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# A POSITIVE THEORY OF CHAPTER 11

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*This Article is the first comprehensive analysis of the complicated voting rules of Chapter 11. Under these rules, only the debtor may propose a plan of reorganization during a lengthy exclusivity period, creditors are placed in classes which vote separately on the plan, voting is based on a bicameral system with both majority and supermajority requirements, and a plan may be confirmed only if, among other things, every nonconsenting creditor receives at least as much as it would have if the firm were liquidated under Chapter 7. Chapter 11's rules are idiosyncratic and difficult to understand, yet the literature on these rules is sparse. Several scholars have argued that it should be replaced with a system that avoids voting and relies on a more market-driven valuation process. To date, however, no one has tried to understand how all of the voting rules fit together. In this article, Professors Kordana and Posner expand on existing bargaining models to consider bargaining with multiple creditors, paying particular attention to difficulties posed by imperfect information, and analyze all of the major voting rules in Chapter 11. The authors utilize a positive analysis to achieve an increased understanding of the existing bankruptcy system and its costs and benefits, an essential prerequisite to reform of Chapter 11.*

## INTRODUCTION

When corporations file for bankruptcy, they choose whether to enter Chapter 7<sup>1</sup> or Chapter 11.<sup>2</sup> Under Chapter 7, the firm is liquidated: Its assets are sold off, and the proceeds are distributed to creditors roughly in order of priority. Under Chapter 11, the firm is reorganized, which means that some or all of the existing creditors and equityholders yield their contractual rights to receive transfers from the firm and receive new and usually less valuable rights in the new entity. The two chapters serve the same bankruptcy purpose of maximizing the payments to interest holders while respecting contractual entitlements as much as possible. The difference is that Chapter 7 is intended to apply when the firm is worth more in pieces than as a

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<sup>1</sup> See 11 U.S.C. §§ 701-766 (1994).

<sup>2</sup> See 11 U.S.C. §§ 1101-1174 (1994 & Supp. II 1996).

going concern, and Chapter 11 is intended to apply when the firm is worth more as a going concern.

Despite these similarities, the procedures under Chapter 7 and Chapter 11 are quite different. When a firm files under Chapter 7, a trustee takes control of the firm, marshals its assets, sells them, and distributes the proceeds. When a firm files under Chapter 11, a more complex process takes place. The firm's managers have the exclusive right to propose a plan of reorganization, which gives creditors cash, assets, or rights to payment streams from the reorganized firm. Creditors and other interested parties have no right to propose an alternative plan. The exclusivity period terminates after 120 days but the deadline is routinely extended by bankruptcy courts. When the exclusivity period ends, plans may be proposed both by the debtor and by any creditor.

A reorganization plan generally divides creditors into classes, usually on the basis of the similarity of their claims, and must give everyone in a class the same rights. Each class votes on the plan, and is deemed to accept the plan if a majority of the claims in the class are voted for the plan, and if the claims voted for the plan aggregate to at least two-thirds of the value of the claims in the class. If every class votes in favor of the plan, a court will generally confirm the plan. If a class does not vote in favor of the plan, the plan may be confirmed over its objection, but only if the creditors in the class are paid off in full or no class of junior priority receives any value under the plan. In addition, such a plan may be confirmed only if there is at least one class that is not paid in full (an impaired class) and that votes in favor of the plan, and if every nonconsenting creditor receives at least the value that it would if the firm were liquidated under Chapter 7.

Chapter 11's rules are idiosyncratic—they bear only passing relation to the insolvency procedures used in other countries<sup>3</sup>—and difficult to understand. Yet the literature on these rules is sparse. A few scholars have looked at elements of the system, but no one has tried to understand how all the voting rules fit together. The most relevant

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<sup>3</sup> See, e.g., Julian R. Franks & Walter N. Torous, *Lessons from a Comparison of US and UK Insolvency Codes*, 3 *Oxford Rev. Econ. Pol'y* 70, 72, 74-75 (1993) (explicating lack of creditor voting in most U.K. insolvency procedures, except for "Scheme of Arrangement"); Lynn M. LoPucki & George G. Triantis, *A Systems Approach to Comparing U.S. and Canadian Reorganization of Financially Distressed Companies*, 35 *Harv. Int'l L.J.* 267, 320-21 (1994) (outlining classification, claim and creditor based voting, and debtor agenda control in Canadian reorganizations); Patrick Ziechmann & Arthur D. Little, *Business Bankruptcy in Germany*, 16 *Am. Bankr. Inst. J.* 10, 24 (1997) (describing classification, claim and creditor based voting, and debtor/trustee agenda control in new German insolvency act).

papers are by Professors Baird and Picker<sup>4</sup> and Bebchuk and Chang,<sup>5</sup> which model bargaining between the debtor (or its management) and a single creditor under perfect information, and which focus on the exclusivity period. Although these papers illuminate small corners of the Chapter 11 system, they do not shed light on the system as a whole. The problem is that Chapter 11 is essentially about distributing value among many interests, not just two; information problems are pervasive in bankruptcy; and all of the voting rules work together, so that a focus on one or two is misleading.

This Article differs from the prior literature in three ways. First, we expand existing models to consider bargaining with multiple creditors. Second, we pay more attention to imperfect information. Third, we analyze all the voting rules in Chapter 11, not just two or three.

Our inquiry is important for several reasons. The current system has been in place for twenty years and, despite much dissatisfaction, has so far been resistant to reform. Although some have concluded from the stability of Chapter 11 that it is likely efficient,<sup>6</sup> several scholars have argued influentially that it should be replaced with a system that avoids voting and relies instead on a more market-driven valuation of the bankrupt firm, such as an auction system.<sup>7</sup> But before endorsing such a reform, one must be sure to understand how the existing system operates. Auctions and similar mechanisms have their own costs,<sup>8</sup> and these costs must be compared with the costs of a vot-

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<sup>4</sup> Douglas G. Baird & Randal C. Picker, *A Simple Noncooperative Bargaining Model of Corporate Reorganizations*, 20 *J. Legal Stud.* 311 (1991).

<sup>5</sup> Lucian Arye Bebchuk & Howard F. Chang, *Bargaining and the Division of Value in Corporate Reorganization*, 8 *J.L. Econ. & Org.* 253 (1992); see also Michelle J. White, *Corporate Bankruptcy as a Filtering Device: Chapter 11 Reorganizations and Out-of-Court Debt Restructurings*, 10 *J.L. Econ. & Org.* 268 (1994).

<sup>6</sup> See, e.g., Frank H. Easterbrook, *Is Corporate Bankruptcy Efficient?*, 27 *J. Fin. Econ.* 411, 413-14 (1990) (concluding that corporate bankruptcy offers little in way of transfers to interest groups, indicating efficiency must explain its durability).

<sup>7</sup> See, e.g., Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 *J. Legal Stud.* 127, 136, 139 (1986) (suggesting creditors might prefer sale of firm to third party, which reduces strategic behavior and places value on firm). Professor Bebchuk has argued that Chapter 11 should be replaced by a system in which creditors are granted options to buy shares of the reorganized debtor. See Lucian Arye Bebchuk, *A New Approach to Corporate Reorganizations*, 101 *Harv. L. Rev.* 775, 785-86 (1988). Creditors who exercise their options would need to pay higher priority creditors in full; if no options are exercised the secured creditors receive the equity in the reorganized firm. See *id.* at 786-87; see also Robert K. Rasmussen, *Debtor's Choice: A Menu Approach to Corporate Bankruptcy*, 71 *Tex. L. Rev.* 51, 67 (1992) (suggesting corporate reorganization statutes should only establish default rules); Mark J. Roe, *Bankruptcy and Debt: A New Model for Corporate Reorganization*, 83 *Colum. L. Rev.* 527, 559 (1983) (suggesting reorganized firms issue fraction of equity to public in order to place value on firm).

<sup>8</sup> See, e.g., Barry E. Adler, *Financial and Political Theories of American Corporate Bankruptcy*, 45 *Stan. L. Rev.* 311, 320-21 (1993) (discussing indirect costs such as those of

ing system. In addition, the voting system may have benefits that auctions lack: For example, it might induce creditors to reveal information about the firm's value even in the presence of imperfect capital markets.

This Article sheds light on these questions by analyzing the operation of the voting rules in Chapter 11. These voting rules can be characterized in the following stylized way: (1) debtor's exclusivity period; (2) distribution floors (the Chapter 7 liquidation value); (3) the absolute priority rule (higher priority creditors are paid before other creditors); (4) bicameralism (referring to the coexistence of two voting schemes, one based on the number of claims, and one based on the value of claims), and majority and supermajority rule; (5) classification and equal treatment. Part I describes the conceptual framework that is used to analyze these rules, and Parts II-V provide the analysis of each rule. Throughout, we assume that managers act in the interest of shareholders and that creditors cannot buy and sell claims. Part VI relaxes these assumptions. A brief Conclusion discusses the implications of the analysis for reform of Chapter 11.

## I

### MODELING CHAPTER 11 PROCEEDINGS

#### A. *The Purpose of Chapter 11*

We assume that the purpose of Chapter 11 is to minimize the cost of credit.<sup>9</sup> We put aside arguments that Chapter 11 has broader functions, such as to redistribute wealth or provide a safety net.<sup>10</sup> For now, we focus on whether the specific voting rules of Chapter 11 can plausibly be said to minimize the cost of credit.<sup>11</sup>

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bidders investigating firm); Easterbrook, *supra* note 6, at 415 (discussing costs of going public).

<sup>9</sup> This means to minimize interest rates, consistent with allocational efficiency. If, for example, certain risks or costs can be borne more cheaply by creditors than by debtors, those costs should be assigned to creditors even though that will result in a somewhat higher interest rate.

<sup>10</sup> Compare Elizabeth Warren, *Bankruptcy Policy*, 54 U. Chi. L. Rev. 775, 787-88 (1987) (discussing reorganization's cushioning of losses to employees, customers, suppliers, and municipalities), with Douglas G. Baird, *Loss Distribution, Forum Shopping, and Bankruptcy: A Reply to Warren*, 54 U. Chi. L. Rev. 815, 817-18 (1987) (rejecting bankruptcy policy goals, such as worker protection, that do not track nonbankruptcy law), and Alan Schwartz, *A Contract Theory Approach to Business Bankruptcy*, 107 Yale L.J. 1807, 1814-19 (1998) (criticizing arguments in favor of bankruptcy goals other than efficiency).

