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Beyond Options

Anthony J. Casey and Edward R. Morrison*

Scholars and policymakers now debate reforms that would prevent a bankruptcy filing from being a moment that forces valuation of the firm, crystallization of claims against it, and elimination of junior stakeholders' interest in future appreciation in firm value. These reforms have many names, ranging from Relative Priority to Redemption Option Value. Much of the debate centers on the extent to which reform would protect the non-bankruptcy options of junior stakeholders, or harm the non-bankruptcy options of senior lenders. We argue that this focus on options misplaced. Protecting options is neither necessary nor sufficient for advancing the goal of a well-functioning bankruptcy system. What is needed is a regime that cashes out the rights of junior stakeholders with minimal judicial involvement. To illustrate, we propose an "automatic bankruptcy procedure" that gives senior creditors an option to restructure the firm's debt or sell its assets at any time after a contractual default. Under this procedure, restructuring occurs in bankruptcy, but sales do not. Sales are either subject to warrants (which give junior stakeholders a claim on future appreciation) or are subject to judicial appraisal (which forces senior lenders to compensate junior stakeholders if the sale price was too low). Our proposal can be seen as an effort to design a formalized restructuring procedure that borrows from traditional state law governing corporate-control transactions. We show that this procedure minimizes core problems of current law—fire sales that harm junior stakeholders, delay that harms senior lenders, and the uncertainties generated by judicial valuation, which are exploited by all parties.

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Introduction

For many decades it has been well understood that options are embedded within the debt and equity issued by a corporation. Equity is implicitly a call option on the firm's assets, with a strike price equal to the firm's liabilities.¹ Senior (secured) debt is equivalent to owning the firm's assets and selling a call option with a strike price equal to the face value of the senior debt. And unsecured debt is a combination of two options—a long call option on the firm's assets, with a strike price equal to senior debt, plus a short call option, entitling equityholders to buy the assets from unsecured creditors at a price equal to total firm liabilities.

Under current law, a bankruptcy filing is analogous to a common expiration date – imposed by law – for all options embedded within the firm's securities.² All debts come due and the present value of the firm is distributed as if the firm were being liquidated. By function of the Bankruptcy Code's absolute priority rule (APR) – which forbids payouts of any kind to junior creditors³ when senior creditors have not been paid in full – the distribution collapses all future possibilities and effectively destroys the options held by junior creditors and equityholders. They must exercise their options immediately or lose them forever.

This options-based perspective highlights the extent to which the Code implicitly impairs junior stakeholders' options during the bankruptcy process. It also highlights the extent to which the bankruptcy process itself creates new options.⁴ Because confirmation takes time and asset values are volatile, the value of the bankruptcy estate can change substantially between filing and plan confirmation. For junior stakeholders, this volatility creates a payoff profile identical to the payoffs from a call option. As with any option, the longer the time until the option expires (the delay from filing to confirmation), the greater

¹ Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. Pol. Econ. 637 (1973); Robert C. Merton, *On the Pricing of Corporate Debt: The Risk Structure of Interest Rates*, 29 J. Fin. 449 (1974).

² Bo Huang, *Absolute Priority Rule and Option Theory*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1930404 (2011).

³ Following convention, for most of this article we refer to equity and other classes of junior creditors interchangeably.

⁴ See, e.g., Douglas G. Baird and Edward R. Morrison, *Bankruptcy Decision Making*, 17 J. L. Econ. & Org. 356 (2001) (modeling the decision-making of the bankruptcy judge using real-options theory).

the option value. Moreover, the firm's value at confirmation is determined by a judge, not the market. The greater the variance in judicial valuation, the greater the option value created by a process that relies on that valuation.⁵

These insights have prompted recent reevaluation of the APR. The central goals of a well-functioning bankruptcy system include minimizing the deadweight costs of financial distress and maximizing creditor recoveries. Both goals reduce costs of capital *ex ante*. The focus on options reveals that current bankruptcy law preserves and destroys options in ways that can increase the costs of financial distress and permit some creditors to benefit at the expense of others. Because the APR causes the expiration of all junior-creditor options, for example, it creates an incentive for junior creditors to agitate for a lengthier bankruptcy proceeding, especially a reorganization, which exposes the parties to greater judicial variance. For the same reason, the APR induces secured creditors to push for quick sales, even at fire-sale prices.

Recent scholarship has advocated reforms that unwind these adverse effects. For example, scholars have advocated a return to "relative priority," requiring senior lenders to buy out the options of junior lenders when seniors advocate a quick sale, or at least to compensate the junior lenders for the value of those options.⁶ The primary goal of a "relative priority" regime is to preserve, as much as possible, the options held by creditors outside bankruptcy. A bankruptcy filing would no longer represent a common expiration date for options.⁷ Instead,

⁵ Senior and junior creditors can change the value of these bankruptcy options by filing sale motions (speeding up the case, thereby reducing option value) or demanding judicial valuation prior to cramdown (slowing down the case, increasing option value). Anthony J. Casey, *The Creditors' Bargain and Option Preservation Priority in Chapter 11*, 78 U.Chi. L. Rev. 759 (2011). Incentives to engage in such strategic behavior will depend on the expected volatility in asset values during the reorganization period and the variance inherent in the judicial valuation of the firm's assets ("appraisal variance"). Douglas G. Baird & Donald S. Bernstein, *Absolute Priority, Valuation Uncertainty, and the Reorganization Bargain*, 115 Yale L. J. 1930, 1937 (2006).

