more than the claim.¹³ Where collateral is worth less than the claim it secures, the claim, to the extent of the excess, is unsecured.¹⁴ Thus, implementation of a market-based substitute to current reorganization procedures must value collateral.

Bebchuk and Fried assert, “[I]t has thus far been thought that even under such market-based reforms, collateral value would inevitably continue to be determined the way it is now—through time consuming and costly litigation and bargaining.”¹⁵ They further note, “[B]elieving that no market-based approach to valuing collateral was possible, a prominent proponent of the auctions approach had viewed the problem of collateral valuation as one of the main obstacles to implementing market-based reforms in bankruptcy.”¹⁶

Bebchuk and Fried, in a recent article,¹⁷ propose using a series of auctions to implement a market-based methodology for valuation of secured claims in a reorganization. They repeatedly assert, in various unqualified formulations, their procedure implements the parties' entitlements,¹⁸ i.e., it respects the ex ante bargain.

¹⁰ See David Gray Carlson, *Bifurcation of Undersecured Claims in Bankruptcy*, 70 AM. BANKR. L.J. 1, 22 (1996) (discussing the implications of *Dewsnup v. Timm*, 502 U.S. 410 (1992)).

¹¹ See 11 U.S.C. § 363(e) (2000). The appropriate reference date for determination of adequate protection is unsettled. See 4 COLLIER ON BANKRUPTCY ¶ 506.03[10], at 506-99 to 506-100 (Lawrence P. King ed., rev. 15th ed. 2001).

¹² See generally David S. Salsburg & Jack F. Williams, *A Statistical Approach to Claims Estimation in Bankruptcy*, 32 WAKE FOREST L. REV. 1119 (1997) (providing a statistical methodology for estimating claims). Problems of claim estimation can arise in the context of claim allowance, voting on reorganization plans, analyzing plan feasibility, and fixing distributions under plans. See *id.* at 1129.

¹³ See generally U.C.C. § 9-608(a) (2001) (corresponds to U.C.C. § 9-504(2) (2000)); 55 AM. JUR. 2D *Mortgages* § 785 (1996). Section 506(b) allows the secured creditor in this case to recover “interest on such claim, and any reasonable fees, costs, or charges provided for under the agreement under which such claim arose.” 11 U.S.C. § 506(b).

¹⁴ See 11 U.S.C. § 506(a) (2000).

¹⁵ Lucian Arye Bebchuk & Jesse M. Fried, *A New Approach to Valuing Secured Claims in Bankruptcy*, 114 HARV. L. REV. 2386, 2406 (2001).

¹⁶ *Id.* at 2407.

¹⁷ *Id.* at 2386–90.

¹⁸ See *id.* at 2419 (“An important advantage of our proposed mechanism is that none of the participants in the bankruptcy proceeding would have any basis for complaining about the value of the secured claim that is generated by the auction of the nonrecourse note. In particular, no secured or unsecured creditor would be able to complain that this determination results in the participant's getting less than that participant's entitlement.”); *id.* at 2428, 2436 (to a similar effect); *id.* at 2392 (“We also demonstrate how the procedure could be designed to ensure that secured creditors are neither over- nor undercompensated.”); *id.* at 2388–89 (“The proposed mechanism determines secured claims in a way

It is, no doubt, desirable to produce an accurate estimate in bankruptcy proceedings of the current value of collateral. To implement the ex ante bargain among various creditors, in some circumstances, however, reorganization procedures must wrestle with more complex valuation problems. In particular, where a secured claim is not due and payable, whether at maturity or through a default (but for the bankruptcy proceeding itself), and the underlying collateral has a stochastic value—it has a random component—implementing the ex ante bargain among various creditors can depend on the probability distribution of the collateral value. That is, implementing the ex ante bargain requires information in addition to the expected value of the collateral—information over and above that provided by Bebchuk and Fried’s proposed procedure.

The source of this concern can be illustrated with a rather trivial example. Assume a creditor extends a nonrecourse,¹⁹ non-interest-bearing loan, payment on which is due in, and not subject to acceleration before, one year, in a principal amount of \$50. The collateral is a lottery ticket, having a fifty percent chance of paying \$100 in one year and a fifty percent chance of paying nothing.

For ease of exposition, the time value of money and risk aversion will be disregarded. In this case, the value of the collateral today equals the face amount of the loan. One might categorize the loan as fully secured. However, as long as the creditor cannot force its rights to be liquidated by the debtor before maturity (either in or outside bankruptcy), the loan is worth only \$25—half its face amount. If the lottery ticket pays off, which it has a fifty percent likelihood of doing, the creditor will receive \$50. Otherwise, the creditor receives nothing.

This Article is not the first to recognize that a creditor’s interest represents a truncated claim in the debtor’s assets. Numerous commentators use similar examples, albeit in different contexts.²⁰ This Article uses similar principles to address the valuation of claims, and, in particular, secured claims that would not be in default but for a bankruptcy proceeding (and, perhaps, other secured claims, any default under which can be cured during a reorganization). Four contributions are made in this Article. First, this Article demonstrates proper valuation of collateral is not

that gives no participant a basis for complaining that secured creditors are either over- or undercompensated.”).

¹⁹ A nonrecourse obligation is a secured claim in which, by contract, the creditor cannot require assets other than the collateral be used to satisfy the claim. See BLACK’S LAW DICTIONARY 1080 (7th ed. 1999).

²⁰ See, e.g., Baird, *supra* note 1, at 131–32 (noting an incentive of junior claimants to postpone resolution of bankruptcy proceedings to prevent freezing of asset valuations); Douglas G. Baird & Thomas H. Jackson, *Bargaining After the Fall and the Contours of the Absolute Priority Rule*, 55 U. CHI. L. REV. 738, 750–52 (1988); Thomas H. Jackson & Robert E. Scott, *On the Nature of Bankruptcy: An Essay on Bankruptcy Sharing and the Creditors’ Bargain*, 75 VA. L. REV. 155, 159 n.6 (1989) (providing a similar example). See generally G. Mitu Gulati, William A. Klein, & Eric M. Zolt, *Connected Contracts*, 47 UCLA L. REV. 887, 901–02 (2000) (discussing how alteration of variance can affect rights among claimants having different priorities); Lynn M. LoPucki & William C. Whitford, *Corporate Governance in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 141 U. PA. L. REV. 669, 772–74 (1993) (stating there commonly will be multiple “residual” owners of a firm being reorganized).

always sufficient to determine whether a reorganization preserves the ex ante bargain among creditors, i.e., the probability distribution of possible values can be relevant to fulfilling the ex ante bargain.

This principle can be restated using the terminology of Baird and Jackson. They seek to ascertain the residual owner of an insolvent firm, for purposes of “making sure that the residual owner has control over the negotiations that the firm must make while it is restructuring,”²¹ by assuming “all future possibilities [are] collapsed to present values.”²² If a debtor is liquidated, all claims will be valued in a process that collapses future states to current values. Equivalent treatment *may*, but need not, be accorded to a class of claims in a reorganization.

For example, the cram-down provisions may require that a secured creditor receive, in respect of the fully-secured portion of its claim, payments “of a value . . . of at least the value of such holder’s interest in the estate’s interest in such property.”²³ This value may correlate to collapsing probability distributions. Collapsing future states to current values frequently will benefit a senior creditor (eliminating variance in outcomes that give rise to potential value to otherwise underwater claims).²⁴ In a reorganization, however, a creditor cannot always be assured that its treatment will be as good as it would be were future states collapsed to current values. A creditor, in a reorganization, cannot necessarily force an outcome that implements a collapsing of future possibilities to current values.²⁵

²¹ Baird & Jackson, *supra* note 20, at 775.

²² *Id.* at 761.

²³ See 11 U.S.C. § 1129(b)(2)(A)(i)(II) (2000).

²⁴ See Baird, *supra* note 1, at 131–32; LoPucki & Whitford, *supra* note 20, at 773–74 (stating a possibility that a debtor’s position will improve may make currently underwater claims valuable).

²⁵ Cf. LoPucki & Whitford, *supra* note 20, at 773 (“[Baird and Jackson] reach this result by ‘collapsing’ the future possibilities of different values to a single present value and using this latter value to identify the single residual owner. . . . Yet for them to say that the future possibilities of different values have been collapsed to a single value by the debtor’s default under the loan agreement does not make it so.”).

At some points, Bebchuk and Fried seem to describe a bankruptcy code that does not include the reinstatement provisions described below. See *infra* notes 42–56 and accompanying text. In other language, however, they modify with the phrase, “we assume,” descriptions of a reorganization process that overlooks the implications of the reinstatement provisions, suggesting an awareness of the imprecision of the modified statements.