<sup>11</sup> There may be public choice reasons for thinking that the rules are or are not efficient. On the one hand, creditors as a group gain nothing from inefficient rules that favor them over debtors, since they must pass these gains back to debtors in the form of lower interest rates. On the other hand, certain kinds of creditors, and other parties such as attorneys, might gain from inefficient rules. See Eric A. Posner, *The Political Economy of*

In a typical credit contract, the creditor receives payments of principal and interest as long as the debtor is solvent, and obtains a claim against the debtor's assets if the debtor defaults. The interest rate must compensate the creditor, in the aggregate, for its expected losses from default. This means that the interest rate increases as the probability of default increases, as the assets available to the creditor upon default decline in value, and as the cost of collection increases.

The standard justification for a bankruptcy system is that it maximizes the value of the debtor's assets in case of default.<sup>12</sup> In the absence of a bankruptcy system, creditors would exercise their state court remedies individually, which would result in the debtor being liquidated in piecemeal fashion even though value would be maximized through sale of the debtor's assets together or through reorganization of the debtor.<sup>13</sup> The last point is our concern. If the liquidation value exceeds the going concern value, the firm should be liquidated; otherwise the firm should be reorganized. The optimal system of corporate reorganization captures the going concern *surplus*, if any, and distributes the firm's value to the creditors in the form of money or securities (without simultaneously increasing the probability of bankruptcy or causing other *ex ante* distortions<sup>14</sup>).

How might a system of reorganization maximize the going concern surplus? It must ensure that information is aggregated properly.

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the Bankruptcy Reform Act of 1978, 96 Mich. L. Rev. 47, 111-12 (1997) (discussing lawyers' lobbying in favor of fee generating reorganization rules).

<sup>12</sup> See Thomas H. Jackson, *Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors' Bargain*, 91 Yale L.J. 857, 864 n.34 (1982) (identifying bankruptcy as solving common pool problem); Schwartz, *supra* note 10, at 1812 ("[A] bankruptcy system should maximize the *ex post* value of the insolvent firm . . .").

<sup>13</sup> See Jackson, *supra* note 12, at 864 (suggesting creditors benefit from nonpiecemeal bankruptcy process).

<sup>14</sup> We will for the most part ignore the problem of prebankruptcy incentives, including equity's incentive to fail to maximize the value of the firm in anticipation of bankruptcy. See Jeremy I. Bulow & John B. Shoven, *The Bankruptcy Decision*, 9 Bell J. Econ. 437, 439, 445 (1978) (observing that equity "seek[s] to avoid bankruptcy" and may not follow value maximizing course). It is sufficient to note that because the voting rules give the debtor a return in bankruptcy even for a risky project, and the debtor enjoys the upside of any risky project, the debtor has an incentive to overinvest in risky projects in anticipation of bankruptcy (the "overinvestment" problem). Creditors faced with this overinvestment risk might demand high interest rates that would drive out even positive net present value projects. See Schwartz, *supra* note 10, at 1828 ("[T]he possibility of moral hazard can prevent the firm from financing some projects . . ."). On the other side, the irony is that if a bankruptcy system respects creditors' rights too well, managers will enter bankruptcy only as a last resort; it might benefit creditors if managers (or the firm) retained some value in bankruptcy, thus preventing managers from waiting too long before filing. See *id.* at 1827 (discussing necessity of bribing management to make correct decisions); Michelle J. White, *The Corporate Bankruptcy Decision*, 3 J. Econ. Persp. 129, 149 (1989) (stating that absolute priority rule based bankruptcy procedure would increase inefficient management behavior).

The debtor, the creditors, and independent parties like examiners and trustees will generally have incomplete and only partially overlapping information about the value of the firm. If they can be forced to reveal their information, the latter can be used to determine whether the firm should be liquidated or reorganized, and if reorganized, how. Information aggregation, however, is costly: It is costly both to analyze a firm's finances and to endure delay while information is gathered and disclosed. So the optimal system of corporate reorganization balances the gain from information aggregation against the cost. The total payout to all parties should be maximized by choosing an optimal capital structure as expeditiously as possible.

Bankruptcy law should not merely maximize going concern surplus.<sup>15</sup> If the law maximized the going concern value of firms but gave the entire value to the debtor, then creditors would anticipate receiving no value in bankruptcy and charge very high interest rates. Thus, bankruptcy law must also respect credit contracts that establish "prebankruptcy entitlements." Although there is some controversy over this issue,<sup>16</sup> we assume that creditors and debtors should have the power to determine in their prebankruptcy credit contracts the creditors' rights in bankruptcy. Creditors and debtors sometimes prefer low-risk credit, which gives the creditor high priority in bankruptcy and the debtor a low interest rate, and they sometimes prefer high-risk credit, which gives the creditor low priority in bankruptcy and the debtor a high interest rate. These arrangements are obtained through security agreements, debt covenants, and other contracts. Enforcing these arrangements will be referred to as "respecting prebankruptcy entitlements."

The two goals of bankruptcy law—maximizing firm value *ex post* and respecting prebankruptcy entitlements—are often in tension. On the one hand, the law could easily maximize firm value *ex post* by giving all value to the debtor, but then because the creditors would anticipate no value if the debtor defaults, they would charge high interest rates and the cost of credit would not be minimized. On the other hand, if the law fully respected prebankruptcy entitlements, it might be impossible to create the proper incentives to maximize firm

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<sup>15</sup> When we refer to the goal of "maximizing going concern surplus," we mean to include the time value as well as the absolute value.

<sup>16</sup> See Lucian Arye Bebchuk & Jesse M. Fried, *The Uneasy Case for the Priority of Secured Claims in Bankruptcy*, 105 *Yale L.J.* 857, 882 (1996) (stating secured debt can transfer value from "nonadjusting creditors"); Alan Schwartz, *The Continuing Puzzle of Secured Debt*, 37 *Vand. L. Rev.* 1051, 1068-69 (1984) (doubting secured debt's efficiency and noting that its preference upon default can be inequitable); Robert E. Scott, *The Truth About Secured Financing*, 82 *Cornell L. Rev.* 1436, 1462 (1997) (stating balance of secured debt's efficiencies and inefficiencies is "largely unknown").

value in bankruptcy because those who control the firm—the managers and shareholders—are not the residual claimants when the firm is insolvent. In addition, because many postbankruptcy events are non-contractable, prebankruptcy arrangements will be incomplete and will fail to provide for optimal ex ante incentives. For example, the firm's liquidation value might be 100, and its going concern value only 95, but trade creditors might receive a return of 10 if the firm is reorganized rather than liquidated, whereas banks with identical prebankruptcy claims would not receive these postbankruptcy returns. If the trade creditors' interests cannot be contracted about ex ante, a bankruptcy law that failed to recognize them would result in inefficient plans.

How does Chapter 11 resolve the tension between maximizing firm value ex post and respecting prebankruptcy entitlements, if indeed it does? The next sections address this question.

### *B. Modeling Chapter 11 Bargaining*

To analyze bargaining in Chapter 11, one must distinguish the goal of information aggregation and the problem of opportunistic behavior. If parties always acted sincerely, then the optimal Chapter 11 would solve the problem of how to gather information from parties and aggregate this information in the proper way. Because parties do not act sincerely, however, one must analyze how reorganization rules affect parties' incentives to engage in strategic behavior. This task requires two more distinctions. First, we distinguish between two-party bargaining and multiparty bargaining. Second, we distinguish between bargaining under perfect information and bargaining under imperfect information. These distinctions produce four models: two-party bargaining with and without perfect information, and multiparty bargaining with and without perfect information. Each model highlights aspects of the bankruptcy bargaining problem. These aspects will be summarized at the conclusion of the discussion.

#### *1. Sincere Voting and Information Pooling*

If bankruptcy courts had perfect information, they could impose a plan that both maximized going concern value and paid creditors in a manner that respected prebankruptcy entitlements; voting rules would be unnecessary. The existence of voting rules assumes that the judge has imperfect information and that creditors collectively have better information. But Chapter 11 does not assume that the judge has *no*



information. It combines creditor voting and judicial oversight.<sup>17</sup> The judge must have enough information to determine the liquidation value of the firm and, of course, to administer the voting rules. This requires, among other things, the capacity to verify the identity of claimants and the value of claims. Accordingly, we initially assume that the court has such information, but in later sections we will modify these assumptions and address the problem of judicial error.

Why might voting rules make sense from the perspective of information aggregation? Suppose that a single plan is proposed, and creditors vote either for the plan or for liquidation. Assume that every creditor has an equal probability,  $p$ , of voting correctly, and that probability is greater than 0.5. The latter assumption seems reasonable: A completely uninformed creditor who flipped a coin would vote correctly with a probability of 0.5, so if a creditor has any information, its probability will exceed 0.5. The Condorcet Jury Theorem shows that if probabilities are independent (that is, creditors do not imitate each other or base their estimates on the same information), then as the number of creditors increases, the probability of the correct decision being made increases rapidly and approaches 100%.<sup>18</sup> The significance of this result is that even if each creditor has relatively little information, and even if it is barely better than a flip of the coin, a large enough group can make quite a good estimate.<sup>19</sup> This result can be easily extended to cases where  $p$  varies among creditors. If some creditors are more competent than others, then the group will

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<sup>17</sup> Compare 11 U.S.C. § 1126(c) (1994) (setting forth creditor voting rules), with *id.* § 1126(e) (granting judge discretion to disallow votes if made in bad faith).

<sup>18</sup> Let  $p$  represent the probability that a creditor votes correctly, with  $0 < p \leq 1$ , and let  $q = 1 - p$ . There are  $n$  creditors. We assume that  $n$  is an odd number for expository clarity; nothing turns on this assumption. Let  $x = (n+1)/2$ . If  $P_n$  is the probability that a majority of the creditors vote correctly, then  $P_n = \sum_{k=x}^n \binom{n}{k} p^k q^{n-k}$ .

For example, if  $p = 0.6$ , and  $n = 15$ ,  $P_n = 0.7854$ . See Nicholas R. Miller, *Information, Electorates, and Democracy: Some Extensions and Interpretations of the Condorcet Jury Theorem*, in Bernard Grofman & Guillermo Owen, *Information Pooling and Group Decision Making* 173, 175-77 (1986) (presenting Condorcet Jury Theorem).