⁶ See Douglas G. Baird and Donald S. Bernstein, *Absolute Priority, Valuation Uncertainty, and the Reorganization Bargain*, 115 Yale L. J. 1930 (2006); Casey *supra* note __; Melissa Jacoby and Edward Janger, *Ice Cube Bonds: Allocating the Price of Process in Chapter 11 Bankruptcy*, 123 Yale L. J. 862 (2013); American Bankruptcy Institute Commission to Study the Reform of Chapter 11, Final Report and Recommendations (2015) (hereinafter, "ABI Commission Report").

⁷ For a lucid exploration of how a relative priority regime would work, see Douglas G. Baird, *Bankruptcy's Lost Paradigm*, working paper (2015).

junior creditors and investors would retain options allowing them to capture future appreciation in firm value, if the debtor is reorganized. If the debtor is instead sold off, they might (depending on the specific proposal) retain the right to compensation for the value of these options, which are extinguished by the sale.

These proposals make sense if our primary concern is the APR and its degrading effect on the options of junior creditors. This concern, we argue here, is too narrow. It ignores the many other options that are altered by bankruptcy proceedings. For example, valuable real options held by senior creditors are impaired both by the bankruptcy code's automatic stay and its lien stripping rules. Equally important, the focus on junior creditors' options exalts options for options sake without considering whether or not protecting those options is necessary for advancing the goals of a well functioning bankruptcy system.

We argue here that protecting options is, ultimately, neither necessary nor sufficient for that purpose. What is necessary and sufficient is a regime that cashes out the rights of junior investors (creditors and equityholders) at market prices. To illustrate, we propose an "automatic bankruptcy procedure" that gives senior creditors an option to restructure the firm's debt or sell its assets at any time after a default, with or without a bankruptcy filing. If the option is exercised, the senior creditor must choose between two types of restructurings. One is to sell the firm's assets free and clear of all interests but allow junior creditors and equityholders to demand an appraisal, which guarantees that they receive no less than they would have received from the going-concern value in a reorganization. Alternatively, the senior creditor can sell the firm subject to warrant-like instruments that are distributed to all creditors and equityholders who are not paid in full on the sale date. These instruments ensure that these junior stakeholders benefit from future appreciation in the value of the assets. The warrants would have a strike price equal to the face value of the senior claims and an expiration date set at somewhere around 5 or 10 years after the restructuring date.

The most important feature of this mechanism is that no judicial intervention would be needed to implement our procedure. To be sure, judicial involvement is needed if creditors or shareholders demand an appraisal. But this remedy is no different from the one available to minority shareholders in any corporate control transaction. Indeed, our proposal can be seen as an effort to design a formalized restructuring procedure that borrows from traditional state law governing corporate-control transactions.

Our proposal also draws on prior work by Adler. Like Adler, we advocate a procedure that automatically adjusts the firm's capital structure. But the trigger for adjustment is not the advent of distress, as in Adler's proposal. It is instead the decision of the senior lender to exercise an option.

1. Options In and Out of Bankruptcy

1.1 Non-Bankruptcy Options in the Shadow of Bankruptcy

Every firm is a collection of assets with uncertain future cash flows. The volatility of those cash flows generates option value for junior creditors and shareholders: if the firm thrives, they enjoy cash flows; if the firm fails and merits liquidation, they can leave the firm to the senior creditors and walk away. The greater the uncertainty about future cash flows, the more valuable the option becomes.

Outside bankruptcy, this option is constrained by the senior creditor's right (also an option) to demand an immediate liquidation in the event of default. The senior creditor has the right to capture the value it can recover in a foreclosure sale. Thus, a default on senior debt accelerates the maturity of junior investors' options. Of course, if the senior creditor wants to keep the firm alive – to recover something more than foreclosure value – it must negotiate with junior creditors, who otherwise have the option to obtain and enforce judgment liens.⁸

The problem is that such bargaining is, with large enterprises,⁹ often impossible. A firm might have thousands of creditors (some identifiable and some not) with different (and unknown) incentives with regard to the future of the firm. Moreover, their incentives to maximize their individual returns create a classic common pool where creditors fail to coordinate action, race to the assets, and destroy the value of the estate for all stakeholders.

Bankruptcy law is intended to solve this problem by forcing creditors to forebear their rights and enter a collective bargaining process. The driving theory behind all of this is that bankruptcy should be “designed to mirror the agreement one would expect the creditors to form among themselves were they to negotiate

⁸ Casey, *supra*, at 775-77.

⁹ It is sometimes possible with smaller enterprises, as discussed in Edward R. Morrison, *Bargaining around Bankruptcy: Small Business Distress and State Law*, 38 J. Legal Stud. 255 (2009).

such an agreement from an *ex ante* position.”¹⁰ And – somewhat obviously – that hypothetical *ex ante* agreement cannot be known with certainty but it is assumed to be the one that maximizes collective value for all stakeholders.