Their descriptions of bankruptcy law that appear inconsistent with the reinstatement provisions include the following:

(i) “Under existing Chapter 11 rules, however, the debtor may keep the collateral only if the debtor pays the creditor in full for its secured claim with either cash or a note, secured by the collateral, whose payments have a present value equal to the amount of the secured claim.” Bebchuk & Fried, *supra* note 15, at 2426. Yet a footnote in their piece to the sentence second immediately preceding this quoted sentence references the reinstatement provisions of 11 U.S.C. § 1124. See *id.* at 2426 n.115.

(ii) “[I]t is a basic tenet of bankruptcy law that the secured creditor has the right to receive the value of its collateral (up to the amount owed).” *Id.* at 2395. See also *id.* at 2397 (reiterating the assertion in similar terms). That statement is ambiguous. The natural reading is “[I]t is a basic tenet of bankruptcy law that the secured creditor *in a bankruptcy proceeding* has the right to receive the value of its collateral *as of that time* (up to the amount owed).” That statement is not correct.

Their descriptions of this aspect of the law couched as assumptions include:

(i) “By ‘entitlement’ we mean the amount the secured creditor is entitled to get for its secured claim at the end of the proceeding—which *we assume* is the foreclosure value—up to the amount owed.” *Id.* at 2404 n.69 (emphasis added).

Second, this Article develops and examines a refinement of the Bebchuk and Fried procedure that provides an approximate solution to the overcompensation of secured creditors having security interests in stochastic collateral. Under the Bebchuk and Fried proposal, the secured portion of a claim is valued by auctioning a nonrecourse note, having a face amount equal to the amount of the claim, with recourse to that collateral. This refinement reconceptualizes that collateral as comprising two components: (i) a call option on that property, exercisable at the time the secured claim would become due and exercisable at the amount that would be due on the secured claim at that time, and (ii) the property subject to that call option. For purposes of implementing the goals of Bebchuk and Fried's proposal, of these two components, the collateral of the nonrecourse note should be subject to, i.e., junior to, that call option.

Third, this Article examines the practical limitations on implementing that refinement and identifies the reason for the difference between results from that approximation and the outcome that would result were the ex ante bargain fully respected.

Fourth, this Article examines the extent to which the reinstatement provisions of section 1124(2) of the Bankruptcy Code²⁶ allow for the preservation of the ex ante bargain with secured creditors having a security interest in stochastic collateral. In particular, it demonstrates that such a secured creditor cannot be assured of receiving the excessive compensation contemplated by the Bebchuk and Fried proposal.

For ease of presentation, these four contributions are developed and presented below in a different order. The remainder of this Article proceeds as follows: Part I examines the "right" answer—how bankruptcy law should value the claims of a secured creditor having stochastic collateral, in order to implement the bargain previously struck among the creditors. Part II then examines the extent to which current bankruptcy law allows for resolutions that implement this outcome. Part III then discusses Bebchuk and Fried's proposal. It develops the reconceptualization of stochastic collateral as comprising two components, a call option and the collateral subject to that call option. It details the proposed refinement to Bebchuk and Fried's proposal and examines the difference between that refinement and complete allegiance to the ex ante bargain. Following Part III, a few concluding remarks are provided.

(ii) "We assume that bankruptcy law intends to give a secured creditor that same entitlement. That is, the secured creditor in bankruptcy has a right to the 'foreclosure value' of the collateral, up to the amount owed, as well as an unsecured claim for any deficiency." *Id.* at 2397 (emphasis added).

A footnote in their piece addresses application of the procedure to a claim that is not "due." *See id.* at 2411 n.95. Whether a claim is "due" is a factor in assessing whether it can be reinstated. That footnote, supplemented by reference to a prepublication version of the paper to correct a typographical error, provides, "We assume the loan is due immediately. [If the] loan were not due immediately, its value would be discounted to reflect the time value of money." *Id.* (bracketed language provided in Lucian Arye Bebchuk & Jesse M. Fried, *A New Approach to Valuing Secured Claims in Bankruptcy* 27 n.97 (Apr. 2001) (prepublication manuscript, on file with author), available at <http://www.law.harvard.edu/faculty/bebchuk/pdfs/01.fried-bebchuk.olin321.pdf>.

²⁶ 11 U.S.C. § 1124(2) (2000).

I. THE PROPER TREATMENT OF STOCHASTIC COLLATERAL IN BANKRUPTCY

The reasons for secured credit itself are something of a puzzle.²⁷ There are various candidates, some of the more intuitive of which are the following. First, it may be that the granting of a security interest allows a creditor to deter opportunistic debtor misconduct, by the creation of a “hostage”—an asset the victim (a creditor) can seize in the case of debtor malfeasance.²⁸ Second, it may reflect a variation among creditors in ability to value different types of collateral. At the time credit is extended, a creditor will not pay for (in the form of a lower rate of interest) senior rights in an asset if the creditor cannot value the asset at the time it extends credit. In such a case, segregating priorities among different assets may allow debtors to benefit.²⁹ Third, certain creditors may be better at realizing on certain types of collateral in the case of a default.³⁰ In that case, giving prior rights in that collateral to a particular creditor can allow a debtor to obtain more favorable terms on its credit. Fourth, providing differential rights may enhance creditor monitoring, thereby creating better lending terms, either because some creditors can more efficiently monitor a debtor’s use of collateral,³¹ or by eliminating freeriding among creditors in their monitoring.³² Fifth, secured credit may limit the ability of a borrower to engage in further borrowing. It has been argued the debtor may “pay more attention to its business if the borrower has a more substantial stake in the business,”³³ and limits on future borrowing capacity arising from secured credit may result in an increased equity stake.

That is not to say all rationales for allowing the creation of security interests imply the practice is efficient and meritorious of protection.³⁴ LoPucki argues one explanation for secured credit is it disadvantages involuntary and uninformed unsecured creditors, to the advantage of

²⁷ See Ronald J. Mann, *Explaining the Pattern of Secured Credit*, 110 HARV. L. REV. 625, 628 (1997) (stating prior commentators have been unsuccessful in explaining the efficiency of the use of security interests); Lawrence Ponoroff & F. Stephen Knippenberg, *The Immovable Object Versus the Irresistible Force: Rethinking the Relationship Between Secured Credit and Bankruptcy Policy*, 95 MICH. L. REV. 2234, 2255–56 (1997). See generally Elizabeth Warren, *Making Policy with Imperfect Information: The Article 9 Full Priority Debates*, 82 CORNELL L. REV. 1373, 1376 (1997) (“The justification for contractual priority remains, at best disputed, and at worst, thoroughly debunked.”).

²⁸ See Robert E. Scott, *The Truth About Secured Financing*, 82 CORNELL L. REV. 1436, 1449–50 (1997).

²⁹ Cf. Christopher W. Frost, *Asset Securitization and Corporate Risk Allocation*, 72 TUL. L. REV. 101, 102 (1997) (“By providing a means through which creditors may obtain a priority in particular assets, secured lending allows lenders to tie more closely their risk assessments to the value of particular assets.”).

³⁰ See Alan Schwartz, *A Theory of Loan Priorities*, 18 J. LEGAL STUD. 209, 243 n.48 (1989) (discussing repossession skills).

³¹ See Thomas H. Jackson & Anthony T. Kronman, *Secured Financing and Priorities Among Creditors*, 88 YALE L.J. 1143, 1158 (1979).

³² See Saul Levmore, *Monitors and Freeriders in Commercial and Corporate Settings*, 92 YALE L.J. 49, 55 (1982).

³³ Mann, *supra* note 27, at 641–42.

³⁴ *But cf.* Frank H. Easterbrook, *Is Corporate Bankruptcy Efficient?*, 27 J. FIN. ECON. 411, 413–14 (1990) (concluding efficiency is the “likely explanation” for the persistence of reorganization law that does not require an auction of the firm). See generally Frost, *supra* note 29, at 127 (“[T]he institution of secured finance . . . is ‘probably efficient.’” (quoting James J. White, *Work and Play in Revising Article 9*, 80 VA. L. REV. 2089, 2089 (1994))).

secured parties.³⁵ Alternatively, secured credit may allow for the provision of credit where it otherwise would not be obtainable;³⁶ a plausibly desirable outcome, but one that does not necessarily increase aggregate value.