<sup>19</sup> If individual votes are not independent, the amount of vote pooling that occurs might be quite limited: If several creditors indicate which way they will vote (and are believed to be sincere) it may be sensible for other creditors to follow their lead rather than vote based on their own information. Such an "informational cascade" can lead to herd behavior. See Sushil Bikhchandani et al., *Learning from the Behavior of Others: Conformity, Fads, and Informational Cascades*, 12 *J. Econ. Persp.* 151, 154-55 (1998) (describing such an outcome). If the independence criterion is only weakly violated, however, significant information pooling may still occur. See Krishna K. Ladha, *The Condorcet Jury Theorem, Free Speech, and Correlated Votes*, 36 *Am. J. Pol. Sci.* 617, 625-29 (1992) (concluding that beneficial information pooling occurs even if votes are correlated, so long as average of coefficients of coordination is not unduly high).

be more competent than the average creditor and in some cases will be more competent than the most competent creditor.<sup>20</sup>

The Condorcet Jury Theorem presents an argument for voting in Chapter 11 reorganizations. Suppose that instead a judge independently decided whether to reorganize or liquidate a firm. It is highly unlikely that the judge has more competence than the average creditor, and even more unlikely that the judge has more competence than the most competent creditor. If creditors vote honestly, then they are much more likely as a group to vote correctly than is a single judge. Similarly, if creditors vote sincerely, it is more likely that a firm will be correctly liquidated or reorganized than if creditors submit sealed bids in an auction.<sup>21</sup>

If creditors have different competences, then the optimal voting system will give more weight to creditors with greater competence.<sup>22</sup> If competence increases with the value of a claim, larger creditors should have disproportionate voting power in reorganization proceedings. A small creditor that knows nothing about the firm ( $p=0.5$ ) should have no voting power (weighting equals 0), while a large bank with intimate knowledge about the firm ( $p$  approaches 1), should have a great deal of voting power. Similarly, if the debtor has a great deal of private information about the optimal reorganization, it should have disproportionate voting power.

## 2. *Strategic Voting with Two Parties and Perfect Information*

The previous section assumes that the parties do not act strategically. In this model, a creditor that believes a firm is worth more as a going concern than as a pile of assets will vote in favor of reorganization even if it would receive a higher payout under Chapter 7 than under Chapter 11. But such behavior is not rational. Henceforth, we assume that the parties act strategically. We describe four models of strategic behavior in Chapter 11. In these models we assume that the parties have perfect information with respect to the optimal reorganization of the firm. We discuss bargaining among two or more parties and bargaining when parties have perfect or imperfect information with respect to other parties' valuations of the reorganized firm. We

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<sup>20</sup> See Miller, *supra* note 18, at 177.

<sup>21</sup> However, auctions can be designed to enable pooling of information. For example, if each creditor bids after observing a bid by another creditor, some information pooling will occur. See Donald Wittman, *Information Pooling in Auctions*, in Grofman & Owen, *supra* note 18, at 219, 221 (discussing information revelation from sequential, open bidding).

<sup>22</sup> See Bernard Grofman & Guillermo Owen, *Review Essay: Condorcet Models, Avenues for Future Research*, in Grofman & Owen, *supra* note 18, at 93, 95 (specifying optimal weighting given varying competences).

start with a model of bargaining between two parties with perfect information about each other's valuations.

The players are equity (E) and creditor (H). H can be thought of as either one creditor or, more helpfully, as a hypothetical representative of multiple creditors. Bargaining occurs over  $T$  rounds; the firm is liquidated in round  $T$  if E and H have not reached agreement on a reorganization plan. H has a claim,  $c$ , against E. In each round E can either propose a plan that offers  $x(t)$ , or decline to make an offer. If E makes an offer, H can accept the offer or reject the offer. If H rejects the offer in round  $t$ , E then has the choice to make an offer or not in round  $t+1$ . The liquidation value,  $v$ , and the going concern value,  $s$ , remain constant.<sup>23</sup> For convenience,  $s \geq v$ ; if  $s = v$ , the firm has no going concern surplus. We assume  $c > s$ . Parties have equal discount factors,  $d$ , per round.<sup>24</sup> Parties have complete and perfect information, and common knowledge is assumed.<sup>25</sup>

To solve the game, we use backward induction. Consider the parties' expectations at round  $T-1$ . If H rejects E's offer, H will receive  $v$  in round  $T$ , which is worth  $dv$  in round  $T-1$ . To prevent H from rejecting the offer, E must make a penultimate round offer of an amount  $x(T-1)$ , such that  $x(T-1) \geq dv$ . To avoid excess notation, we assume that H will accept an offer if the payoff from acceptance is no less than the payoff from rejection. Thus, to maximize its own payoff, E offers  $x(T-1) = dv$ . E retains for itself  $s - dv$ . At round  $T-2$ , if H rejects E's offer, H will receive  $d^2v$ . So E offers  $x(T-2) = d^2v$ , retaining for itself  $s - d^2v$ . At round  $T-3$ , E offers and H accepts the amount,  $d^3v$ . Continu-

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<sup>23</sup> We make this assumption for expository simplicity; realistically,  $s$  declines steadily during the bankruptcy because of the costs of reorganization, although it might also fluctuate up or down as a result of market changes. One could model these influences formally, see Bebchuk & Chang, *supra* note 5, at 265-66; however, for simplicity we exclude these influences. As we discuss below, they do not change our qualitative results. For now, one might imagine that the firm remains viable as a going concern until  $t=T$ , when the judge converts the case to a Chapter 7 liquidation because the parties have failed to reach agreement in a reasonable time.

<sup>24</sup> Because  $s$  remains constant until  $t=T$ , a reorganization that occurs at round 0 does not technically generate greater going concern value than a reorganization that occurs at round 1. In both cases, going concern value is  $s$ . However, as noted above, see *supra* note 15 and accompanying text, what we care about is payout, not going concern value, and payout is a function both of going concern value and of time value. So a reorganization in round 0 produces a larger payout than a reorganization in round 1, a fact represented by discount factors. Alternatively,  $d$  can be interpreted as a decay value of  $s$ , so that  $d^t s$  represents the going concern value of the firm at round  $t$ . But this interpretation would not allow us to assign different discount factors to different creditors, as we do later in this analysis, so we will not use it. Our assumption of a common  $d$  can be understood as assuming well-functioning capital markets, an assumption we subsequently relax.

<sup>25</sup> A list of all the variables used in this Article, and their definitions, can be found in the Appendix.

ing in this vein, H will demand (in round 0) and receive  $x(0)=d^T v$ . E retains  $s-d^T v$ , the going concern value minus the discounted liquidation value.<sup>26</sup> So payoffs are  $\{s-d^T v, d^T v\}$  for  $\{E, H\}$ .

There are two main points of interest to be drawn from this model. First, going concern value is maximized because agreement always occurs on the first round.<sup>27</sup> Second, prebankruptcy entitlements are violated. There is an important connection between these two outcomes. Going concern value is maximized precisely because E is allowed to violate prebankruptcy entitlements. If E were not allowed to retain any value for itself, it would not expend any effort to propose the plan (since  $c>s$ , by assumption). The violation of prebankruptcy entitlements is substantial. E obtains not only the going concern surplus ( $s-v$ ), but a portion of the undiscounted liquidation value as well ( $v(1-d^T)$ ).<sup>28</sup> Notice that H's payoff is independent of  $c$ .

Some complications should be noted. First, the exclusivity period,  $e$ , may lapse before bargaining ends. In our model, we assumed that  $e=T$ . This assumption is reasonable under certain circumstances. It means that (i) the parties discount the future heavily, (ii) going concern value declines rapidly, or (iii) the creditors do not expect to be able to confirm their own plan after the exclusivity period ends—so that, on average, bargaining would not continue beyond round  $e$  if the parties could not agree in earlier rounds. However, under plausible conditions,  $e<T$ , which means that after round  $e$ , H is entitled to make a counteroffer. A model of alternating offers at  $t>e$  implies that H and

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<sup>26</sup> This is the basic Rubinstein bargaining model, see Ariel Rubinstein, *Perfect Equilibrium in a Bargaining Model*, 50 *Econometrica* 97 (1982), with perfect information that is also used by Baird & Picker, *supra* note 4, at 329-30 n.42 and Bebchuk & Chang, *supra* note 5, at 260-61. Professors Baird and Picker, however, use an alternating offer version of the model. See *infra* note 60.

<sup>27</sup> As noted earlier, see *supra* note 15, "maximization of going concern value" in this context refers both to the fact that  $s$  is captured (when it would not be if agreement fails and the firm is liquidated at  $t=T$ ), and that agreement occurs in round 0 rather than a later round, given that parties discount future payoffs.

<sup>28</sup> One might argue that the court would reject such a plan because it gives the creditor in round 0 the discounted liquidation value, rather than the actual liquidation value, as required by the Code. See 11 U.S.C. § 1129(a)(7)(A)(ii) (1994) (stating that each creditor will receive at least as much as she would receive if debtor was liquidated under Chapter 7). However, the Code also provides that the court should not enforce the liquidation floor if there is unanimous consent to a plan. See *id.* § 1129(a)(7)(A)(i) (allowing court to confirm plan if each member of impaired class accepts it). Ironically, the creditor's power to waive its right to actual liquidation value injures its interests when the debtor has all the bargaining power. We discuss these issues in greater detail in Part III, *infra*.

E would divide the surplus that is saved by agreeing at  $e$  rather than  $T$ .<sup>29</sup>

The analysis is difficult because it is not clear how much the existence of cram down, which refers to a party's ability to force the other to accept a plan,<sup>30</sup> affects relative bargaining power. However, we can identify the two extreme results which bracket the range of possible outcomes. First, suppose that at any time after the exclusivity period H can cram down a plan that pays it before E. At round  $e$ , E will have to offer  $s$  (recall that  $c > s$ ) and H will accept. Thus, in the first round E will offer  $d^e s$ . E retains  $s - d^e s$ . Notice that if  $e = T$ , then E will offer  $d^T v$  (as in the basic model), because at time  $T$ , H can obtain only  $v$ , not  $s$ .

Second, suppose that H has no cram down power. At round  $e$ , the going concern value is  $s$ , and the discounted liquidation value at time  $T$  is  $d^{T-e} v$ . If E and H have identical discount factors, then E will offer about  $\frac{1}{2}(s + d^{T-e} v)$  at round  $e$ ,<sup>31</sup> and H will accept rather than reject and make a counteroffer. Thus, in the first round E will offer  $d^e(\frac{1}{2})(s + d^{T-e} v)$  and H will accept. E retains  $s - d^e(\frac{1}{2})(s + d^{T-e} v)$ .

Since cram down is not always practicable,<sup>32</sup> the analysis gives us a range of possible divisions of value. H receives  $[d^e(\frac{1}{2})(s + d^{T-e} v), d^e s]$ ; E receives  $[s - d^e(\frac{1}{2})(s + d^{T-e} v), (1 - d^e)s]$ . Note that E always obtains a portion of the going concern surplus, an advantage attributable to its agenda control during the exclusivity period. H might receive a portion of the going concern surplus. For example, with cram down H receives  $d^e s$ , which could be, though is not necessarily, greater than  $v$ .

Further, the value of  $s$  and  $v$  can vary. On average,  $s$  might decline because a firm's resources are diverted to expenses associated with the reorganization process and because during reorganization managers might have poor incentives to maximize the value of the

<sup>29</sup> This assumes the two parties hold the power to propose a plan on alternate rounds. See Bebchuk & Chang, *supra* note 5, at 261, 267 (discussing division of value between debtor and equity when both can make offers).