This raises a key point: In the absence of bankruptcy law, the fate of a firm after default would depend on the *ex ante* agreements the senior and junior creditors have negotiated and their *ex post* decisions with regard to enforcing those agreements. But we don’t know what rights the creditors would have bargained for in such a world. And even if senior creditors had bargained for the right – on paper – to accelerate the loan and liquidate the firm’s assets, whether they would exercise that option would depend on further negotiations with other creditors. Put differently, we can read and re-read acceleration clauses into eternity and still have no clue how creditors would respond to the firm’s default in a world that has no bankruptcy rules and no bargaining costs because we don’t live in that world.¹¹ In a world with bankruptcy, the terms of existing lending contracts are not only uninformative, but may even be socially inefficient.¹²

Because the terms of existing contracts tell us little if anything about negotiations (efficient or otherwise) in a world without the current bankruptcy code, it is surprising that some scholars, including Adler and Triantis in their contribution to this volume, implicitly assume that *no* negotiation would occur and contracts (as they are written today) would be enforced mechanically according to their terms. What’s the sense in that? This amounts to assuming away the very problem that bankruptcy law is trying to solve. Bankruptcy law should construct (or get as close as possible to) the counterfactual bargain that would have been struck by creditors in a world of complete contracts and no transaction costs – the bargain that maximizes the value of the estate as a whole and minimizes costs of credit *ex ante*. Even Adler and Triantis agree with this proposition. Yet their assumption runs contrary to the fundamental point. For example, non-bankruptcy liquidation values are often much lower than the value

¹⁰ See Thomas H. Jackson, *Bankruptcy, Non-bankruptcy Entitlements, and the Creditors’ Bargain*, 91 Yale L. J. 857, 860 (1982).

¹¹ The range of potential post-default outcomes is vast (as most recently noted by Baird). Douglas G. Baird, *The Rights of Secured Creditors After Rescap*, 2015 Univ. Ill. L. Rev. 849, 853.

¹² See, e.g., Kenneth M. Ayotte, “On the Mandatory Stay of Secured Creditors in Bankruptcy,” working paper (2016)

that can be recovered through a going concern sale in bankruptcy. That is precisely why many senior creditors cooperate with or push for a bankruptcy filing in order to achieve a free-and-clear sale rather than exercising their foreclosure rights outside of bankruptcy.¹³ Why, then, should we assume that those same creditors would bargain for a right to accelerate their loans in bankruptcy even if doing so destroys estate value?

A simple example can demonstrate the point. Imagine the debtor has two assets, A & B. Secured Creditor A is owed \$100 and has a security interest in asset A. Secured Creditor B is owed \$100 and has an interest in asset B. Debtor also has several unsecured creditors. Assets A and B can be sold in a foreclosure sale for \$50 each, but the firm can be sold in bankruptcy for \$210. What are Secured Creditor A's contractual rights outside of bankruptcy? The only thing the contractual acceleration and foreclosure rights tell us is that Secured Creditor A can foreclose and get \$50.

But to answer the priority question we want to know what to do with the additional \$110 in surplus that is created by the bankruptcy process. And, herein, lies the circularity problem with the entire priority debate. Bankruptcy is a non-contractual process by which creditors forbear on their enforcement rights, *force* others to do the same, and facilitate a sale or reorganization that increases their recovery. Bankruptcy law, in other words, is implementing a "hypothetical bargain" that we might observe in a counterfactual universe with complete contracts and no transaction costs. Conventional theories tell us that such a hypothetical bargain will be the one that maximizes the surplus value of the whole estate. But what does that bargain look like?

Nothing in existing debt contracts answers that question. These contracts already assume the existence of a bankruptcy law that imposes a mandatory bargain that may or may not be the optimal one.¹⁴ Thus, it is a non-sequitur to argue that, simply because debt contracts contain acceleration clauses, any value created by bankruptcy belongs to the senior creditors, or that the junior creditors' options expire with the bankruptcy filing. Senior loan agreements may indeed *say* these very things, but these agreements were drafted with the full knowledge that these very things will *never* happen if a bankruptcy filing occurs. More fundamentally, we have *no way* to know whether the counterfactual world with complete contracts and no transaction costs would implement the bargain

¹³ This concept is discussed more fully in Casey *supra* at 770-78.

¹⁴ And, under plausible assumptions, is likely to be suboptimal. See Ayotte, *supra*.

described in the debt contracts that we observe in a world with incomplete contracts and high transaction costs.

Of course, the opposite claim is also fallacious. There is no theoretical principle that tells us, as Jacoby and Janger suggest, that the going concern value of a firm belongs to the junior creditors. Indeed, our central point in this chapter is that the value does not *belong* to anyone and any attempt to *correctly allocate* it is a fool's errand. Instead, we focus on designing the most efficient reorganization system with whatever priority scheme happens to go along with it.¹⁵ In a sense, we are calling for a return to the first principles of the creditors-bargain theory. The priority rule that the parties would have bargained for is the rule that maximizes the value of reorganization for the estate, and the parties are "entitled" to whatever such a rule would provide them.¹⁶

1.2 What Happens to Options in Bankruptcy?

As noted, inside bankruptcy, contractual terms are replaced by a mandatory process. In practice, this process forces parties to lobby the judge to protect their

¹⁵ The claim on the going concern value that is preserved through the bankruptcy process is highly controversial. Some believe that the senior creditor's lien on the firm covers going concern value. Barry E. Adler and Ian Ayres, *A Dilution Mechanism for Valuing Corporations in Bankruptcy*, 111 Yale L. J. 83 (2001). Others argue that the going concern value belongs to the junior creditors. Jacoby & Janger, *supra*. In reality, there is nothing about the non-bankruptcy relationship between debtors and creditors that tells us anything about who is entitled to going concern value. Casey *supra*. The most we can say with certainty is that it belongs to whomever the bankruptcy code says it belongs to. Similarly, those who claim that the parties have agreed that junior creditor's option expire upon the filing of bankruptcy have conflated bankruptcy's mandatory rules with the rights for which the parties have bargained. *Id.* at 766. Under the APR, bankruptcy terminates the junior creditor's option. But the relevant question is whether or not the APR *should* do that. It is not a sufficient response to say that bankruptcy should terminate the option because bankruptcy terminates the option.