The analysis in this Article, however, proceeds accepting the ability of participants to create security interests. If the law allows for their creation, it is appropriate to respect the bargains struck among creditors and debtors in their creation of security interests by not allocating in a bankruptcy proceeding greater value to a secured creditor on account of its interest in collateral than was bargained for by the secured creditor.³⁷ Where collateral value has a stochastic component and the secured claim is not due (but for acceleration by virtue of a bankruptcy proceeding),³⁸ valuation implementing the rights for which the secured creditor bargained can depend on the probability distribution of the various possible outcomes.³⁹ Knowledge of the expected value of the collateral alone may be insufficient to value the secured claim. The reason is secured creditors have truncated interests in collateral—interests that are truncated by the amounts of their respective secured claims. Where collateral in some possible future states will have a value, of a present value that exceeds the amount of a secured creditor's claim, valuation of a secured claim may depend on the probability distribution—not merely the expected value—of future

³⁵ See Lynn M. LoPucki, *The Unsecured Creditor's Bargain*, 80 VA. L. REV. 1887, 1891 (1994).

³⁶ See Ponoroff & Knippenberg, *supra* note 27, at 2257.

³⁷ One might view bankruptcy law governing reorganizations as necessarily involving conveying to senior claimants *less* than the rights for which they bargained (before giving effect to bankruptcy law). The concept is that, in some cases, the debtor will be worth more reorganized and, therefore, to allow realization of that aggregate value, rights of a senior claimant need to be reworked. *Cf. id.* at 2273–74 (“[T]he bargain metaphor is untenable in a bankruptcy case. . . . The idea of ‘fresh start,’ whatever else it means, demands that we cleave a wide chasm between the debtor’s pre and postfiling lives. To do so implies that there is no more intrinsic reason for clinging to the bargain metaphor in the case of security interests than there is in the case of garden-variety unsecured contractual obligations.” (footnote omitted)). But that principle does not require a secured creditor receive *more* than it bargained for.

Others have, in fact, proposed the law should only partially respect security interests, i.e., the law should allocate secured creditors only a fraction of their explicitly negotiated priority. *See, e.g.*, Lucian Arye Bebchuk & Jesse M. Fried, *The Uneasy Case for the Priority of Secured Claims in Bankruptcy*, 105 YALE L.J. 857, 866 (1996); Kenneth N. Klee, *Barbarians at the Trough: Riposte in Defense of the Warren Carve-Out Proposal*, 82 CORNELL L. REV. 1466, 1468 (1997) (“Professor Elizabeth Warren has suggested that Article 9 be amended to dedicate a portion of the secured party’s collateral to repayment of judicial lien creditors.”).

³⁸ Unmatured claims can give rise to a claim cognizable in bankruptcy. Paragraph (5) of § 101 of the Bankruptcy Code, 11 U.S.C. § 101(5) (2000), explicitly includes in the definition of “claim” an unmatured right to payment and an unmatured equitable remedy for breach of performance. Under this provision, a holder of a claim includes a creditor who has fully performed its obligations under a contract, even where the debtor’s obligations have not yet matured. As to an executory contract, a rejection of the contract effects a breach. *See* 11 U.S.C. § 365(g) (2000). Thus, a bankruptcy proceeding can effectively accelerate an unmatured claim. *See, e.g.*, Ponoroff & Knippenberg, *supra* note 27, at 2290 (“[A] bankruptcy case involves nothing less than the complete acceleration and adjudication of all claims against the debtor—liquidated and unliquidated, contingent and noncontingent, disputed and undisputed, matured and unmatured, secured and unsecured—in a single, expedited proceeding.” (footnote omitted)).

³⁹ In a parallel development, recent scholarship addresses the additional complexity in proper selection of damages in restitution or quasi contract where the value of the benefit conferred has a stochastic component. *See* Omri Ben-Shahar & Robert A. Mikos, *Recovery for Probabilistic Benefit* (May 2001) (unpublished manuscript, on file with author), available at <http://www-personal.umich.edu/~omri/Recovery.pdf>.

collateral value. “Valuation” here is used to refer to actual value, not a value ascribed in a bankruptcy proceeding.

An example, to which reference will be made throughout this Article, described textually and summarized in Figure 1, illustrates the point. Consider a debtor having assets of a value of \$80 and liabilities of \$100. For ease of exposition, and without affecting the principle, interest, risk aversion, and the time value of money are disregarded. The assets consist of a business venture having a value of \$20, with the other assets having a value of \$60. There is a random component to the value of the business venture. There is a seventy-five percent chance that it will be successful. If it is successful, its value is \$25. There is a twenty-five percent chance, however, that it will be unsuccessful and will be worth only \$5. At some point in time in the future, e.g., one year, it will be revealed whether the venture will be successful.

Aggregate claims against the debtor are \$100. They consist of a claim held by secured creditor *S*, in the amount of \$20, secured by the business venture, and an unsecured claim held by *U*, in the amount of \$80. It is further assumed the claim held by *S* would not be due and payable, but for the bankruptcy, until shortly after the time the success or failure of the business venture will be revealed.

The debtor’s financial position is depicted in Figure 1.

Figure 1: Debtor’s Financial Position Before a Reorganization

<u>Assets:</u>		
Venture	\$20.00	75%—\$25.00 25%—\$5.00 Subject to security interest securing <i>S</i> ’s claim
Other	\$60.00	
<u>Liabilities:</u>		
<i>S</i>	\$20.00	Security interest in venture
<i>U</i>	\$80.00	Unsecured
<u>Equity:</u>		
	(\$20.00)	

Put aside for the moment ascertaining the value bankruptcy law ascribes to secured creditor *S*’s position, which is the subject of Part II. One may examine the value *S*’s ex ante bargain ascribes to this

circumstance. Reference to the expected value of the collateral indicates *S* is fully secured and has a claim worth \$20.

However, if *S* has not bargained for its claim to be due and payable, but for the bankruptcy,⁴⁰ until the success of the venture has been revealed, *S*'s claim will be worth less. This circumstance generally exists where, in some outcomes, *S* would be oversecured and a portion of the value of the collateral would inure to the benefit of other claimants, and, in other outcomes, *S* would be undersecured.

If *S* cannot compel the liquidation of its claim by the debtor until after the success of the venture is revealed, then *S*, as of this time, has an interest that has a seventy-five percent likelihood of being worth \$20 and a twenty-five percent likelihood of being worth \$14.47 (a secured claim of \$5 and an unsecured claim of \$15, among total unsecured claims of \$95, on assets of \$60). The computation of this value, \$18.62, is depicted in Figure 2.

Figure 2: Valuation of Debt Before Reorganization

S:	$.75 \times \$20.00 + .25 \left[\$5.00 + \left(\frac{\$15.00}{\$15.00 + \$80.00} \right) \$60.00 \right]$ or \$18.62
U:	$\$80.00 - \$18.62, \text{ or } \$61.38$

Because the equity is worthless, the value of the unsecured claim can be computed by subtracting the value of the secured claim from the total value, \$80.

In sum, the timing of the valuation affects the value of *S*'s secured claim. The computation is somewhat similar to that of the familiar overinvestment problem for distressed firms, in which equity holders have an interest in having the firm pursue very risky strategies because they share a portion of gains greater than the share of losses they will bear.⁴¹

⁴⁰ In practice, a security agreement may allow for acceleration of a secured obligation if the creditor "deem[s] itself insecure." See, e.g., *Brown v. AVEMCO Inv. Corp.*, 603 F.2d 1367, 1369 (9th Cir. 1979). Skeel argues a lender likely could not use such a provision immediately after a reorganization to accelerate a loan reinstated in the reorganization. See David Arthur Skeel, Jr., *The Nature and Effect of Corporate Voting in Chapter 11 Reorganization Cases*, 78 VA. L. REV. 461, 482 n.78 (1992) (referencing U.C.C. § 1-208).

⁴¹ See, e.g., Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 334 (1976). See also WILLIAM A. KLEIN & JOHN C. COFFEE, JR., *BUSINESS ORGANIZATION AND FINANCE* 256-58 (6th ed. 1996); Douglas G. Baird & Thomas H. Jackson, *Fraudulent Conveyance Law and Its Proper Domain*, 38 VAND. L. REV. 829, 833-34 (1985).

II. PERMISSIBLE TREATMENT OF SECURITY INTERESTS IN STOCHASTIC COLLATERAL UNDER CHAPTER 11

Part I demonstrated that, if the parties have bargained for secured credit to become due after revelation of the true value of collateral initially having a stochastic value, premature valuation of the secured credit can deviate from the bargained-for allocation of interests. Part I, however, has not examined the contours of applicable federal bankruptcy law.