<sup>30</sup> See *infra* Part III.B.

<sup>31</sup> That is, H and E split the surplus  $(s - d^{T-e} v)$  available at round  $e$ , and H still receives the present value of  $v$  in round  $e$  ( $d^{T-e} v$ ), so H receives  $\frac{1}{2}(s - d^{T-e} v) + d^{T-e} v$ .

Technically, the split in the surplus would not be  $\frac{1}{2}$ , but rather the party who made the first offer would offer the other party  $d/(1+d)$ . See Robert Gibbons, *Game Theory for Applied Economists* 68-71 (1992) (analyzing division of value under sequential bargaining). That is, if the discount factor is .95, the offer will be to give the other party  $.95/1.95 = 48.7\%$  of the savings. The offeree would accept this, since he cannot make a counteroffer that will be accepted and that gives him more. However, if, by assumption, E and H are equally likely to make the first offer, half the time they would receive 48.7% and half the time 51.3%, which averages out to an equal division of the surplus.

<sup>32</sup> The reason for this ambiguity is that cram down requires judicial confirmation, see 11 U.S.C. § 1129(b)(1) (1994), and the court may make errors. For example, if the court incorrectly believes that  $c < s$ , it will refuse to cram down a plan giving the entire value of the firm to H, thus frustrating H's ability to have its prebankruptcy entitlement respected.

firm. This, however, does not affect our analysis when  $e=T$ , because E always gives H slightly more than discounted liquidation value, which H will always accept, and  $s$  plays no role in the bargaining. When  $e<T$ , H expects  $d^c$ s when it has the cram down power, in which case the possibility that  $s$  will decline reduces the amount that H will accept in the first round. The value of  $s$  may also fluctuate with exogenous changes in the market. Again, this does not affect our analysis when  $e=T$ , because H will never accept less than its discounted liquidation value. When  $e<T$ , the possibility of fluctuation benefits E, because a spike upward (after round  $e$ ) can result in H being paid off in full and E receiving the entire residual (we assume no cram down power here), whereas a sharp decline is shared. The asymmetry gives E an option value from delay.<sup>33</sup> In addition,  $v$  might decline (or increase) for either of these reasons, but further discussion of these complications would take us too far afield.

Neither complication alters the qualitative conclusions of the basic model: Agreement occurs immediately, so delay costs are avoided and going concern value is maximized; and the debtor obtains more value than it would if prebankruptcy entitlements were respected.

### 3. *Strategic Voting with Two Parties and Imperfect Information*

E, H, or both parties might have private information. E might have private information about its liquidation or going concern value, because its managers specialize in understanding the firm and its market sector. H might have private information about its valuation of a reorganized firm, which we call its "postbankruptcy interest." For example, trade creditors or employees might obtain value from dealing with a reorganized version of the debtor, which cannot occur if the debtor is sold off in pieces. Further, both E and H might have private information about their discount factors (if imperfections in the capital market prevent them from engaging in optimal borrowing, such that discount rates vary).

For the moment, assume that only E has private information about its value,  $E_l$  (with low value) or  $E_h$  (with high value), and that each firm,  $E_i$ , has liquidation value  $v_i$  and going concern value  $s_i$ .<sup>34</sup> A

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<sup>33</sup> See Bebchuk & Chang, *supra* note 5, at 264 (discussing impact of volatility in firm's value on equity's share).

<sup>34</sup> This model is a slightly modified version of that found in John Kennan & Robert B. Wilson, *Bargaining with Private Information*, 31 *J. Econ. Literature* 45, 57-63 (1993) (discussing screening rather than signaling). See Anat R. Admati & Motty Perry, *Strategic Delay in Bargaining*, 54 *Rev. Econ. Stud.* 345, 359-60 (1987) (discussing delay as separating strategy). An interesting imperfect information model of corporate reorganization can be found in White, *supra* note 5.

firm has low value with a probability of  $q_l$  and high value with a probability of  $q_h$ . Because of the exclusivity period,  $E_i$  has the power to make an offer immediately or to delay before making an offer. It might choose to delay in order to signal that its value is low. The game continues for  $e=T$  rounds, and then ends with the liquidation of  $E_i$  if an offer has not been accepted.  $E_i$ 's payoff is its going concern value ( $s_i$ ), high or low, minus the value of the offer accepted at round  $t$ , discounted to present value:  $d^t(s_i - x(t))$ . H's payoff is  $d^t(x(t))$ .

Two kinds of equilibrium can result: separating or pooling. In a separating equilibrium, the parties with private information engage in different actions, thus revealing their information. In a pooling equilibrium, the parties engage in the same actions, so their private information remains concealed.<sup>35</sup> Our model can produce both kinds of equilibrium.

In the separating equilibrium,  $E_h$  offers  $d^T v_h$  in round 0;  $E_l$  delays and offers  $d^{T-t} v_l$  in round  $t$ ; H accepts either offer; and H believes that a first round offer of  $d^T v_h$  can only be from  $E_h$ , and that an offer following a delay can only be from  $E_l$ . Thus, if the firm is high value, H receives  $d^T v_h$  and E retains  $s_h - d^T v_h$ . If the firm is low value H receives  $d^t(d^{T-t} v_l)$  (which equals  $d^T v_l$ ) and E retains  $d^t(s_l - d^{T-t} v_l)$ . The explanation for this result is that delay can signal that the firm is low-value, because a high-value firm loses more from delay than a low-value firm does. Note first that  $E_h$  must make a first round offer greater than or equal to H's discounted liquidation value,  $d^T v_h$ , in order to deter H from rejecting the offer, assuming H believes first round offerors are high-value. If H believes that anyone who delays is low value, H will accept an offer delayed to round  $t$  so long as it equals  $d^{T-t} v_l$ , by similar reasoning. To understand why H would have these beliefs, note that H must consider the possibility that  $E_h$  would mimic  $E_l$  and delay before making an offer. If both types delayed until round  $t$ , then H would accept only if the offer equaled the expected liquidation value, which is  $d^{T-t} v_o$ , where  $v_o = q_h v_h + q_l v_l$ . Thus,  $E_h$ 's expected payoff from pooling would be  $d^t(s_h - d^{T-t} v_o)$ . Therefore, the separating equilibrium can be sustained only if:  $s_h - d^T v_h > d^t(s_h - d^{T-t} v_o)$ , for all  $0 < t < T$ . This means that  $E_h$  maximizes its share by revealing itself in the first round to be a high-value firm, rather than mimicking  $E_l$  and waiting until a later round. Finally,  $E_l$  prefers to delay until round  $t$ , if  $d^t(s_l - d^{T-t} v_l) > s_l - d^T v_h$ .<sup>36</sup> These conditions are met as long as there is a sufficient dif-

<sup>35</sup> See Douglas G. Baird et al., *Game Theory and the Law* 255, 312 (1994) (defining pooling equilibrium and illustrating through example).

<sup>36</sup> This equilibrium might seem plausible only if  $d^t(s_l - d^{T-t} v_l) > s_l - d^T v_o$ . If it is not, then both types of E do better in the pooling equilibrium, where they make a first round offer of  $d^T v_o$  and H accepts. See id. at 307 (defining Farrell, Grossman, and Perry refinement as

ference between  $v_h$  and  $v_l$  and between  $s_h$  and  $s_l$ ,  $q_t$  is not too small or large, the relevant bargaining period ( $T$ ) is sufficiently long, and discounting is not too high or low. Otherwise, pooling will occur. With pooling,  $E_i$  would make a first round offer of  $d^T v_o$ , and H would accept it.  $E_i$  retains  $s_t - d^T v_o$ .

The model shows that if  $E_i$  has private information about its liquidation value, it may delay in order to signal that it has a low valuation.  $E_h$  and H agree in the first round, with  $E_h$  obtaining the entire going concern surplus plus a portion of the initial liquidation value (just as in the perfect information model<sup>37</sup>), and going concern value is not lost. But  $E_l$  and H do not agree until round  $t$ , with the result that some going concern value is lost. The average cost of delay is  $q_t(s_t - d^T s_l)$ . Note that this loss is borne entirely by E, which receives  $d^T s_t - d^T v_l$  rather than the  $s_t - d^T v_l$  it would receive if there were no private information and agreement occurred in the first round. H receives  $d^T v_l$  in either case. If there is no spread between  $v_h$  and  $v_l$ , or  $q_h$  is 0 or 1, then there is no private information and the parties agree immediately as in the perfect information model. It would be more realistic to assume that  $E_l$  cannot engage in *obvious* delay, since that might provoke a court to end the exclusivity period or appoint a trustee.<sup>38</sup> But the same result would obtain if one assumed that  $E_l$  made very low offers in early rounds, which H rejected in the expectation of obtaining a higher offer in a later round—high enough to offset discounting. (The low offers in early rounds cannot be high enough for H to accept, because then  $E_h$  would mimic.)

The model also shows that prebankruptcy entitlements are violated even under the assumption of imperfect information. To be sure, E absorbs the cost of delay,  $q_t(s_t - d^T s_l)$ , and in this sense violation of prebankruptcy entitlements are slightly less extreme than in the first model, holding all else equal. But it remains the case that E is likely to obtain substantial value.

Some complications should be noted. As in the perfect information model,<sup>39</sup> assuming a limited exclusivity period and an option value for delay does not change the basic conclusions. Nor would the more realistic assumptions that E can make an offer along a contin-

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one that rules out equilibria where there is deviation with consistent interpretation). Still, given a separating equilibrium for which this inequality is not true, no debtor will be the first to deviate. Debtors face a collective action problem, because each would be better off only if both deviate.

<sup>37</sup> See supra Part I.B.2.

<sup>38</sup> See 11 U.S.C. §§ 1104(a)(1), 1121(d) (1994) (allowing court to reduce exclusivity period or appoint trustee for cause).

<sup>39</sup> See supra Part I.B.2.



uum or that E's type lies along a continuum rather than taking one of two discrete values. In this situation we would have multiple equilibria, but the qualitative conclusion (a likelihood of delay) would remain unchanged. Finally, the conclusions would not change if we assumed that E's private information concerned its discount factor or other relevant parameters rather than the firm's liquidation value.