¹⁶ Any objection that any single creditor is being underpaid, of course, goes away with the well-rehearsed point that such a creditor can adjust its ex ante interest rate. See Alan Schwartz, *Security Interests and Bankruptcy Priorities: A Review of Current Theories*, 10 J. Legal. Stud. 1, 7-9 (1981); Thomas H. Jackson and Anthony J. Kronman, *Secured Financing and Priorities among Creditors*, 88 Yale L. J. 1143 (1979). Nonadjusting creditors are another matter that do not fit well into the creditors' bargain and may justify a special carveout. But such creditors play a much smaller role in major corporate reorganizations and are beyond the scope of this chapter.

options. The lobbying is intense, and is the source of substantial deadweight loss, because the bankruptcy code contains many rules that undermine or destroy investors' options outside bankruptcy.

Some of these rules have attracted attention. Scholars and policymakers have focused recently on the effects of the APR, which treats the bankruptcy filing as a common expiration date for all options. This tends to benefit senior lenders: If the present value of the firm's future cash flows (as measured in a sale or by a judge in a reorganization) is less than the value of the senior claims, they receive that present value. Junior interests are wiped out. If the firm's value increases in the future, even if it increases sufficiently to repay the senior debt in full, the senior lenders keep the entire firm value. This occurs because the APR forces a valuation of the firm at the filing date;¹⁷ subsequent volatility in firm value is irrelevant. Contrast this with what happens outside bankruptcy. There, senior lenders face asymmetric claims on the firm: When firm cash flows are low (lower than debt service), senior lenders capture all flows. But when cash flows are high (higher than debt service), senior lenders share these flows with junior investors. That asymmetry (sharing the highs, but capturing the lows) is replaced with a symmetry in bankruptcy (capturing the highs and the lows), which benefits the senior lenders, induces costly strategic behavior by all creditors, and has prompted various reform proposals.¹⁸

But this is only one of many ways that the bankruptcy code rewrites options. For example, secured creditors hold an implicit real option in the event of default, allowing them to choose between immediate recovery (via market-based liquidation of collateral) or postponed realization (via debt restructuring).¹⁹ Many scholars have noted that this option is *devalued* by the code's "adequate protection" rules, which systematically undercompensate secured creditors for the delay in payment caused by lengthy bankruptcy proceedings.²⁰ The option is

¹⁷ In practice, though, valuation more often occurs at the confirmation date. On this dissonance between doctrine and practice, see Douglas G. Baird, *Secured Creditors' Rights after Rescap*, 2015 Ill. L. Rev. 849.

¹⁸ See, e.g., the ABI Commission Report. Scholars have advocated mechanisms for protecting junior investors against the risk of judicial error in asset sales and in firm valuation during the plan confirmation process. See Casey, *supra* (on the former); Jacoby & Janger, *supra* (on the former); and Baird & Bernstein, *supra* (on the latter).

¹⁹ Robert K. Rasmussen, *Secured Credit, Control Rights, and Options*, 25 Cardozo L. Rev. 1935, 1941-50 (2004).

²⁰ See, e.g., Douglas Baird, *The Rights of Secured Creditors after ResCap*, 2015 U. Ill. L. Rev. 849 (2015).

further devalued by the judge's role (and potential error) in computing the amount of compensation payable to secured creditors as "adequate protection."

Less obviously, the option can be *destroyed* (not merely devalued) by the interplay of bankruptcy's automatic stay, which prevents immediate liquidation, and bankruptcy's lien-stripping rules, which force the creditor to accept payment equal to the current, judicially-appraised value of the collateral. To see this, begin with the fundamental rule for valuing the claims of a secured creditor: The creditor has a secured claim equal to the lesser of (a) the judge-determined value of the collateral and (b) the debt owed to the creditor.²¹ This is called "lien stripping" because the creditor's lien is reduced to the current value of the collateral if the total debt exceeds the collateral value. When lien stripping occurs, the creditor receives an unsecured claim equal to the deficiency.

This process makes sense if the judicial valuation is derived from an auction of the collateral.²² The process makes less sense if the collateral will be retained pursuant to a plan of reorganization. In that case, the judge must first estimate the collateral's value. Then the secured creditor will receive either cash or a lien plus a promise of future payments equal to the collateral's judicially determined value. This promise of future payment—where a new lien is crammed down on the creditors—destroys option value. Indeed, the promise of payment is often worth less—sometimes far less—than the present value of the collateral. This is true even if the judge's estimate is perfectly accurate in the sense that it pinpoints the collateral's present value.²³

To illustrate, assume Debtor enters bankruptcy with \$1,000 of unsecured debt and \$150 of secured debt. Secured Creditor has a lien on a key asset (perhaps the debtor's only asset) with uncertain value. There is an equal chance that the asset will be worth \$140 or \$60 in the future. If it were sold at auction, the asset would likely fetch its present value of \$100. But Debtor plans to retain the asset pursuant to a plan of reorganization, and it is the judge's job—not the market's—

²¹ Section 506(a) requires a judicial valuation: a creditor has a secured claim "to the extent of the value of such creditor's interest in the estate's interest" in the collateral.