Assume the creditors in the above example (identified in Figure 1) are sophisticated. They are aware of the contours of applicable law. Applicable bankruptcy law would constitute a term they understand to be incorporated into their explicit bargain.

That fact introduces a potentially confounding factor. Assume federal law, as it applies to a reorganization of the debtor depicted in Figure 1, allows the secured creditor *S* to realize a value of \$20. In such a case, one could never know whether the parties *ex ante* desired for the secured creditor to realize a value of \$20 in a bankruptcy proceeding where *S*'s claim was not otherwise due or whether the parties *ex ante* would have preferred an alternative resolution in that proceeding. This Part addresses whether federal bankruptcy law in fact always requires that the secured creditor *S* receive a value of \$20 in that circumstance (and concludes that it does not).

A. REINSTATEMENT GENERALLY

Let us assume the debtor is worth more as a going concern than it would be were it liquidated. Thus, the debtor is being reorganized under Chapter 11.⁴² In general, section 1124 of the Bankruptcy Code provides that a class of claims is not impaired where a plan of reorganization cures existing defaults and reinstates the claims.⁴³

Section 1129 of the Bankruptcy Code⁴⁴ sets forth requirements for confirmation of a plan of reorganization. Paragraph (a)(8)⁴⁵ sets forth

⁴² 11 U.S.C. §§ 1101–1146 (2000) (excluding subchapter IV—Railroad Reorganization, 11 U.S.C. §§ 1161–1174 (2000)).

⁴³ *Id.* § 1124(2). Section 1124 provides a class is *unimpaired* where the plan:

notwithstanding any contractual provision or applicable law that entitles the holder of such claim or interest to demand or receive accelerated payment of such claim or interest after the occurrence of a default—

(A) cures any such default that occurred before or after the commencement of the case under this title, other than a default of a kind specified in section 365(b)(2) of this title;

(B) reinstates the maturity of such claim or interest as such maturity existed before such default;

(C) compensates the holder of such claim or interest for any damages incurred as a result of any reasonable reliance by such holder on such contractual provision or such applicable law; and

(D) does not otherwise alter the legal, equitable, or contractual rights to which such claim or interest entitles the holder of such claim or interest.

Id.

⁴⁴ *Id.* § 1129.

voting requirements. There is no need to seek the explicit acceptance of a class of unimpaired claims, because such a class is conclusively presumed to have accepted the plan.⁴⁶ Thus, the actual dissatisfaction of a class of unimpaired claims with a plan of reorganization does not require resort to the cram-down provisions.⁴⁷

In the example illustrated in Figure 1, if the secured creditor *S* were not impaired in a reorganization, all defaults were cured and *S*'s claim were reinstated, a plan of reorganization could be approved notwithstanding *S*'s dissatisfaction with the plan.

A plan of reorganization meeting those requirements is depicted in Figure 3. For ease of illustration, interest is disregarded. In sum, the plan provides for the reduction of the claims of unsecured creditor *U* to a face amount of \$50.52, now secured by a first lien on all assets of the firm other than the business venture, and conveyance of all the equity in the firm to *U*. *S*'s legal, equitable, and contractual rights are not altered.

⁴⁵ *Id.* § 1129(a)(8).

⁴⁶ *See id.* § 1126(f).

⁴⁷ *See id.* § 1129(b).

A cram-down must be "fair and equitable" to each class that is impaired and has not accepted the plan. 11 U.S.C. § 1129(b)(1). As to a secured creditor, this provision requires "the plan not unfairly shift risk of loss to the secured creditor. In order to maintain the secured creditor's relative balance of risk, the secured creditor cannot, among other things, be put in a worse off position from a collateral perspective." 4 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 506.03[7][d][iii], at 506-83 to 506-84. For this purpose, a court examines whether the secured creditor's equity cushion would be maintained following the reorganization.

A commentator asserts that, under this standard, a creditor has not been accorded "fair and equitable" treatment to the extent anticipated foreclosure value at some time following a reorganization will decline more than the scheduled principal amortization under the plan as of that time. *See id.* ¶ 506.03[7][d][iii], at 506-84 to 506-86. Implementing this understanding of the "fair and equitable" requirement would involve comparing the rights of the secured creditor, after the reorganization, and the secured creditor's position at the time of the reorganization, after (following Baird and Jackson's terminology, *see* Baird & Jackson, *supra* note 20, at 761) collapsing the probability distribution of the collateral value. Referencing the example depicted in Figure 1, were the "fair and equitable" requirement applicable, this understanding of the "fair and equitable" requirement would require the secured creditor be fully secured in future states. *See supra* fig.1. That is, the plan depicted in Figure 3 would not be "fair and equitable." *See infra* fig.3.

Regardless of the merits of that interpretation of "fair and equitable," however, the "fair and equitable" requirement is inapplicable to secured claims *unimpaired* in a reorganization. *See* 11 U.S.C. § 1129(b)(1). *But cf.* Bebchuk & Fried, *supra* note 15, at 2398 ("If a secured creditor challenges the distribution plan and the judge finds that it is not fair and equitable, the judge will not permit the firm to emerge from bankruptcy. Thus, whether a Chapter 11 plan is considered fair and equitable—and therefore whether the proceeding can conclude—will depend in part on the value of the secured creditor's collateral." (footnote omitted)). Thus, preserving the *ex ante* bargain made in the shadow of the "fair and equitable" requirement of 11 U.S.C. § 1129(b)(1), does not require the secured creditor *S*, in the circumstance depicted in Figure 1, receive a value greater than that depicted in Figure 4 (and, as discussed *infra* p. 210, it can receive less).

Figure 3: Debtor's Financial Position After Reorganization

<u>Assets:</u>		
Venture	\$20.00	75%—\$25.00 25%—\$5.00 Subject to security interest securing S's claim
Other	\$60.00	
<u>Liabilities:</u>		
S	\$20.00	Security interest in venture
U	\$50.52	Security interest in all assets other than venture
<u>Equity:</u>		
U	\$9.48	All equity

S is unimpaired because all defaults have been cured and S's legal, equitable, and contractual rights are not altered. Moreover, as depicted in Figure 4, the values of both S's and U's rights have remained unchanged. As noted below, that is not, in fact, required.⁴⁸

Figure 4: Valuation of Debt and Equity After a Reorganization

S:	$.75 \times \$20.00 + .25 [\$5.00 + (\$60.00 - \$50.52)]$, or \$18.62
U:	$\$80.00 - \18.62 , or (computed a second way) $.75 (\$85.00 - \$20.00) + .25 (\$50.52)$, or \$61.38

In practice, reinstatement is not the sole method by which the secured creditor may receive less than \$20. Manipulation of valuations may result in an outcome in which the secured creditor does not realize property worth the present value of the collateral.⁴⁹ Reference to the reinstatement

⁴⁸ See *infra* Part II.D.

⁴⁹ See, e.g., Jackson & Scott, *supra* note 20, at 189 (stating, in discussing the selection of a discount rate, "Frequently, it is clear that the courts endorse redistribution from secured creditors to unsecured creditors and equity interests.").

provisions is valuable, however, because it demonstrates the secured creditor may receive less than the present value of its collateral even without valuation legerdemain.

B. CLASSIFICATION OF CLAIMS

Implicit in this outcome is that the secured creditor (here, *S*) is classified separately from any other claimant (here, *U*). The secured creditor might complain about the propriety of this classification. In particular, it might argue that if it does not receive the value of the collateral, it has an unsecured claim that should be classified with the unsecured claim of *U*. That classification would require equal treatment of *U*'s unsecured claim and any unsecured portion of *S*'s claim⁵⁰ and, therefore, impairment of *S*.

Separate classification of similar claims has generated some controversy. The normal case in which this issue is presented involves attempts to classify separately a group of claimants in order to obtain the consent of one impaired class—a requirement for plan confirmation.⁵¹ Courts have been reluctant to allow manipulation of the classification of claims to create an impaired class that approves the plan,⁵² although some authority allows separate classification where a subset of the claimants with similar interests is of particular importance to the success of the reorganization.⁵³

Section 1122⁵⁴ does not, however, expressly require similar claims to be aggregated in a single class, and the normal cases concerning gerrymandering are inapposite to an examination of whether secured creditor *S* could be classified separately. Section 1124(2)⁵⁵ explicitly contemplates a plan of reorganization in which a debtor cures defaults under a reinstated contract and the creditor's rights are left unaltered. That power frequently would be illusory as to unsecured claims, were similar claims required to be in a single class. That suggests whatever the general merits of cases addressing any requirement to classify together similar claims, that authority should not implicitly require such classification

⁵⁰ See 11 U.S.C. § 1123(a)(4) (2000).