It also should be mentioned that H, rather than (or in addition to) E, might have private information. H might have private information about its discount factor if capital markets are poor, as might be the case if H consists of employees, warranty holders, and other small creditors. H might also have private information about returns it might realize from a reorganized debtor. If H consists of trade creditors, for example, they may prefer reorganization because they expect future business with the reorganized entity. Call H a high value creditor if it has either an interest in the reorganized entity or a low discount factor. In a model in which only H has private information and E moves first, delay will occur due to screening rather than signaling. E will initially offer an ungenerous plan that only the high value H accepts; if rejected, E will delay and then offer a more generous plan that the low-value H accepts. If both E and H have private information,  $E_h$  will make an immediate offer and  $H_h$  will accept immediately;  $E_l$  will delay and  $H_h$  will accept immediately after the delayed offer;  $E_h$  will make an immediate offer and  $H_l$  will delay before accepting; and  $E_l$  will delay and  $H_l$  will delay further.<sup>40</sup>

Finally, note that, with  $e=T$ , signaling is possible only because prebankruptcy entitlements are respected in liquidation at round  $T$ . If H were not entitled to a share of the liquidation value of the firm, H would have to accept 0 (or some trivial amount) from either type of E at round  $T-1$ , and hence on the first round. This means that E retains its entire going concern value, regardless of its type. But if both types of E retain their entire going concern surplus, the low type gains nothing by delaying before making an offer to H. Instead, the low type would simply lose the time value of its going concern surplus between rounds 0 and  $t$ . Hence, the low type would not delay, a separating equilibrium is impossible, and going concern value would be maximized. This is another example of our claim about the tension between maximizing going concern value and respecting prebankruptcy entitlements.

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<sup>40</sup> This is known as "attrition." See Kennan & Wilson, *supra* note 34, at 65-66, 79-80 (discussing and giving examples of attrition).

#### 4. Strategic Voting with More Than Two Parties and Perfect Information

The assumption that E bargains with a single hypothetical creditor is quite unrealistic. Debtors rarely have only one creditor and creditor interests are not perfectly aligned. Unfortunately, it is difficult to model bargaining among more than two parties, and we have found no such models that can be directly applied to Chapter 11. The following passages describe somewhat impressionistically how the results of the first two models might change if the assumption of a single creditor is relaxed.

One might begin by assuming that E faces two creditors,  $C_1$  and  $C_2$  with claims  $c_1$  and  $c_2$ . Let  $a_1=c_1/(c_1+c_2)$  and  $a_2=c_2/(c_1+c_2)$ , so that  $a_1+a_2=1$ . (For  $n$  creditors,  $\sum_{i=1}^n a_i=1$ .) In round  $t$ , E makes an offer, and the two creditors simultaneously vote yes or no. If either creditor votes no, we move to round  $t+1$ ; in round  $e=T$  the debtor is liquidated and each creditor receives its pro rata share,  $a_i$ , of the liquidation value,  $v$ . The round  $T$  liquidation payoffs to  $\{E, C_1, C_2\}$  are  $\{0, a_1v, a_2v\}$ . In round  $T-1$ , E would propose  $\{s-dv, da_1v, da_2v\}$ . Continuing in this vein, E would propose  $\{s-d^T v, d^T a_1v, d^T a_2v\}$  in the first round, and the creditors would accept. Notice that our qualitative results do not change: Delay is avoided so going concern value is maximized, and prebankruptcy entitlements are violated.<sup>41</sup>

An advantage of relaxing the assumption of a single hypothetical creditor is that it allows us to consider the possibility that creditors might have different interests. Suppose, for example, that  $C_2$  has a postbankruptcy interest in reorganization because it expects to have valuable continuing business with the reorganized debtor;  $C_1$  does not. Represent this by an amount,  $h$ . The round  $T$  liquidation payoffs to  $\{E, C_1, C_2\}$  are  $\{0, a_1v, a_2v-h\}$ . In the first round E would propose  $\{s-d^T(v-h), d^T a_1v, d^T(a_2v-h)\}$ , and the creditors would accept. Alternatively, if the creditors differ with respect to their discount factors, payoffs will reflect this difference. E will propose and the creditors will accept  $\{s-(d_1^T a_1v + d_2^T a_2v), d_1^T a_1v, d_2^T a_2v\}$ . Under both alternatives, E's agenda control enables it not only to obtain value in violation of prebankruptcy entitlements (as in the other models), but also to treat differently creditors with the same prebankruptcy entitlements.

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<sup>41</sup> Unfortunately, every division of the surplus is an equilibrium in this model, as long as the discount factors are low enough. See Martin J. Osborne & Ariel Rubinstein, *Bargaining and Markets* 63-65 (1990) (using bargaining game with three players to illustrate how every division of shared assets results in equilibrium). We think that the outcome in the text is most plausible in the aggregate; regardless, it usefully serves as a baseline for the purpose of analysis.

A more difficult and interesting problem arises when we assume that  $e < T$ , so that each creditor acquires an opportunity to propose its own plan at  $t > e$ . Suppose that at round  $e+1$ , the debtor and each creditor have a one-third chance of proposing a plan. The nonproposers must vote for the plan. If either votes against the plan, then the debtor and each creditor again have a one-third chance of proposing a plan at round  $e+2$ , and so on.<sup>42</sup> The logic of the two-party alternating offers model would seem to extend to this bargaining problem, so that payoffs at round  $e$  are  $\{1/3(s-d^{T-e}v)$ ,  $1/3(s-d^{T-e}v)+a_1d^{T-e}v$ ,  $1/3(s-d^{T-e}v)+a_2d^{T-e}v\}$ . At round 0, the payoffs are  $\{s-(2/3)d^e(s-d^{T-e}v)+d^T v$ ,  $1/3d^e(s-d^{T-e}v)+a_1d^T v$ ,  $1/3d^e(s-d^{T-e}v)+a_2d^T v\}$ . Notice that discounted liquidation value is distributed in conformity with prebankruptcy entitlements, whereas going concern surplus is distributed based on the relative bargaining power created by the voting rules.<sup>43</sup> The debtor does so well because it retains its agenda control until round  $e$ .

The debtor might not have a chance to propose a plan at round  $t > e$ . Because creditors formally have the right to cram down a plan that gives nothing to the debtor, they might refuse to consider any plan that gives the debtor value, in which case the debtor gains nothing by proposing a plan. If so, the debtor does not really have a one-third chance of proposing a plan and thus would not receive a one-third share of the round  $e$  surplus,  $s-d^{T-e}v$ . Similarly, a small, unsophisticated, or uninterested creditor is unlikely to participate actively in bargaining after round  $e$ , and thus would not expect its share of the round  $e$  surplus. It would receive instead its share of the discounted liquidation value, and the payout to the other potential bargainers after round  $e$  would correspondingly increase.

An important difference between two-party and multiparty models arises from the choice of voting rules. In a two-party model, the voting rule is always implicitly unanimity: Both parties must consent to a plan. In a multiparty model, an alternative that must be considered is majority rule. In fact, we will see that a unanimity rule can present serious problems, and so a majority rule can be quite attrac-

<sup>42</sup> If a nonproposer votes against the plan, bargaining proceeds to the next round unless the plan provides the nonproposer with at least actual liquidation value. For a discussion of this possibility, see *infra* Part IV.B.

<sup>43</sup> This implies that a creditor  $C_i$  could receive more than  $c_i$ . One might argue that a judge would not allow this, because the creditor's payoff is truncated by the size of his claim. For example,  $C_i$ 's payoff is  $\min\{1/3d^e(s-d^{T-e}v)+a_1d^T v, c_i\}$ , or the minimum of the set. However, since by assumption the judge does not know  $s$ , it is not clear how the judge could prevent the overcompensation of creditors if payments under the plan are not in the form of cash. To simplify exposition, we assume that  $1/3d^e(s-d^{T-e}v)+a_1d^T v < c_i$ , except when otherwise noted.

tive.<sup>44</sup> But under majority rule, the analysis in the preceding paragraph changes.

To see why, imagine bargaining after round  $e$ , and assume that three creditors bargain over a plan that will give the debtor 0. At round  $T$ , all creditors receive their share of liquidation value. At round  $T-1 > e$ , one might assume that one creditor,  $C_1$ , has the power to propose a plan.  $C_1$  will give  $C_2$  and  $C_3$  their discounted liquidation value and retain the surplus  $(s-d^{T-1}(a_2+a_3)v)$  for itself. At round  $T-2$ , another creditor,  $C_2$ , has the power to propose a plan. Now  $C_2$  does not know whether it,  $C_1$ , or  $C_3$  will have agenda power at round  $T-1$ , so it will offer  $C_1$  and  $C_3$  a third of what they would obtain at  $T-1$  if they had agenda control plus two-thirds of what they would obtain if they lacked agenda control. Thus, this model suggests that, at round  $e-1$ , each of  $n$  creditors expects to receive, at round  $e$ ,  $1/n$  times the difference between  $s$  and  $d^{T-e}v$  (plus its share of  $d^{T-e}v$ ). What the debtor will offer the creditors at round 0 is a more complicated matter, which we will discuss in later sections.<sup>45</sup> The point for present purposes is that a model of alternating offers produces an intuitive result of equal sharing of the surplus over discounted liquidation value.

The problem with this model of majority rule is that it imposes more structure on postexclusivity bargaining than seems to exist in reality. To see why, suppose that at round  $e$  the debtor proposes a plan that divides the remaining surplus between it,  $C_1$ , and  $C_2$ :  $\{1/3(s-d^{T-e}v), 1/3(s-d^{T-e}v)+a_1d^{T-e}v, 1/3(s-d^{T-e}v)+a_2d^{T-e}v, a_3d^{T-e}v\}$ .<sup>46</sup> In response,  $C_3$  might try to bribe  $C_1$  to depart from the winning coalition and form a new coalition with  $C_3$ . Such a bribe might be:  $(0, s/2, 0, s/2)$ .  $C_3$  offers 0 to the debtor, because the debtor cannot prevent confirmation of the plan, and 0 to  $C_2$  because  $C_1$  and  $C_3$  together are sufficient to form a majority coalition of the creditors. The debtor might counter by proposing a new coalition to  $C_1$  and  $C_2$ :  $(s/4, s/2+y, s/4-y, 0)$ , where  $y$  is some small amount. Because  $C_1$  and  $C_2$  receive more from this plan than from  $C_3$ 's plan, they would vote for this plan. Then  $C_2$  might respond with  $(0, 0, s/2, s/2)$ , improving its own payoff and bribing  $C_3$  to join it, and so on. In principle, cycling could occur indefinitely, while in the meantime the going concern value is depleted. Indeed, the parties might rationally invest in bargaining so as to deplete discounted liquidation value as well. If the creditors anti-

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<sup>44</sup> See *infra* Part IV.A.

<sup>45</sup> See *infra* Part IV.A.

<sup>46</sup> We assume that the assent of two of the three creditors is necessary for plan confirmation.

pate costly postexclusivity bargaining, the debtor can reduce its offer in round 0 accordingly.<sup>47</sup>

For now, it is sufficient to point out that while both the noncycling result and the cycling result play an important role in explaining Chapter 11's voting rules, both models have defects and the literature on these issues is not particularly helpful. Thus, problems of multiparty bargaining must be approached with circumspection.