²² When collateral is sold for cash at a well-conducted foreclosure or bankruptcy sale, the lender receives a market estimate of the present value of that collateral. Assuming an efficient market, the lender should be indifferent between a sale now and a sale in the future.

²³ This is not a problem if the reorganization plan will pay secured claims in cash in full at confirmation; in that case, the creditor can invest the proceeds and capture appreciation in the investment.

to value the asset. Debtor proposes, and the judge confirms, a reorganization plan that promises to pay the secured creditor \$100 over time.²⁴ Secured Creditor also gets an unsecured deficiency claim, worth \$50, but this claim has an expected value near zero because it is severely diluted by the \$1,000 owed to unsecured creditors.²⁵

Debtor's promise to pay the \$100 is, of course, not really worth \$100. The promise is risky. Suppose Debtor will honor this promise only if, post-bankruptcy, the value of the asset is revealed to be \$140. If the value of the asset turns out to be only \$60, Debtor will default with certainty. Assume that, if this happens, the asset is sold at foreclosure and that Secured Creditor's deficiency claim (\$40) is worthless.

Under these assumptions, even if the judge appraises the collateral at \$100, the expected value of Debtor's promise is only \$80. If the collateral rises in value to \$140, Debtor will pay only \$100 to Secured Creditor (plus a trivial recovery on account of its deficiency claim). If the collateral falls in value to \$60, Secured Creditor receives that amount from the foreclosure sale. Because these outcomes—\$100 and \$60—occur with equal probability, Secured Creditor's expected recovery is \$80. Thus, a combination of lien-stripping and the ability to cram the new lien down on the lender forces secured claimants to receive less than the market value of the collateral. If lien-stripping were forbidden, the Secured Creditor in our hypothetical would receive \$140 when the asset rises in value and \$60 when it falls. The expected recovery would be \$100, the same amount that the creditor expects from an immediate auction of the collateral.

The key problem, of course, is that the judge in our hypothetical is not discounting the promised future payments at a rate that reflects the risk of

²⁴ We are putting aside collateral valuation error, which generates the strategic behavior studied by Adler. Barry E. Adler, *Creditor Rights After Johnson and Dewsnap*, 10 Bankr. Dev. J. 1, 3-9 (1993/1994).

²⁵ Here we are assuming a Debtor that resembles the typical firm we see in Chapter 11: Highly insolvent, with trivial expected recoveries to unsecured creditors even in the best scenarios. The problems we document can disappear if the reorganization plan gives Secured Creditor a continuing claim against the firm on account of its deficiency claim, and if the payoff to this continuing claim is sufficiently high in good states of the world that Secured Creditors is compensated for the losses it faces in bad states. Our understanding is that these happy conditions rarely obtain, and indeed that senior creditors don't always benefit from happy conditions (a plan can cash out the deficiency claim for a small sum while giving equity to other unsecured creditors).

default. Under existing law, a secured creditor can demand an interest rate that compensates for this risk. But what interest rate would offer sufficient compensation? The rate must ensure that the present value of Debtor's future payments is equal to the current value of the collateral (\$100). There are two potential outcomes in our case. One is that Debtor defaults and Secured Creditor forecloses, recovering \$60. The present value of that recovery is \$30. Nothing can be done to increase the foreclosure recovery. The other, equally likely outcome is that Debtor honors its promise. How large should that promise be in order to ensure that Secured Creditor receives \$100 in present value? The answer is \$140. The present value of that promise—honored half of the time—is \$70. If we sum the creditor's expected recoveries in both potential outcomes (\$30 + \$70), we obtain a net present value equal to \$100. If the time for repayment is one year, this implies that the appropriate interest rate is 40%. As long as Debtor promises to pay \$100 plus 40% interest, Secured Creditor will receive deferred cash payments with a present value equal to the current value of the collateral (\$100).

The appropriate interest rate is therefore a rate that *reverses* lien stripping.²⁶ At a 40% interest rate, Secured Creditor is capturing the full future appreciation in collateral value. This undoes the effects of lien stripping and provides the

²⁶ In some cases, the interest rate would even raise the lien to a level higher than it was before it was stripped. In practice, it is difficult to know whether a judge would apply a discount rate that has this effect on lien stripping. As a matter of doctrine, the caselaw instructs courts to apply a discount rate that includes an appropriate "risk adjustment" or, if possible, to apply a rate that would be applied in market settings. See, e.g., *Till v. SCS Credit Corp.*, 541 U.S. 465, 479 (2004) (a Chapter 13 case); *In re Gramercy Twins Assoc.*, 187 B.R. 112, 123-24 (Bankr. SDNY 1995) (Chapter 11 case); *In re American HomePatient, Inc.*, 420 F.3d 559, 568 (6th Cir. 2005). But it seems unlikely that the risk adjustment will be sufficient to compensate secured creditors for the risk of default. Not only is the adjustment complex and controversial, but it appears that many courts favor an adjustment equal between one and three percent (above the prime rate). Gary W. Marsh & Matthew M. Weiss, *Chapter 11 Interest Rates After Till*, 84 Am. Bankr. L.J. 209, 231 (2010). This will be undercompensatory in many cases. See, e.g., *Till, supra*, at 488 ("The dissent might be correct that the use of the prime rate, even with a small risk adjustment, 'will systematically undercompensate secured creditors for the true risks of default.' ... This systematic undercompensation might seem problematic as a matter of policy. But, it raises no problem as a matter of statutory interpretation. Thus, although there is always some risk of nonpayment when A promises to repay a debt to B through a stream of payments over time rather than through an immediate lump-sum payment, § 1325(a)(5)(B)(ii) does not take this risk into account.").