⁵¹ See *id.* § 1129(a)(10).

⁵² See, e.g., *Phoenix Mut. Life Ins. Co. v. Greystone III Joint Venture (In re Greystone III Joint Venture)*, 995 F.2d 1274, 1278 (5th Cir. 1991) (setting aside a classification of an unsecured claim, consisting of a deficiency claim under 11 U.S.C. § 1111(b), separate from other holders of unsecured claims, stating, "[O]rdinarily 'substantially similar claims,' those which share common priority and rights against the debtor's estate, should be placed in the same class."); 7 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 1122.03[6][a], at 1122-22 ("Generally, courts have rejected classifications based on apparent attempts to 'gerrymander' claims so as to create an impaired class that will vote in favor of a plan of reorganization. In this context, a majority of circuits have held that unsecured deficiency claims created under section 1111(b) cannot for this sole reason be classified separately from other unsecured claims.").

⁵³ See, e.g., 5 DANIEL R. COWANS, BANKRUPTCY LAW AND PRACTICE § 20.19, at 210-11 (7th ed. 1998) (finding authority in four circuits).

⁵⁴ 11 U.S.C. § 1122 (2000).

⁵⁵ *Id.* § 1124(2).

across claims, some of which are to be reinstated under section 1124(2).⁵⁶ A possible implicit requirement should not be read to eviscerate an express statutory provision.

C. FEASIBILITY

The provisions of paragraph (a)(11) of section 1129,⁵⁷ referenced as the feasibility requirement,⁵⁸ also are implicated by the plan of reorganization depicted in Figure 3. That section requires that “[c]onfirmation of the plan is not likely to be followed by the liquidation, or the need for further financial reorganization, of the debtor or any successor to the debtor under the plan, unless such liquidation or reorganization is proposed in the plan.”⁵⁹

In advance of the reorganization of this hypothetical debtor, there was a non-zero probability that the secured creditor *S* would not be paid in full. That circumstance is a prerequisite for the probability distribution of the value of the collateral to be relevant. There is a possibility that the reorganized debtor depicted in Figure 3 will not meet its obligations in the future.

One might make the following argument: the feasibility requirement prevents confirmation of plans of reorganization in which there is a possibility the debtor will become insolvent after it is reorganized. The plan of reorganization depicted in Figure 3 includes such a possibility. In fact, the existence of such a possibility is required in order for a reorganization not to alter the secured creditor’s rights and, at the same time, provide for an expected value less than the amount of its claim. Such a plan is not feasible. Thus, the argument would conclude, reorganization plans not involving either a cram-down or the consent of a secured creditor must in practice provide the secured creditor with the value of the collateral.

That argument is incorrect. “As numerous courts have explained, ‘the court need not require a guarantee of success,’ which of course would be difficult to predict for any venture much less one emerging from chapter 11. ‘Only a reasonable assurance of commercial viability is required.’”⁶⁰ A commentator notes, “Although creditors sometimes press the issue, the possibility of failure is not fatal. As one court noted, ‘it is clear that there is

⁵⁶ See 7 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 1122.03[1][a], at 1122-6 (“Since Congress obviously intended that the proponent of a plan have the flexibility to separately classify certain general unsecured claims, and thereby leave such claims unimpaired if such treatment was advantageous to the debtor, the argument that all claims of the same legal nature must be included within one class is not persuasive. For example, a debtor might wish to cure and reinstate a particularly low interest loan while paying other creditors or giving them notes at a more current interest rate.” (footnote omitted)).

⁵⁷ 11 U.S.C. § 1129(a)(11) (2000).

⁵⁸ See, e.g., Kenneth N. Klee, *Adjusting Chapter 11: Fine Tuning the Plan Process*, 69 AM. BANKR. L.J. 551, 569 n.97 (1995).

⁵⁹ 11 U.S.C. § 1129(a)(11) (2000).

⁶⁰ *Heartland Fed. Sav. & Loan Ass’n v. Briscoe Enters., Ltd., II* (*In re Briscoe Enters., Ltd., II*), 994 F.2d 1160, 1165–66 (5th Cir. 1993) (citation omitted) (quoting *In re Lakeside Global II*, 116 B.R. 499, 507 (Bankr. S.D. Tex. 1989)).

a relatively low threshold of proof necessary to satisfy the feasibility requirement.”⁶¹

Plans of reorganization, such as that depicted in Figure 3, involving a modest possibility of subsequent failure thus should not be prevented by the feasibility requirement. In other cases, feasibility might require an intermediate solution for an unimpaired secured creditor having a security interest in stochastic collateral—a reorganization in which, as of plan confirmation, the expected value of the secured creditor’s rights is between the value of the collateral as of that time and the pre-bankruptcy value of the secured claim based on a truncated interest in the collateral. Nevertheless, the provisions of bankruptcy law read into the *ex ante* bargain do not place a floor on the value of a secured creditor’s rights after reorganization equal to the expected value of the collateral at the time of the reorganization.

D. NEGATIVE PLEDGE

The plan of reorganization depicted in Figure 3 provides for the granting of a security interest to a previously unsecured creditor. In some cases, a creditor, such as *S*, will have bargained for a negative pledge.⁶² This particular plan of reorganization requires that *S* does not benefit from such a covenant; otherwise, there would be a default upon consummation of the plan.

The principle discussed above—that the holder of a secured claim cannot be assured that, after a reorganization, it will have property with an actual value at least equal to the value of the collateral as of that time—is not limited to cases where the creditor does not benefit from a negative pledge. First, even if the debtor has granted the creditor a negative pledge, the debtor may not receive value equal to the current value of the collateral. Second, depending on the precise terms of the secured creditor’s contractual rights, other methods might be used to effect the same result. The rationale for each of these conclusions is now developed.

If *S* had the benefit of a negative pledge, other plans of reorganization could be implemented that reinstated *S* and provided *S* with a present value

⁶¹ 7 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 1129.03[11], at 1129-65 (citations omitted) (quoting Berkeley Fed. Bank & Trust v. Sea Garden Motel & Apartments (*In re* Sea Garden Motel & Apartments), 195 B.R. 294, 305 (D.N.J. 1996)). That the possibility of post-reorganization financial distress will not prevent a reorganization is also implicit in certain present value calculations used in bankruptcy proceedings. In a cram-down over the objection of an impaired class of secured claims, the corresponding secured creditors must be provided with deferred payments with a present value equal to the amounts of their interests in the estate’s interest in the collateral. See 11 U.S.C. § 1129(b)(2)(A)(i)(II) (2000). The discount rate used to make that computation may be higher than the risk-free rate, where required to compensate the secured creditor for default risk. See *Travelers Ins. Co. v. Bryson Props.*, XVIII (*In re* Bryson Props., XVIII), 961 F.2d 496, 500 n.4 (4th Cir. 1992); 7 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 1129.06[1][c][iii], at 1129-148 to 1129-149.

⁶² A negative pledge is an agreement under which a debtor agrees not to grant a third party a security interest in the debtor’s property. See Carl S. Bjerre, *Secured Transactions Inside Out: Negative Pledge Covenants, Property and Perfection*, 84 CORNELL L. REV. 305, 306 (1999). Negative pledge covenants are relatively common. See Alan Schwartz, *Priority Contracts and Priority in Bankruptcy*, 82 CORNELL L. REV. 1396, 1409 (1997) (commercial loans and privately placed and public debt); Schwartz, *supra* note 30, at 218 (public debt).

of less than \$20. That is, it is not the case that a secured creditor benefiting from a negative pledge can be assured of possessing after a reorganization property of a value at least equal to the lesser of the amount of its claim or the present value of the collateral. For example, revising the plan of reorganization depicted in Figure 3 to provide that *U* received unsecured debt of \$55 and all the equity would result in *S* having claims worth \$19.46 after the reorganization (continuing to disregard issues of the time value of money, interest, and risk aversion).⁶³ The example illustrated in Figure 3, in which *U* receives a security interest, is used because it emphasizes the extent to which the reorganization appears feasible. There is a tradeoff between feasibility and granting *U* a security interest in the reorganized debtor's assets. A greater security interest allows plans that are more likely to meet a feasibility standard.