### 5. *Strategic Voting with More Than Two Parties and Imperfect Information*

With multiple creditors and imperfect information, delay can result for the same reason as in the two-party imperfect information model. Again, the debtor may have private information about its value, and low-value debtors will delay in order to signal their type. If the creditors have private information, then the low-value creditors may engage in delay by voting against E's early offers in order to signal that they have high discount factors and/or do not obtain nonplan returns from reorganization. This problem is more serious than in the two-party model, because any creditor with veto power potentially has an incentive to cause delay. In the two-party model when only the creditor (and not the debtor) has private information, the probability of delay cannot be more than the probability that the creditor has a low valuation,  $q_l$ . Suppose that  $q_l=0.2$ . In the two-party model, the probability of delay cannot be more than 0.2. Now imagine that the debtor has 10 creditors. If the probability that any one creditor is low-value is 0.2, then the probability that at least one creditor will engage in delay could be as high as .89.<sup>48</sup> Whether the probability actually would be that high in any given case depends on a variety of factors, including the distribution of types, the order of play, and the values of the other parameters. In addition, if—as in the attrition model—creditors take turns delaying, then as the number of creditors increases, so will the length of delay. But the overall conclusion is again similar to the model with two parties and imperfect information: Prebankruptcy entitlements are violated and going concern value may be depleted through delay.

### 6. *Summary*

The Condorcet Jury Theorem implies that voting is a powerful mechanism for information pooling, which is desirable because infor-

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<sup>47</sup> We will discuss these possibilities in greater detail in Part II.

<sup>48</sup> The probability that no one engages in delay is  $.8^{10}=.11$ . Therefore, the probability that at least one person engages in delay is  $1-.11=.89$ .

mation pooling enables maximization of the ex post value of the firm. But our models of strategic voting show that parties can exploit voting rules in order to violate prebankruptcy entitlements. The most striking example is the exclusivity period, which is highly favorable to the debtor.<sup>49</sup> If the debtor's bargaining power is reduced (for example, through a reduction in the length of the exclusivity period), the creditor obtains more value. But one cannot conclude that equalizing bargaining power necessarily increases the respect for prebankruptcy entitlements. The creditor's share of the surplus is unrelated to the size of its claim. This is clear in the multiparty model: Creditors receive an amount in proportion to their bargaining power (which is a function of discount factors and postbankruptcy interests, as well as the voting system), so that creditors with equal claims can receive different amounts and creditors with different prebankruptcy entitlements can receive the same amount. If one reduced the debtor's bargaining power by reducing the exclusivity period, creditors' positions would improve by an equal amount per creditor, without regard to the size of a creditor's claim.

In both perfect information models, going concern value is maximized because delay cannot occur. By introducing imperfect information, we see that parties will delay in order to signal their type.<sup>50</sup> Delay can occur only when parties share bargaining power. When one party (such as the debtor) has all the bargaining power, that party has no reason to delay the plan<sup>51</sup> and the other party has no power to delay the plan. If the only goal of bankruptcy law were to maximize

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<sup>49</sup> Empirical studies of Chapter 11 consistently find violations of prebankruptcy entitlements. See, e.g., Julian R. Franks & Walter N. Torous, *An Empirical Investigation of U.S. Firms in Reorganization*, 44 *J. Fin.* 747, 753, 756-58, tbls.II & III (1989) (finding violations common in Chapter 11 and under precursor Chapter X); Lynn M. LoPucki & William C. Whitford, *Bargaining Over Equity's Share in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 139 *U. Pa. L. Rev.* 125, 142, 166, 176, tbls.III, IV(A) & IV(B) (1990) (finding violations common whether debtor solvent or insolvent upon plan confirmation); Lawrence A. Weiss, *Bankruptcy Resolution*, 27 *J. Fin. Econ.* 285, 294 (1990) (citing violations in 29 of 37 Chapter 11 filings). But see Theodore Eisenberg & Stefan Sundgren, *Is Chapter 11 Too Favorable to Debtors?: Evidence from Abroad*, 82 *Cornell L. Rev.* 1532, 1564-65 (1997) (providing data that show American unsecured creditors receive higher returns in bankruptcy than creditors in foreign systems, even though foreign systems have less liberal exclusivity periods or none at all).

<sup>50</sup> Empirical studies confirm that Chapter 11 proceedings can be lengthy. See, e.g., Franks & Torous, *supra* note 49, at 753 tbl.II (reporting mean of 2.57 years among 15 large firms filing after Chapter 11's effective date); Lynn M. LoPucki, *The Debtor in Full Control—Systems Failure Under Chapter 11 of the Bankruptcy Code? (Second Installment)*, 57 *Am. Bankr. L.J.* 247, 269 (1983) (reporting median of 9.5 months and mean of 10.4 months to plan confirmation in sample containing many small firms); Weiss, *supra* note 49, at 288 (reporting mean of 2.5 years among sample of publicly-traded firms).

<sup>51</sup> That is, no reason to engage in strategic delay. Delay may occur naturally as the party gathers information and drafts the plan.

the payouts based on going concern value, we would want to give all the bargaining power to one party. The reason that we do not do this is that the party with all the bargaining power would not respect prebankruptcy entitlements.

So there is a tension. On the one hand, respect for prebankruptcy entitlements implies division of bargaining power in a manner that reflects those entitlements. On the other hand, maximization of going concern value implies concentration of bargaining power in one party. We will see this tension—between exploitation costs and bargaining costs—recur in our analysis of all the voting rules in Chapter 11.

We will also see that one way to relieve this tension is to give a prominent role to bankruptcy courts. If a court has good information, it can enforce prebankruptcy entitlements without interfering with reorganization. If it has bad information, however, its attempt to enforce prebankruptcy entitlements will result in their violation, in delay, and in a failure to maximize going concern value.

## II

### EXCLUSIVITY PERIOD

Chapter 11 grants the debtor a 120 day period to propose a reorganization plan and an additional 60 day period to have its plan accepted.<sup>52</sup> Only after the expiration of this 180 day period may creditors submit their own reorganization plans. This “exclusivity period” may be lengthened or shortened “for cause,”<sup>53</sup> and the period ends prematurely if a trustee is appointed.<sup>54</sup> The exclusivity period is routinely extended, especially in large, complex cases.<sup>55</sup>

The Bankruptcy Code’s approach reflects a compromise between the different approaches taken under the Bankruptcy Act of 1898. Chapter XI had given the debtor an unlimited exclusivity period; Chapter X, while affording some primacy to the trustee if one were appointed, allowed other parties to file competing plans.<sup>56</sup>

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<sup>52</sup> See 11 U.S.C. § 1121(b), (c)(3) (1994).

<sup>53</sup> *Id.* § 1121(d).

<sup>54</sup> See *id.* § 1121(c)(1).

<sup>55</sup> See 3 David G. Epstein et al., *Bankruptcy* §§ 11-13, 11-15 (1992).

<sup>56</sup> See 7 *Collier on Bankruptcy* ¶ 1121.02 (Lawrence P. King ed., 15th ed. rev. 1998). In Chapter X the trustee had an exclusivity period of sorts in which only it could propose a plan, but before confirmation the debtor or creditors could propose an alternate plan. See Rule 10-301(c)(1) (superseded) reprinted in 13A *Collier on Bankruptcy* (Lawrence P. King ed., 14th ed. 1977). See generally Kenneth A. Rosen & Angel R. Rodriguez, Section 1121 and Non-Debtor Plans of Reorganization, 56 *Am. Bankr. L.J.* 349, 350-57 (1982) (discussing plan submission under 1898 Bankruptcy Act). Chapter X was criticized for being time consuming and frequently unsuccessful. See 124 *Cong. Rec.* 32405 (daily ed. Sept. 28, 1978) (statement of Rep. Edwards) (reporting on 991 Chapter X filings, of which only 664 had been “terminated” and only 140 had resulted in confirmation of plan).

The debtor's exclusivity period is one of the most controversial voting rules. As the two-party perfect information model shows, the right to control the agenda gives the debtor a great deal of bargaining power.<sup>57</sup> If  $e=T$ , the creditor will accept a plan that gives it only the discounted value of the liquidation value at round  $T$ . As a result, the debtor obtains not only the going concern surplus, but also the difference between the round 0 liquidation value and the discounted round  $T$  liquidation value. If  $e<T$ , the creditor may still be forced to accept a plan that gives it less than actual liquidation value at the time of bankruptcy, and no more than a discounted portion of the going concern value at round  $e$ . These results are substantial violations of prebankruptcy entitlements, according to which (so long as  $c<s$ ) a creditor should obtain the entire going concern value of an insolvent debtor.<sup>58</sup>

It might be argued that the creditor in the two-party model would announce in round 0 that it would refuse to accept an offer that did not give it some or all of the going concern value. Because the debtor offers only discounted liquidation value, the creditor does no worse by delaying. But if the debtor offered the creditor just slightly more than discounted liquidation value, the creditor would accept on the first round, because the debtor's threat to the creditors ( $d^T v$  rather than the offered amount) would be credible, and the creditors' threat (to reject the debtor's plan) would not be credible. This is because once the debtor actually proposes a plan giving the creditors discounted liquidation value, the debtor has committed not to give the creditors more than that amount.<sup>59</sup> The creditor, despite any preproposal ultimatums, would be faced with accepting the debtor's offer or waiting and receiving even less.<sup>60</sup> The debtor's exclusivity period gives it a

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<sup>57</sup> See *supra* Part I.B.2.

<sup>58</sup> See *supra* note 28 and accompanying text.

<sup>59</sup> This assumes the debtor can only prepare, propose, and have balloting on one plan during the exclusivity period. Proposing multiple plans can be difficult, especially because the disclosure statement hearing will be held at least 25 days after the disclosure statement is filed. See 11 U.S.C. § 1125(b) (1994) (requiring plan proponent to submit disclosure statement); Fed. R. Bankr. P. 3017(a) (requiring at least 25 days between distribution of disclosure statement and court hearing). The analysis does not change significantly if we assume that the debtor has time to propose several plans during the exclusivity period.