creditor with a lien that is at or above the level of the original lien. Thus, any bankruptcy code that is committed to the notion of lien stripping is also a regime that systematically destroys the secured creditor's non-bankruptcy option to exercise foreclosure rights immediately and capture the full present value of the collateral.²⁷ This destruction is costly not only to the secured creditor, but can be inefficient as well because it diverts value to junior classes.²⁸ Although this redistribution occurs *ex post* (during a bankruptcy), it will distort *ex ante* capital structure decisions of borrowing corporations. As secured debt becomes more expensive in response to the possibility of *ex post* redistribution, some firms may find themselves unable to borrow (or borrow as much) on a secured basis. If secured debt has efficiency properties, as many scholars hypothesize, these distortions almost certainly bring costs.²⁹

²⁷ We can take steps to protect senior creditors' options. One is the §1111(b) election, which allows the creditor to give up its unsecured deficiency claim in exchange for a secured claim that is equal to the value of the collateral but supported by a lien equal to the original indebtedness. Even though the §1111(b) election increases the value of the creditor's lien it does not increase the real value of the payments required in a cramdown. This is useful to a creditor only if the debtor defaults when the value of the collateral has *appreciated*. Then the creditor can use the lien to capture that appreciation. But the risk of default will be relatively low when collateral appreciates. The real danger to a secured creditor is a default when collateral values have depreciated, and the §1111(b) election does nothing to address that danger.

²⁸ The inefficiency might be justified by other policies, such as preservation of viable going-concerns. That policy could be invoked in situations in which multiple lenders have liens against a single asset. These situations arise, for example, when a secured loan has been securitized: multiple investors will have claims (with the same or differing priority) against a single asset. Unless the intercreditor agreement has a collective action clause or other device for creditor cooperation, a distressed debtor will face high or prohibitive costs to negotiate a modification. Cramdown could have positive efficiency effects in these multi-creditor situations. When a lien has been securitized, bankruptcy law may be needed to solve the collective action problem that arises from competition across multiple creditors. Some kind of agreement must be imposed on the creditors. Cramdown can be seen as a simple solution with low administrative cost. In many situations, however, there are only one or two liens against a piece of collateral and the costs of negotiation are low. In these situations, the inefficiency of lien-stripping is high.

²⁹ Suppose, for example, that secured debt serves as a commitment device for financially weak firms that cannot otherwise convince investors to commit capital (e.g., by issuing unsecured debt with financial covenants). The secured debt protects the lender against the risk that the borrower will subsequently engage in conduct that reduces the lender's

2. Trading Off Options in Bankruptcy

The point of the foregoing discussion is to illustrate how the bankruptcy code implicitly re-allocates option value between junior and senior investors. In our view, any effort to protect junior investor options necessarily entails a reduction in protection for senior investor options, and any effort to protect senior investors will reduce the protection for junior investors. This trade off is inherent in the nature of bankruptcy. A system that alters non-bankruptcy rights to preserve value will, by definition, alter the rights and options of the various stakeholders. To select one option for protection, as much of the literature does, is to ignore the various other options and the dynamic interplay between them all.

One reaction to this trade-off is to ignore it, or at least be unconcerned about *ex post* reallocations of rights unless they create deadweight costs. It's not necessarily problematic that the bankruptcy process causes a significant reallocation of value between junior and senior investors because the parties can take steps *ex ante* to protect themselves. Junior investors can demand a higher rate of return as compensation for any *ex post* diversion of value to senior investors (and vice versa). The parties can also design capital structures that minimize the need for bankruptcy and the extent of value diversion *ex post*.³⁰

expected payment ("dilution"). See Alan Schwartz, *Priority Contracts and Priority in Bankruptcy*, 82 Cornell L. Rev. 1396 (1997), for a model along these lines. Lien-stripping and cramdown, working in tandem, weaken the ability of secured debt to serve as a commitment device because they expose secured creditors to "dilution" in bankruptcy. In response, secured lenders may increase the price of secured credit. Assuming borrowing firms know how likely they are to enter bankruptcy, but secured lenders cannot verify this, "low-risk" firms will face a price of secured credit that is too high relative to their risk level. Facing such a high price, these firms may not make productive investments. That is inefficient. The inefficiency could be even more severe in equilibrium. As low-risk firms drop out of the market, secured lenders will see a more risky set of borrowers and therefore further increase the price of secured credit. A lemons equilibrium could arise. Alternatively, a rationing equilibrium could result, with secured lenders offering a low price but randomly loaning to only a subset of borrowers. At such a low price, the applicant borrowers will include a mix of low-risk and high-risk types. Randomly choosing from this group may be more profitable than charging a high rate to only the high-risk types. See Joseph E. Stiglitz & Andrew Weiss, *Credit Rationing in Markets with Imperfect Information*, 71 Am. Econ. Rev. 393 (1981).