A variety of mechanisms may be used in various contexts to implement the equivalent of a security interest that would not violate a negative pledge. For example, a plan of reorganization might result in conveying all the debtor's assets to a new subsidiary that would incur debt in the reorganization, with the debtor's assets after the reorganization consisting solely of all the equity of this newly formed subsidiary. The effect on the reinstated creditor, an outcome that is implemented in various contexts, is sometimes called "structural subordination."⁶⁴ In such a case, reinstatement of a secured creditor's claim would result in the reinstated claim being subordinated in practice—by the corporate structure—to all the debts of the subsidiary.⁶⁵ Repayment of the reinstated claim would be junior to all debts of the subsidiary, as payment of the reinstated claim could come from dividends paid by the subsidiary, payment of which is junior to all debts of the subsidiary. As in the case of the negative pledge, whether this scheme would work, or whether another approach would be used, would depend on the precise terms of the reinstated contract.

The purpose of this discussion is not to provide a comprehensive list of the methods by which a negative pledge can be avoided. Effecting those desires is a traditional obligation of a corporate lawyer,⁶⁶ and the precise

⁶³ This amount is computed as follows: $.75 \times \$20.00 + .25 \left[\$5.00 + \left(\frac{\$15.00}{\$15.00 + \$55.00} \right) \$60.00 \right]$.

⁶⁴ See, e.g., F. John Stark, III, J. Andrew Rahl, Jr., & Lori C. Seegers, "Marriott Risk": A New Model Covenant to Restrict Transfers of Wealth from Bondholders to Stockholders, 1994 COLUM. BUS. L. REV. 503, 517 n.52 (1994).

⁶⁵ Under the doctrine of substantive consolidation, a court has the power to disregard such a corporate structure. "The power to consolidate is one arising out of equity, enabling a bankruptcy court to disregard separate corporate entities, to pierce their corporate veils in the usual metaphor, in order to reach assets for the satisfaction of debts of a related corporation." *James Talcott, Inc. v. Wharton (In re Continental Vending Machine Corp.)*, 517 F.2d 997, 1000 (2d Cir. 1975). "The consolidated assets create a single fund from which all claims against the consolidated debtors are satisfied; duplicate and inter-company claims are extinguished; and, the creditors of the consolidated entities are combined for purposes of voting on reorganization plans." *Alexander v. Compton (In re Bonham)*, 229 F.3d 750, 764 (9th Cir. 2000). See generally 2 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 105.09, at 105-84 to 105-104 (discussing substantive consolidation). Thus, there is some risk this structural subordination would not be respected in a subsequent proceeding.

⁶⁶ Cf. Stark, III, et al., *supra* note 64 (discussing spin-offs that expropriate wealth from bondholders).

method used depends on the particular language of the covenants to be evaded. This discussion of secured creditors benefiting from a negative pledge demonstrates that the presence of a negative pledge does not assure that the holder of a secured claim, after a reorganization, will have property with an actual value at least equal to the value of the collateral as of the time of the reorganization.

One final observation merits mention. The plan of reorganization depicted in Figures 3 and 4 preserves the pre-reorganization value of the secured creditor *S*. The pre-reorganization value of secured creditor *S*, however, is not a floor on the value of its position immediately following a reorganization. An alternative plan of reorganization to that depicted in Figure 3, assigning creditor *U* more debt, thereby decreasing the value received by creditor *S*, could be implemented. Using the structural subordination method described above, the entire unsecured portion of *S*'s claim could be subordinated to *U* in a reorganization.

E. CONCLUSIONS

One can dispute whether, in the context of assessing the allegiance of Bebhuk and Fried's proposal to the ex ante bargain, a proper conception of the ex ante bargain of a secured creditor should be viewed as incorporating—or being implicitly modified by—the terms of bankruptcy law. Regardless of how one chooses to resolve that question, however, a secured creditor is not always entitled to receive in a reorganization, with respect to the secured portion of its claim, property of an actual value equal to the actual value of the collateral at that time (up to the amount of the claim).

If bankruptcy law is not considered to be incorporated into the explicit bargain, the creditor is entitled to receive the value of the collateral (up to the value of the claim) where the claim is then matured (but for the bankruptcy). But, where the claim is not matured (but for the bankruptcy) and the collateral value is stochastic, respecting the ex ante bargain may require that the creditor receive less than the value of the collateral at that time.

If, on the other hand, bankruptcy law is considered to be part of the ex ante bargain, the reinstatement provisions allow for similar outcomes, albeit with more dispersion. In some cases, depending on the terms of the explicit contract, reinstatement may yield the creditor property of diminished value. In other cases, the reinstatement provisions when coupled with the feasibility requirement may provide for the secured creditor to come through the reorganization with a claim whose value was increased by the reorganization.

The reinstatement provisions also allow for reinstatement of claims that were in default before bankruptcy.⁶⁷ Thus, considering the ex ante bargain

⁶⁷ See 11 U.S.C. § 1124(2) (2000) (not conditioning reinstatement on the absence of a pre-petition default).

as incorporating the reinstatement provisions of bankruptcy law expands the set of reorganizations as to which the secured creditor, with respect to the secured portion of its claim, may be entitled to less than the current value of the collateral.

III. BEBCHUK AND FRIED'S PROPOSAL

A. DETAILS OF THE BEBCHUK AND FRIED PROPOSAL

Bebchuk and Fried propose a multi-stage, market-based method for addressing secured claims in a reorganization. The method flows from their reconceptualization of a secured claim as comprising two constituent elements: (i) a nonrecourse note, secured by the collateral, having a face amount equal to the amount of the secured claim and (ii) an unsecured (residual) part.⁶⁸ To value the original secured claim (i.e., the claim having these two constituent components), they propose that, in the context of a sale of the debtor firm as a whole:⁶⁹

first, the secured claim is divided into these two constituent elements;

second, shortly before the end of the bankruptcy proceedings, the nonrecourse note is sold in an auction;

third, the cash raised from this auction would pay the secured portion of the original secured claim;

fourth, cash raised from the sale of the debtor is used to pay unsecured claims, including any unsecured portion of this secured claim (the amount of which now can be determined by reference to the value attributed to the nonrecourse note); and

fifth, shortly thereafter, the bidder winning the auction of the nonrecourse note can auction the collateral and keep the proceeds, up to the face amount of the note.⁷⁰

It is possible that a debtor may value collateral more than any other potential owner. A market-based substitute for Chapter 11 has to address how such a debtor can retain the collateral. One problem is that, as the debtor is necessarily in financial distress, liquidity problems may prevent the debtor from being able to pay for the collateral at that time.⁷¹

Part of the complexity of Bebchuk and Fried's proposed mechanism is due to their attempt to address this concern. They separate any foreclosure sale from the valuation of a secured claim, postponing any foreclosure sale until after the debtor emerges from bankruptcy. That postponement should,

⁶⁸ See Bebchuk & Fried, *supra* note 15, at 2411–12.

⁶⁹ Bebchuk & Fried also discuss the application of this method to resolutions other than a sale of the firm as a whole (bargaining and options). See *id.* at 2427–29.

⁷⁰ See *id.* at 2412–14.

⁷¹ See *id.* at 2392.

in their view, mitigate liquidity problems of a debtor that attaches unique value to the collateral and should retain it.⁷²

There are theoretical objections to the proposition that the winning bid in an auction produces an accurate valuation.⁷³ Of course, the relevant inquiry is whether an auction provides an accurate price at an appropriate cost, relative to available alternatives. But, even if the auction mechanism produces accurate valuations, the auction may result in overpayment to the secured creditor.

The last step in Bebchuk and Fried's method involves a sale of the collateral. They contemplate the nonrecourse note sold in the auction will be due shortly after the debtor's emergence from bankruptcy proceedings, that is, any foreclosure sale of the collateral would occur shortly after that emergence.⁷⁴ A proper pricing in the foreclosure sale would result in the sale proceeds being equal to the expected value of the collateral. The nonrecourse note would therefore be valued in the auction referenced after second, above,⁷⁵ based on the expected value of the collateral.⁷⁶

As Bebchuk and Fried envision the scheme, the secured creditor can "bid in" its claim in an auction of the nonrecourse note.⁷⁷ That allows a creditor to place a bid in the amount of its claim, where payment, in the case of a winning bid, is made in the form of a release of the claim.⁷⁸

If the secured creditor understands the property to be worth at least the value of its claim, Bebchuk and Fried's mechanism allows this creditor to receive property of a value equal to the amount of the claim. Drawing on the illustration depicted in Figure 1, consider a nonrecourse claim in the amount of \$20, on property worth \$20, consisting of a seventy-five percent chance of being worth \$25 and a twenty-five percent chance of being worth \$5. The creditor is permitted to "bid in" its claim of \$20 for the nonrecourse note. Thus, the auction will produce a winning bid of at least \$20. If the secured creditor prevails in the auction, it can similarly bid \$20 in the subsequent foreclosure sale for the note it owns. The creditor will receive, in the end, either \$20 or the collateral (worth at least \$20).⁷⁹

⁷² See *id.* at 2425.