<sup>60</sup> Professors Baird and Picker argue that the exclusivity period has no effect on debtor/creditor negotiations because it affects only those who must formally propose a plan, so that the parties can informally negotiate back and forth. They therefore model debtor/creditor bargaining as consisting of alternating offers and counteroffers. See Baird & Picker, *supra* note 4, at 321-22, 329. It is true that during the exclusivity period creditors can communicate with the debtor and other creditors, and even propose (informally) their own plans. See *Century Glove, Inc. v. First Am. Bank of N.Y.*, 860 F.2d 94, 101 (3d Cir. 1988) (upholding creditors' right to discuss unfiled plan with other creditors during exclusivity period). But since plans are cumbersome to draft, disclose, and vote upon, the debtor's plan has a credible take-it-or-leave-it aspect that the creditors' oral counteroffers



decisive advantage; it allows the debtor to transform a bilateral bargaining game into an ultimatum game. Given the one-iteration nature of the reorganization, the creditors would rationally accept the offer.<sup>61</sup>

The question is, then, why the Bankruptcy Code would give such an advantage to the debtor. This question can be divided into two further questions: why should there be an exclusivity period, and, if there should be an exclusivity period, why should it be given to the debtor rather than to a creditor or another party? To answer the first question, suppose that *no one* enjoyed the exclusivity period. Suppose, for example, that E or H could propose a plan and both would vote on whatever plans are proposed. If one modeled this bargaining problem as alternating offers, the going concern surplus would be roughly split between E and H.<sup>62</sup> If E does not have much bargaining power, as would be the case if H can cram down a plan at any time, then H will receive most of the going concern surplus. In sum, if the debtor did not enjoy an exclusivity period, the debtor would receive less value, and given that the debtor has no prebankruptcy entitlement to value, this result would respect prebankruptcy entitlements without affecting the maximization of going concern value.

With imperfect information, the analysis does not change much. If no one had an exclusivity period, but instead E or H could propose a plan at any time, then again one could model this problem as alternating offers. Suppose that E has private information about its type and H does not have private information. If E moves first and is a low-value type, it might delay or make an unacceptable offer in order to signal its type. Either the delay is adequate to signal E's type, or, if not, H might screen by making an aggressive demand that only a high-value type E would accept. If H moves first, it would screen by making an aggressive demand that only a high-value type E would accept, and, again, a low-value E would turn down this offer and might even delay further in order to signal its type. This result is not qualitatively

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lack. See Bebchuk & Chang, *supra* note 5, at 257, 271-72 (“[B]argaining in the reorganization context differs from that in other contexts, in which each round of bargaining . . . can take a very short period of time.”).

<sup>61</sup> The debtor's share might be smaller if it were uncertain of the creditors' return from voting no, or of the creditors' rationality. For example, some creditors might have a high probability of being creditors in future bankruptcies, and hence might invest in a reputation for insisting on a greater respect for their prebankruptcy entitlements by voting against a proposal of  $d^T v$ . Since the debtor would likely receive little or nothing if a plan were not confirmed during the exclusivity period it might increase its proposed payout to creditors in order to insure acceptance. Cf. David M. Kreps et al., *Rational Cooperation in the Finitely Repeated Prisoners' Dilemma*, 27 *J. Econ. Theory* 245, 246-47 & n.3 (1982) (observing players may cooperate in Prisoners' Dilemma if uncertain as to other player's payoffs and/or rationality).

<sup>62</sup> See discussion *supra* note 29 and accompanying text.

different from our result when the exclusivity period exists, because although the exclusivity period creates a less equal distribution of bargaining power, it gives enough bargaining power to both parties to make delay worthwhile. As noted above, delay could be avoided only if H had no bargaining power at all, in which case E would receive the entire going concern value.

With multiple creditors, the analysis becomes more complex. Recall that with an exclusivity period, and  $e < T$ , payoffs in the three-party model are  $\{s - (2/3)d^e(s - d^{T-e}v) + d^T v\}$ ,  $\{1/3d^e(s - d^{T-e}v) + a_1 d^T v\}$ ,  $\{1/3d^e(s - d^{T-e}v) + a_2 d^T v\}$ .<sup>63</sup> In the absence of an exclusivity period, we suppose that the debtor and the two creditors would take turns making proposals, or, more precisely, each party would have a one-third chance of making a proposal each round. At round  $T$ , a creditor would approve a plan only if it exceeds its discounted liquidation value, and the debtor would approve a plan only if it exceeds 0, the amount to which it would be entitled if the firm were liquidated. At round  $T-1$ , the proponent would offer the creditor(s) discounted liquidation value and the debtor (if a nonproponent) 0. If the debtor is the proponent, it would retain the surplus, that is, the going concern value minus the discounted liquidation value that must be paid to the creditors. Thus, at any round  $t$ , the proponent would offer the debtor one-third of the surplus and the creditor(s) one-third of the surplus *plus* the discounted liquidation value.<sup>64</sup> Round 0 payoffs would be  $\{1/3(s - d^T v)$ ,  $\{1/3(s - d^T v) + a_1 d^T v\}$ ,  $\{1/3(s - d^T v) + a_2 d^T v\}$ . Comparing the two sets of payoffs, one sees that in the absence of the exclusivity period, as the number of creditors increases, the debtor's share becomes smaller. This is desirable, but the creditors gain equally rather than pro rata, which is inconsistent with prebankruptcy entitlements. By contrast, the exclusivity period ensures that the debtor enjoy a relatively large share. So the exclusivity period might appear undesirable.

This result assumes unanimity. But obtaining unanimous consent to a plan would seem to be quite costly, especially when many creditors have claims and when parties make errors about the value of the firm. Parties who erroneously overvalue firms will resist plans that make small payouts. As a result, some creditors might expect that their bargaining costs would exceed the share of the surplus they expect to obtain, and rationally refrain from bargaining. Sophisticated creditors, with lower bargaining costs, would remain disproportionately involved, as would large creditors. (The larger a creditor's claim is, the more cost effective its monitoring of the debtor would be

<sup>63</sup> See *supra* Part I.B.4.

<sup>64</sup> See our discussion *supra* note 31.

before bankruptcy, and hence it would likely have better information about the debtor.)

In any event, Chapter 11 provides for a combination of majoritarian and supermajoritarian voting, not unanimity. We explore the reasons for this in Part IV. For now, assume that the unanimity rule produces insurmountable difficulties and that instead a simple creditor based majority voting rule is in place.

As we saw in Part I.B.4, it is possible that cycling occurs under majority rule.<sup>65</sup> During the negotiation and voting stage, each creditor will invest in proposing a plan or joining a coalition that will propose a plan—including the costs of negotiating with other creditors and the debtor, serving on a creditors' committee, monitoring the debtor, and so on.<sup>66</sup> Suppose that creditors not in the winning coalition could be frozen out, receiving nothing.<sup>67</sup> Then each creditor would invest up to its possible payout in bargaining costs if that would guarantee membership in the winning coalition. Thus, the firm's value would be completely depleted by these strategic costs.

For example, suppose that there are 10 unsecured creditors with  $c=\$100$  each,  $v=\$250$ ,  $s=\$500$ , and  $d=1$ . Six creditors could form a coalition that gives each member  $\$83$  and each nonmember  $\$0$ . Each creditor would spend up to  $\$83$  to avoid being excluded from the coalition. In the aggregate they would spend  $\$830$ , thus dissipating (and in fact exceeding) the entire amount of  $s$ . One might argue that each creditor would discount its investment by the probability that the investment would pay off (.6, assuming it expected the other creditors to invest as well), and thus each would spend no more than  $\$49.80$  to obtain membership in the winning coalition. Even then,  $s$  would be virtually depleted.<sup>68</sup> Moreover, the creditors might continue to spend money even after they had made their initially calculated expenditures, because they would not necessarily reach agreement after the initial expenditures. It would continue to be rational to invest in bargaining, as long as  $s>0$ ; the initial expenditures would be sunk costs.

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<sup>65</sup> If not, the noncycling model suggests a division of value between all parties. The analysis is the same as the analysis of bargaining under the unanimity rule, above.

<sup>66</sup> See *Why Creditors Don't Want to Serve on Creditors' Committees*, *Bankr. Ct. Decisions: Wkly. News & Comment.*, June 17, 1997, at A1 (discussing costs of serving on creditors' committees).

<sup>67</sup> Here we abstract away from the liquidation floor discussed *infra* Part III.

<sup>68</sup> From this perspective, 11 U.S.C. § 503(b)(3)(D) (1994), which allows the recovery of plan preparation costs in certain circumstances, has the perverse effect of increasing strategic behavior. Doubtless conceived as a way to overcome the "free rider" problem and allow small creditors to afford plan preparation costs, it allows a creditor to externalize strategic behavior costs and thus could induce a creditor to spend more than its anticipated share.

In theory, cycling between options, or more generally the destabilization of a potential winning coalition by a counterproposal (from those left out of the coalition) to a subset of the coalition, can continue forever, so creditors could spend an indefinitely large amount of money and never approve a plan. We refer to these costs as the costs of "intrigue," or rent seeking costs.

To prevent cycling, the judge might intervene and impose a voting method such as a runoff that would produce a "winning" plan (or the judge might select a plan and cram it down). However, the plan that emerged victorious from such a method would necessarily be arbitrary (that is, sensitive to the order in which plans were voted on) and thus would not reflect the preferences of creditors as a whole in any meaningful sense.<sup>69</sup> Section 1129(c) allows the judge to confirm a plan from among those that meet the consensual requirements of 1129(a) or the cram down requirements of 1129(b) and directs the judge to "consider the preferences of creditors" in choosing between plans.<sup>70</sup> It does not, however, require that the judge consider those preferences in any systematic way.<sup>71</sup>

The exclusivity period, however, provides a possible solution to this problem. The cost of intrigue and the depletion of value that result from delay caused by cycling can be eliminated if one party is given agenda control and allowed to exercise that power over a long enough exclusivity period that it is in no one's interest to incur the costs of creating and breaking coalitions. Because the party with agenda control bears the cost of delay,<sup>72</sup> it has a strong incentive to avoid delay. This reduction in intrigue and delay, which helps to maximize the value of the firm, comes at a cost. The party granted the exclusivity period receives with it the power to violate prebankruptcy entitlements in its favor. At the extreme, a debtor with complete bargaining power (where, for example, the creditors are entitled to no

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<sup>69</sup> See, e.g., William H. Riker, *Liberalism Against Populism* 65, 74-81, 141-43 (1982) (discussing drawbacks to runoff method and universality of strategic voting).

<sup>70</sup> 11 U.S.C. § 1129(c) (1994).

<sup>71</sup> See Epstein, *supra* note 55, at § 11-20 (1992) (noting that "questions about what voting methods would be adopted on multiple plans have not yet been answered"). Nor does § 1129(c) necessarily require the judge to follow the creditors' preferences, so long as he or she considers them. See *In re Rolling Green Country Club*, 26 B.R. 729, 735 (Bankr. D. Minn. 1982) ("[T]he court is of course free to make its own determination [as to which plan to confirm] having taken into account such preference [of the creditors] . . .").

Fed. R. Bankr. P. 3018(c) directs the parties to utilize the "appropriate Official Form" in accepting or rejecting a plan or plans. Official Form 14, the "Ballot for Accepting or Rejecting Plan," provides creditors with space to identify their first and second choices in case "more than one plan is accepted." Official Form 14. The use of certain voting methods (e.g., Condorcet or Borda) would require some modification of the Official Form.