³⁰ This is really just a restatement of the Modigliani-Miller Theorem. Franco Modigliani and Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of*

Under this view, the only ex-post reallocations that matter are those that generate value destruction. Critics of the APR see the rule as just such a source of value destruction. The rule announces a common expiration date for all options and directs the bankruptcy judge to value the firm. Because everything hinges on the judicial valuation, the parties jockey to avoid or exploit valuation variance. In some cases, we get fire sales, induced by senior creditors seeking to avoid variance in judicial valuations. In others, we get inefficiently drawn-out reorganizations, induced by junior stakeholders seeking to exploit that variance. When scholars and policymakers advocate a “relative priority” regime, they are arguing for a regime that allocates options in a way that may reduce the risk of fire-sales and drawn-out reorganizations.

In our view, this is only an indirect way to avoid fire sales and inefficient reorganizations. It seems better, we think, to focus on the root problem: *The bankruptcy process is run by judges*. If asset sales were timed to avoid fire sales, if secured creditors were compensated fully for delay, and if asset valuations were unbiased and had low (or no) variance, we wouldn’t care about what the bankruptcy process does to the parties’ nonbankruptcy options. But assets can fetch fire sale prices when judges are convinced to conduct premature sales. And secured creditors can be undercompensated for delay when judges make errors in computing adequate protection. And, of course, judicial valuations are error-prone and volatile. But if we had an automatic system, that minimized judicial involvement, many of these problems would go away. Senior and junior investors would be cashed out of their positions at market values. If doing so destroys option value, the parties would make *ex ante* adjustments to their contracts. The key is not the preservation of the rights of the stakeholders. The key is the preservation of the value of the estate. These intuitions—that it is impossible (and unnecessary) to protect all options in bankruptcy and that fire sales and valuation are problems *only* when judges run the process—motivate the following proposal for an automatic process that minimizes judicial involvement.³¹

Investment, 48 Am Econ Rev 261, 268–71 (1958); see also Casey *supra* at 778-89 (exploring arguments why the Modigliani-Miller Theorem may or may not hold in this context).

³¹ We are, of course, not the first to advocate a system that minimizes the role of the judge. See, e.g., Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 J. Legal Stud. 127 (1986) and Lucian A. Bebchuk, *A New Approach to Corporate Reorganizations*, 101

3. An Automatic Process

We propose a restructuring process in which parties can elect *ex post* between a regime of relative priority and one of absolute priority. Bankruptcy judges are involved only if the parties invoke the absolute priority regime. The threat of a judicial valuation, if it is indeed a threat, can induce the parties to restructure the firm via a relative priority regime with minimal (or no) judicial oversight. Although we cannot identify the optimal “hypothetical bargain” that would have been struck by creditors and the debtor in a world with complete contracts and no transaction costs, our proposal creates a process that allows the parties to negotiate toward an optimal bargain while minimizing the costs (including errors) of the judicial process.

Under our proposal, the firm’s senior creditors hold the option to restructure the firm’s debt at any time after a contractually-defined default.³² If the restructuring option is exercised, the firm must be sold as a going concern immediately, as described below. If the option is not exercised, ordinary bankruptcy rules apply but the firm cannot be sold in bankruptcy: The debtor is either reorganized or liquidated piecemeal.³³ Thus, our proposal can be seen as a supplement to traditional bankruptcy law. It provides a new process for the going-concern sale procedures (“363 Sales”) that have evolved over the last two decades, but otherwise leaves bankruptcy law unchanged.

If the restructuring option is exercised, the senior lenders choose between two types of going-concern sales:³⁴ (i) a sale subject to warrants or (ii) a sale subject to appraisal. The first type pays junior investors in full or distributes warrants allowing them to capture future appreciation in the sold-off firm’s assets (“sale subject to warrants”). There is little need for judicial oversight of this type of sale process, though it would not be problematic to allow for high-level judicial oversight of the bidding procedures. The problems generated by judicial error

Harv. L. Rev. 775 (1988). Our proposal departs from prior proposals like these because it envisions a process that commences *before* bankruptcy.

³² We acknowledge that such a proposal would require either a change to state law (likely through Article 9 of the UCC) or a much broader scope for the bankruptcy code.

³³ The senior creditor could respond to a filing by exercising its restructuring option within a certain time frame. That way, the debtor cannot threaten to use liquidation as a means to thwart a going concern sale.

³⁴ If a piecemeal liquidation is thought optimal, the firm should be liquidated in a Chapter 7 or a traditional foreclosure proceeding, which our proposal would retain.

arise not from procedural oversight, but rather from substantive decision-making. Our proposal eliminates the latter.

The other type of sale—“sale subject to appraisal”—is a process in which the buyer takes the assets free and clear of investors’ claims, but the proceeds are distributed to senior and junior investors after a judicial appraisal hearing. The hearing would be similar to that used in conventional sale-of-control cases outside of bankruptcy. If the sale price is lower than the appraised going-concern value, senior investors must compensate juniors for the loss. A judge is therefore involved in the appraisal hearing, not the sale (though, once again, there could be a high-level role for hearing objections to egregious sale procedures).

By placing the restructuring option in the hands of senior lenders, our proposal not only preserves their non-bankruptcy option to liquidate or offer forbearance, but permits restructuring in advance of the kind of financial meltdown that often precedes a bankruptcy filing. Although senior lenders retain their non-bankruptcy option to accelerate the indebtedness, the payoffs from exercising that restructuring option—a sale subject to warrants or a sale subject to appraisal—are designed to reduce the risk of fire sales that harm junior investors.