⁷³ See, e.g., Bernard S. Black, *Bidder Overpayment in Takeovers*, 41 STAN. L. REV. 597, 625 (1989) ("In an auction of an asset of uncertain value, bidders are vulnerable to the 'winner's curse': Even if they estimate value accurately on average, they win the bidding primarily when they overestimate an asset's true value, and thus tend to overpay on average."). The possibility of a winner's curse may depress bidding, producing an indeterminate effect on price.

⁷⁴ See Bebchuk & Fried, *supra* note 15, at 2424.

⁷⁵ See *supra* text accompanying notes 69–70.

⁷⁶ Bebchuk and Fried note the value received in an auction of an undersecured nonrecourse note may not precisely match the value of the collateral. See *infra* note 79.

⁷⁷ Bebchuk & Fried, *supra* note 15, at 2421.

⁷⁸ See generally Andrea Coles-Bjerre, *Trusting the Process and Mistrusting the Results: A Structural Perspective on Article 9's Low-Price Foreclosure Rule*, 9 AM. BANKR. INST. L. REV. 351, 356 n.24 (2001). "When a secured party bids in all or part of its indebtedness, no money changes hands; rather than paying money to itself, the secured party simply credits the debtor with, or forgives, the portion of the debt that has been bid in." *Id.* citing Donald J. Rapson, *The Efficient Treatment of Deficiency Claims: Gilmore Would Have Repented*, 75 WASH. U. L.Q. 491, 504 (1997).

⁷⁹ Bebchuk & Fried note the proceeds of the auction of the nonrecourse note may be slightly less than the value of the collateral, to account for the possibility of depreciation of the collateral between

Bebchuk and Fried recognize the possibility that the secured creditor's claim may not be matured.⁸⁰ Under their scheme, where a claim is not matured, "its value would be discounted to reflect the time value of money."⁸¹

Where the due date is a material period of time in the future, the outcome may be substantially affected by the choice of a discount rate. Choice of an appropriate discount rate is not trivial. In various contexts, courts currently are required to select an appropriate discount rate. For example, payments to be made to a dissenting, impaired creditor under a plan may be required to be discounted to confirm that the creditor is receiving property of a value not less than the value that would be received in liquidation.⁸² Inconsistent procedures have been used in this context and other various contexts to select a discount rate.⁸³

For the reasons discussed in Parts I and II, even disregarding the indeterminacy in the choice of an appropriate discount rate, this auction mechanism may allow the secured creditor to realize more than its ex ante bargain.

B. CALL OPTION REFINEMENT

Bebchuk and Fried's proposal can be reformulated to provide an approximation of the ex ante bargain. This refinement arises from reconceptualizing the collateral as two separate components, a call option⁸⁴ and the collateral subject to that call option, in only one of which (the

that auction and a subsequent disposition of the collateral. See Bebhuk & Fried, *supra* note 15, at 2416 n.102. This minor deviation will be disregarded.

⁸⁰ See *id.* at 2411 n.95.

⁸¹ *Id.* More precisely, they assume the loan is "due." Current law provides unmatured claims can give rise to a claim in bankruptcy. See *supra* note 38. A claim for unmatured interest, however, will be disallowed. See 11 U.S.C. § 502(b)(2) (2000). Thus, under current law, a creditor owed an unmatured claim bearing interest at an above-market rate has a claim in bankruptcy less than the actuarial value of its claim, and a creditor with a claim bearing interest at a below-market rate has a claim in bankruptcy greater than the actuarial value of its claim. There is, however, an adjustment made for original issue discount debt. See 4 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 502.03[3][b][i], at 502-28 to 502-29.

The current law reflects an assessment that the cost of attempting to accommodate that level of precision in claim valuation, adjusting a creditor's claim for differences between the interest rate due on the claim and the market rate, is not worth the cost. See *id.* ¶ 502.03[3][a], at 502-26 (describing a "rule of convenience"). Bebhuk and Fried do not clarify why, in their view, the approximation provided under current law is not cost-effective.

⁸² See 11 U.S.C. § 1129(a)(7)(A)(ii) (2000).

⁸³ See 7 COLLIER ON BANKRUPTCY, *supra* note 11, ¶ 1129.06[1][c], at 1129-147 (noting use of the creditor's cost of funds, the rate of interest the payments would be required to bear in the market, and a specially crafted interest rate based on a spread over the risk-free rate). See generally Pension Benefit Guar. Corp. v. CF&I Fabricators, Inc. (*In re* CF&I Fabricators of Utah, Inc.), 150 F.3d 1293, 1296, 1300-01 (10th Cir. 1998) (affirming a trial court's use of a discount rate in valuing a claim, reflecting a "prudent investor" valuation method," producing a value of \$124 million, in lieu of a lower rate put forth by the Pension Benefit Guaranty Corp., which would have valued the claim at \$223 million); *In re* EBP, Inc., 172 B.R. 241, 245-46 (Bankr. N.D. Ohio 1994) (holding it is improper to use the rate on U.S. Treasury Bills as the discount rate in calculating the present value of payments to be made by a small, closely-held business under a plan, for purposes of assessing compliance with 11 U.S.C. § 1129(a)(7)(A)(ii), which calls for receipt, by an impaired class, of property of a value not less than the amount that would be received in liquidation).

⁸⁴ "A call option gives the owner the right to buy an asset at a fixed price during a particular time period." STEPHEN A. ROSS, JEFFREY JAFFE, & RANDOLPH W. WESTERFIELD, CORPORATE FINANCE 547 (5th ed. 1999).

collateral subject to that call option) does the creditor have a security interest.

Consider a hypothetical “call option” written on the collateral. The option has an exercise price of the amount of the debtor’s claim and can be exercised only at the time the creditor’s claim comes due and payable.⁸⁵ The nonrecourse claim can be reconceptualized as having a security interest in property (the collateral) subject to this call option. That is, the security interest is junior to this call option. Where feasible, separating the collateral into these two components allows one to value the nonrecourse component properly.

Consider what Bebchuk and Fried would classify as the nonrecourse component of the secured claim depicted in Figure 1. There would be a nonrecourse claim of \$20, due in one year, on collateral worth \$20, consisting of a seventy-five percent chance of being worth \$25 and a twenty-five percent chance of being worth \$5. Hypothesize the collateral as being subject to a call option, exercisable for \$20 at the time the original secured obligation would become due. The call option is considered an asset owned by the debtor, not subject to this security interest. This reformulation of Bebchuk and Fried’s proposal produces a proper valuation of the nonrecourse claim. In the first possible outcome (the property is worth \$25), the value of the property securing the claim (\$20—the value of property worth \$25 subject to a European call option, exercisable at the due date of the debt, with an exercise price of \$20) equals the value of the claim.⁸⁶ In the second outcome, the value of the property securing the claim equals the value of the property (\$5), as the call option would expire unexercised. This formulation is a limited (i.e., property-specific) application of the familiar view, for valuation purposes, of the equity of a firm as a call option on the assets of the firm.⁸⁷

Thus, one can use a market-based mechanism to value the nonrecourse constituent element of a secured claim. It is problematic, however, to value the other, unsecured element of the claim through a market-based mechanism. The problem is illustrated with an example.

Consider again the secured claim owned by *S* as depicted in Figure 1. The nonrecourse element of *S*’s claim is worth \$16.25. That is computed as:

$$.75 \times \$20.00 + .25 \times \$5.00 = \$16.25$$

That is the value, subject to the small discrepancy discussed above,⁸⁸ that would be realized through the two-step auction mechanism outlined by

⁸⁵ Discussion of the precise time the option would be exercisable is postponed. See *infra* Part III.C.

The option would be a “European” option—exercisable only at its expiration—as distinguished from an “American” option—an option exercisable at any time up to the expiration date. See ROSS ET AL., *supra* note 84, at 546.

⁸⁶ Again, for ease of illustration, the time value of money is neglected.

⁸⁷ See Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637, 649–50 (1973).

⁸⁸ See *supra* note 79.

Bebchuk and Fried, if the collateral were subject to a call option at \$20.00. One can compute this value by examining the foreclosure sale first and working backward to the auction of the nonrecourse note. The collateral, subject to this call option, is worth \$16.25, as computed above. That is less than the face amount of the nonrecourse note (\$20.00). Because the nonrecourse note would be due and payable immediately and the collateral value at that time is less than the face amount of the note, the holder of the nonrecourse note could retain in full the proceeds of the sale of the collateral (\$16.25).

Valuation of the second component, into which Bebhuk and Fried divide a secured claim—the unsecured portion—through a market-based mechanism is, however, problematic. One might attempt to compute the value of the unsecured portion of the claim as follows:

$$\left[\frac{\$20.00 - \$16.25}{(\$20.00 - \$16.25) + \$80.00} \right] \$60.00 = \$2.69$$

The principle would be that the secured creditor has an unsecured claim equal to the difference between the face amount of its claim (\$20.00) and the value of the nonrecourse portion (\$16.25), representing a deficiency of \$3.75. Of the assets not subject to a security interest (\$60.00), one could give *S* a proportional interest. The amount of the other unsecured claims is \$80.00, and providing *S* a proportional interest gives *S* a value of \$2.69 for its unsecured claim. Of the total \$80.00 in assets, *S* receives \$16.25 + \$2.69, or \$18.94.

That outcome overcompensates *S*. As described above,⁸⁹ *S* should receive \$18.62. The discrepancy occurs because the aggregate amount of the unsecured claims varies between possible outcomes, in response to variation in the value of the nonrecourse (i.e., secured) portion. The aggregate amount of the unsecured claims is in the denominator of a fraction used to compute the amount to be paid on each unsecured claim. When one takes the expected value of a quotient, that is not, in general, the same as taking the ratio of the expected values of the numerator and the denominator.⁹⁰

C. CALL OPTION EXERCISE DATE(S)

There are other practical problems in implementing this market-based solution. Most significantly, it may be difficult to select the exercise date of the call option. Faithfulness to the ex ante bargain requires addressing

⁸⁹ See *supra* Part I, fig.2 and accompanying text.

⁹⁰ For example, if some event has two equally likely outcomes, 1/2 and 1/4, the expected value is 3/8; it does *not* equal $\frac{1}{\frac{1}{2}(2) + \frac{1}{2}(4)}$, or 1/3.

how this call option should incorporate the possibility that a secured claim may have been accelerated by its terms.

Consider again the debtor depicted in Figure 1. Secured creditor *S*'s claim, although not ordinarily due until one year from the date of the reorganization, may contain financial covenants that allow for the claim to be accelerated. Under the ex ante bargain, an acceleration would allow the creditor to foreclose on the collateral, which raises the issue of how the call option refinement to the Bebchuk and Fried proposal should accommodate that circumstance.

Initially, one might consider having multiple call options—a call option on the collateral exercisable at maturity and one or more call options exercisable upon the occurrence of a default. For reasons detailed below, a single call option, exercisable on the earliest event in which the secured creditor *S* could have demanded payment in full, produces a reasonable result.

Under the ex ante bargain, the secured creditor *S* has the right to have his interest in the collateral valued whenever it has the right to have the entire claim paid. This would occur at maturity or at an earlier time when a covenant default was in existence.⁹¹ It is the secured creditor who gets to select the time by choosing whether to demand payment.

Ordinarily, it will be in the secured creditor's interest to choose the earliest possible date. If the collateral will decrease in value over time (i.e., depreciate), it is in the creditor's interest to determine as early as possible the value of the secured portion of its claim. The converse circumstance, collateral whose expected value is anticipated to increase over time, seems to be rather unusual. Ordinarily, the value property is expected to have in the future, after accounting for the time value of money, should place a floor on its current value.⁹² Where the collateral has a stochastic value, and some outcomes result in the creditor being oversecured and others result in the creditor being undersecured, having the collateral valued early (i.e., collapsing the probability distribution) is in the creditor's interest. Therefore, it would seem frequently to be the case that the proper answer would involve having the call option exercisable at the earliest time when secured creditor *S* could demand payment in full. That outcome minimizes the value of the call option, thereby maximizing the secured creditor *S*'s interest in the collateral.

In sum, to value the secured portion of a creditor's (S_2) claim ($Claim_2$), having collateral C_2 , in a debtor being reorganized using the Bebchuk and Fried procedure, the nonrecourse note they propose to use to value S_2 's claim should be secured by collateral C_2 , subject to (junior to) a call option

⁹¹ Commercial loans frequently include such financial covenants. See, e.g., NORA J. SCHNEIDER & JONATHAN R. HARRIS, *Senior Loan Agreements*, in 1 DRAFTING COMMERCIAL DOCUMENTS SERIES, 155, 239–41 (Mass. Continuing Legal Educ., Inc., Handbook Series No. 96-04.15, 1996) (form loan agreement containing financial covenants).

⁹² One would not normally expect the time value of money to be sufficient to cause a creditor to delay foreclosure. Loans, however, frequently present such a situation. For example, a creditor might postpone foreclosure where the loan bears interest at an above-market rate.

having the following terms: the option would be exercisable at only one time. The first occurrence of an event that would have been a default under *Claim*₂ will cause the call option to become exercisable. If there is no such event, the exercise date would be the date *Claim*₂ ordinarily would mature. The exercise price would be the amount that would have been due on *Claim*₂ at that time.

In essence, the call option would, in some way, incorporate the defaults of *Claim*₂. Some defaults, however, could not practicably be incorporated. For example, a default in payment of interest ordinarily would allow a creditor to accelerate an obligation.⁹³ But, it would not seem practicable to allow the call option to be triggered when the debtor hypothetically would have defaulted on payment of interest on *Claim*₂.

D. CONCLUSION

This Article takes no position on whether Bebchuk and Fried's proposal itself is feasible. If their proposal is, in fact, preferable to the current law, some refinement of their proposal, implementing in part the call option features referenced above, could be even more preferable.

Limiting consideration to business reorganizations, there would be some collateral as to which implementing this refinement would not be feasible. For some types of collateral, collapsing the probability distribution of future states will be unlikely to change the resolution materially. Often, the additional cost of implementing a sale subject to a call option would not be cost-beneficial in the context of individual pieces of collateral having a relatively small dollar value. Transaction costs associated with a buyer having to deal with the possible call of property it acquired in a foreclosure sale would be prohibitive as to some types of assets.

In a reorganization, it would not be unprecedented for bankruptcy law to treat certain types of collateral separately. For example, bankruptcy law now does so as to aircraft.⁹⁴ Any thoughtful consideration of the Bebchuk and Fried proposal should include an examination of refining that proposal through a call option, of the type identified in this Article, on selected types of collateral.

IV. CONCLUSIONS

Bebchuk and Fried have proposed a market-based method for valuing secured claims in bankruptcy. It involves bifurcating a secured claim into an unsecured portion and a secured, nonrecourse claim on the collateral.

This Article demonstrates that their proposal does not necessarily preserve the ex ante bargain as to secured claims that would not be due and payable, but for bankruptcy, where the collateral has a stochastic value.

⁹³ See, e.g., SCHNEIDER & HARRIS, *supra* note 91, at 263, 269.

⁹⁴ See 11 U.S.C. § 1110 (2000).

The same is also true for claims in default that can be reinstated in a contemplated reorganization, if one considers bankruptcy an implied part of the *ex ante* bargain.

The reason is that their methodology is based on ascertaining the actual value of collateral. Secured creditors, however, only have truncated claims on collateral—claims truncated by the amounts of their respective claims against the debtors. Where the collateral has a present value that, in some future states, exceeds the amount of a secured creditor's claim, and, in other states, is below that amount, valuation of a secured claim depends on the probability distribution—not merely on the expected value—of those future states.

This Article also examines a refinement to their proposal. Under that refinement, the nonrecourse portion of a secured claim is modified so that the collateral is subject to a call option retained by the debtor. Fully respecting the *ex ante* bargain cannot be effected through this refinement, although it does provide an approximate solution.

The *ex ante* bargain could be considered dependent on the law that is in effect at the time the bargain is struck. One could argue, for example, that if Bebhuk and Fried's proposal were adopted and implemented, following that procedure would necessarily effect the *ex ante* bargain of contracts created after the proposal's enactment.

The broader question is whether, despite its faults, a refinement of the Bebhuk and Fried proposal, with any appropriate transition rule, is superior to other alternatives. It is not necessarily fatal that their methodology, in its original form or refined as described in this Article, only allows for an approximation of complete faithfulness to currently negotiated secured creditors' rights. The law cannot achieve perfect results. That is perhaps particularly the case in the context of bankruptcy law, where market imperfections can be exacerbated.

The process of reorganizing a debtor can be very complex. It is difficult in advance to specify fully a rigorous algorithm (i.e., one that specifies the precise steps to be taken, without recourse to the exercise of judgment of a party imposing the rules) for treating such a complex system. It is easy, in attempting to create self-executing rules that eliminate discretion, to overlook an issue or to produce an algorithm that has unintended consequences.