Suppose, for example, that senior lenders are considering whether to exercise the restructuring option. If they opt for a sale subject to warrants, the price paid by the buyer will be discounted by the value of those warrants. Senior investors, in other words, must pay a premium to engage in a fire sale. They give up their absolute priority rights and transfer the option value to the junior creditors in the form of warrants. This translates to a reduction in the price that a buyer is willing to pay. Because the juniors are retaining their option value and thus getting the same as they would under a full reorganization, the senior creditors bear the full cost of a fire sale. Every dollar of discount in the value of the firm relative to a full reorganization is borne by the senior creditors, forcing them to internalize fully the cost of the sale.³⁵

Alternatively, senior investors can opt for a sale subject to appraisal. This preserves absolute priority. Here too, however, senior creditors can expect to pay compensation to juniors if the judge determines that the sale price was below the going-concern value of the firm. Because seniors must compensate juniors after

³⁵ See Casey, *supra* (modeling out the creditors incentives in a fire sale subject to warrants).

the fact, it will be unattractive to exercise the restructuring option when it exposes the firm to a fire sale.

If the sale is subject to warrants, these securities should entitle junior investors to buy the firm's assets at a price equal to the value of the senior investors' claims, regardless of the purchase price. The warrants would have a long duration, perhaps 5 or 10 years or perhaps they could be perpetual. This effectively preserves the junior investors' non-bankruptcy call option. If the sale price is below the seniors' claim, the buyer captures any appreciation up to the value of the seniors' claim. Further appreciation can be enjoyed by the buyer only after buying the juniors' warrants. In this way, the warrants permit a two-step sale: When the seniors exercise their restructuring option, the firm is sold subject to warrants (step 1). Later, the buyer can obtain full ownership of the firm by buying the juniors' warrants (step 2).

Of course some may argue that the warrants create a governance problem. The firm is sold to a new owner who has control but does not hold the rights to residual value of the firm. This introduces agency costs where ownership and control are separated.³⁶ It is likely that this problem will loom large for some companies, but not others. The more out-of-the-money the warrants are, the less the buyer should care that the warrants exist, especially if the volatility of asset value is low.

But the appraisal option addresses this problem. When agency costs are expected to be large, senior lenders will be more likely to favor a sale subject to appraisal. This choice places a cap on the costs that the warrants can impose. If the agency costs exceed the cost of appraisal, they won't be incurred.

On the other side of the equation, our proposal mitigates key problems under current law — appraisal variance and junior creditors taking advantage of judicial error. Because senior lenders choose which cases go to appraisal, the choice to invoke the procedure is taken out of the hands of those who have the incentive to exploit judicial error. And because the senior lender has the option to skip appraisal by using warrants, we place a ceiling on the harm caused by judicial error and valuation variance. When error is likely or when judicial valuation is expected to have high variance, the senior creditors will opt for a sale subject to warrants.

³⁶ See Casey *supra*, at 805 (discussing the possible agency costs introduced by granting non expiring options to junior investors).

One might object that where the warrants introduce high costs and variance from judicial error is high, the senior lenders will find themselves stuck between a rock and a hard place. A sale subject to warrants is costly, but a sale subject to appraisal is vulnerable to judicial error. This dilemma may induce senior lenders to opt for a traditional reorganization rather than a sale. That is true. But it may be a good thing. Cases where assets are so volatile that out-of-the-money warrants might actually pay out (otherwise a buyer wouldn't care) *and* where a judge's valuation is expected to have high variance are also the cases most likely to result in a fire sale if the assets are sold off. The value of those firms, both to the market and to judges is highly uncertain or highly volatile. The higher the volatility of an asset, the more likely a senior creditor will want to sell cheap and reduce its risk at the cost of the junior creditors. Put another way, when a senior creditor is particularly worried that both the market and the judge think that the firm is likely to be worth more than the senior debt, there may be good reason to think that the firm is in fact likely to be worth more than the senior debt.

In all of this it should be noted that a sale without appraisal requires the senior creditor to forgo its APR rights. This is likely a significant cost to the creditor. But it is the price that a creditor would pay to avoid judicial valuation. In that way, it places an outer-bound on the distortions that can be imposed by valuation. Thus, our proposal both reduces the variance of judicial involvement by permitting an after-the-fact appraisal hearing and gives creditors an escape valve for cases where that variance remains significant. The senior creditor then gets to choose the lesser of the evils that are necessary to avoid fire sales.

Our "automatic procedure" resembles Adler's "chameleon equity" proposal (and "bail-in," more generally) because a restructuring occurs without judicial intervention. It also resembles the proposals of Casey as well as Jacoby and Janger because the senior investors must compensate juniors for fire sales. Our procedure differs from prior proposals because it puts decision-making authority in the hands of senior investors. Whereas most prior work advocates limiting the power of senior lenders, ours would increase it in order to leverage the informational advantages of senior investors. Additionally, unlike prior proposals, ours integrates an out-of-court procedure (sale subject to warrants) with a judicial appraisal (sale subject to appraisal). The judicial appraisal, which

is central to the Jacoby and Janger proposal, is invoked here to function as a threat-point for the out-of-court restructuring.³⁷

³⁷ One other feature that many have highlighted in the Jacoby and Janger proposal is the requirement that the senior creditors post a bond. This bond is, in our view, of little consequence because senior creditors are unlikely to be judgment proof even without the bonds.