<sup>72</sup> As in Part I.B.3, *supra*.

liquidation value or expect to gain nothing postexclusivity because of cycling) would offer the creditors nothing.

The next puzzle is why the Code tolerates this harmful result by giving the exclusivity period to the debtor, rather than to one of the creditors or to a third party, such as a trustee—practices that existed under the common law and prior bankruptcy statutes.<sup>73</sup>

To see the problem with such an approach, imagine that a single creditor, chosen randomly or perhaps on the basis of size or familiarity with the debtor, is given an exclusivity period at the onset of bankruptcy. In the two-party model, the result seems unobjectionable: The creditor retains more value than it would with a debtor exclusivity period, consistent with prebankruptcy entitlements. In the multiparty model, however, the creditor with power during the exclusivity period would give the *other* creditors only their discounted liquidation value (with  $e=T$ ), retaining for itself the going concern surplus plus its share of the discounted liquidation value.<sup>74</sup> Thus, although the debtor receives its prebankruptcy entitlement (0, when  $c>s$ ), a single creditor likely receives *more* than its prebankruptcy entitlement, and the violation of the remaining creditors' prebankruptcy entitlements is unchanged as compared to the debtor exclusivity period. There is an improvement only in the sense that, *ex ante*, creditors—not knowing whether they will be lucky or not *ex post*—on average receive more value than when the debtor enjoys exclusivity.

It is not clear, then, that giving the exclusivity period to a creditor would result in greater respect for prebankruptcy entitlements. In addition, there is no reason to believe that such a rule would reduce the likelihood of delay. A possible reason for giving the exclusivity period to the debtor, however, emerges if one relaxes the implicit assumption that all parties have identical information about the optimal capital structure (which would maximize  $s$ ).

E might have better information than any creditor about  $s$  because the managers have more information (and cheaper access to ad-

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<sup>73</sup> See, e.g., 5 Collier on Bankruptcy, *supra* note 56, ¶ 1100.01 (describing pre-Code bankruptcy statutes); Posner, *supra* note 11, at 63-64 (discussing equity receiverships and compositions under common law). An exclusivity period in which two parties can propose plans would not lead to qualitatively different results from the single-party exclusivity period or no exclusivity period alternatives discussed in the text. Imagine that the debtor (E) and largest creditor ( $C_1$ ) were given the power to propose plans, and that there is one other creditor ( $C_2$ ). If  $C_2$  has veto power over any plan, E and  $C_1$  would collude against  $C_2$  by agreeing to a plan that divides between themselves the benefit E would obtain in the traditional exclusivity period model, leaving no surplus for  $C_2$ . Alternatively, if  $C_2$  lacks veto power and the support of two of the three parties is necessary for plan confirmation, bargaining costs might be incurred in an attempt to form a winning coalition.

<sup>74</sup> As in Part I.B.2, the results would change quantitatively but not qualitatively with  $e<T$ .

ditional information) about the firm and the market than the creditors do. Thus, E would propose a plan that better exploited business conditions than would a plan proposed by H. E's disproportionate power is consistent with the Condorcet Jury Theorem's implication that parties with better information should enjoy weighted votes.<sup>75</sup> Here, rather than actually giving E extra votes, the weighting takes the form of agenda control.

One might argue that if H had the exclusivity period, it could simply pay E for its superior information. However, the sale of private information is highly inefficient, because the possessor of the information cannot easily reveal its value without also revealing its content. H would not know how much it had to pay E in order to induce the proper level of information generation, nor would H be able to determine whether E is honest. If H offered E a portion of the reorganized firm's equity, E would have some incentive to gather and reveal information about the firm's value. This is in essence what Chapter 11 does, albeit in a mandatory fashion akin to the other rules of bankruptcy, rather than contractually.

Thus, there is a tradeoff. On the one hand, E likely has an information advantage; on the other hand, E has perverse incentives. But, as we have seen, so does the creditor. Even if the creditor's ability to violate prebankruptcy entitlements were constrained by, for example, an equal sharing rule (which might also remove the incentive to cycle),<sup>76</sup> the creditor might find it worthwhile to provide an incentive to the debtor to reveal how to maximize *s*. So on balance, debtor exclusivity might make sense. Still, there is no reason to believe that the exclusivity period gives the debtor the right amount of power: It might give the debtor more power than necessary to provide optimal incentives, or not enough power. A third alternative would be to appoint a trustee and give the trustee an exclusive right to propose the plan. As plan proponent the trustee, unlike the debtor or a creditor, would have no incentive to violate prebankruptcy entitlements, but he or she also would be likely to have inferior information and incentives<sup>77</sup> to propose a value maximizing plan as compared to the two alternatives.

Although our analysis shows that an exclusivity period is a good idea, the argument in favor of giving agenda control to the debtor remains more ambiguous. Only experience can show which agent

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<sup>75</sup> See *supra* note 22 and accompanying text.

<sup>76</sup> See *infra* Part V.A.

<sup>77</sup> Like the judge, the trustee does not have proper incentives to gather additional information, especially given limitations on trustee compensation. See 11 U.S.C. § 326 (1994) (capping trustee's compensation and granting judge discretion to reduce it).

should have agenda control, and historical variation<sup>78</sup> suggests there is no obviously correct answer.

### III THE LIQUIDATION VALUE FLOOR AND ABSOLUTE PRIORITY

#### *A. The Liquidation Value Floor*

In Chapter 11 a plan will not be approved if any creditor who objects to the plan receives less than it would under Chapter 7.<sup>79</sup> Chapter 7 thus sets a floor on the amount that a creditor can receive in Chapter 11. Creditors at the same level of priority must receive at least as much as they would under the pro rata sharing rules in Chapter 7, but they do not have to share pro rata in Chapter 11. Creditors with high priority must receive at least as much as they would in Chapter 7, but junior creditors may receive value as well in Chapter 11.

Assume that courts can determine  $v$  without error. (We will relax this assumption subsequently.) Initially, assume that no floor exists. In the two-party perfect information model, with  $e=T$ , the payoffs for (E, H) are  $(s-d^T v, d^T v)$  in round 0. The reason is that at every round E must offer H at least as much as the discounted value of the firm if it were liquidated at round T. Now, assume that the liquidation floor exists. One might think that the court would strike down a plan that offered H only  $d^T v$ , because this amount is less than the actual first round liquidation value of the firm,  $v$ . In order to avoid this result, the debtor would offer  $(s-v, v)$ . The problem with this argument is that the Bankruptcy Code requires the judge to enforce the liquidation floor only if a creditor objects to the plan.<sup>80</sup> H would not object to the plan, because if it objected it would never receive more than E's initial offer, receiving instead  $d^{T-t} v$  in subsequent rounds. For example, in the second round E would offer  $d^{T-1} v$ , and the present value of that amount in the first round is  $d(d^{T-1})v=d^T v$ .<sup>81</sup> Accordingly, the liquidation floor does not guarantee H the undiscounted  $v$ . Indeed, *the liqui-*

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<sup>78</sup> If E tends to have better information relative to creditors in closely held but not in public corporations, that might explain the Bankruptcy Act's grant of agenda control to the debtor in Chapter XI (intended for closely held corporations) but not in Chapter X (intended for public corporations).

<sup>79</sup> See 11 U.S.C. § 1129(a)(7)(A)(ii) (1994).

<sup>80</sup> See *id.* § 1129(a)(7)(A)(i).

<sup>81</sup> This assumes that if the creditor objects and the plan fails, the debtor keeps agenda control and proposes another plan. If H could convince the judge to convert the case to Chapter 7, then H would object, since it would then receive  $v$  more quickly and hence with less discounting.

*liquidation floor has no effect in the two-party perfect information model. It would have an effect—it would benefit the creditor—only if the judge were required to enforce it against the creditor's wishes!*

In the model with two parties and imperfect information, the liquidation floor similarly has no effect on behavior. Recall from the discussion of this model that E will offer H just as much as H can expect in the succeeding round.<sup>82</sup> If E has low value, it may delay before it makes an offer to H, but the fact that E has private information does not change its strategy of always offering H just discounted liquidation value. Introduction of the liquidation floor does not change this result. H will, in effect, waive its right to undiscounted liquidation value, because if it refuses to accept E's offer of discounted liquidation value, a round is lost and with it the time value of the offered payment, and in the next round E will simply renew its offer of discounted liquidation value. This result holds even if H has private information, if both parties have private information, or if alternating offers occur at the expiration of the exclusivity period.

In the multiple party model with  $e=T$  the influence of the liquidation floor can finally be seen. Initially, note that under a unanimity rule any creditor can defeat a plan by voting against it; to prevent a creditor from voting against it, the debtor must offer the creditor at least as much as the discounted value of its payoff in round  $T$ . Whether or not a liquidation floor exists, the creditor would receive at least its discounted share of the liquidation value. Chapter 11 does not, however, require that plans receive unanimous consent, and we will see that there are good reasons for approving plans that some creditors oppose.<sup>83</sup> Suppose, then, that plans can be approved by a simple majority rule and that no liquidation floor exists. At any round the proponent of the plan will select a majority of the creditors and offer them their share of the discounted liquidation value; creditors outside the coalition would receive 0. The insiders would vote in favor of the plan, the outsiders would vote against the plan, and the plan would be approved. Payoffs for E and, say, three creditors would be  $\{s-(a_1+a_2)d^T v, a_1 d^T v, a_2 d^T v, 0\}$ . This result violates prebankruptcy entitlements in two ways. Creditors at the same level of priority are paid different amounts, and the debtor obtains the going concern surplus plus a portion of the liquidation value.

Now suppose that the liquidation floor is introduced. If the proponent offers 0 to creditors outside the coalition, those creditors would vote against the plan, and the plan would be rejected since dis-

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<sup>82</sup> See *supra* Part I.B.3.

<sup>83</sup> See *infra* Part IV.A.



senting creditors receive less than their share of  $v$ . Anticipating this, the proponent would offer all creditors their share of the discounted liquidation value. If a creditor voted against the plan, it would fail and delay would result, so each creditor would vote yes for the same reason H accepts  $d^T v$  in the two-party game. Payoffs would be  $\{s-d^T v, a_1 d^T v, a_2 d^T v, a_3 d^T v\}$ . Prebankruptcy entitlements are more fully respected both because creditors are treated equally and because the debtor receives less (by  $a_3 d^T v$ ) than without the liquidation floor. Note that, as in the two-party model, the liquidation floor does not ensure that the creditors obtain their share of the liquidation value, only that the creditors obtain their *discounted* share of the liquidation value.

In the imperfect information model with multiple creditors, it is difficult to predict precisely how the debtor would react, but it seems on balance that the liquidation floor will increase the chance of delay. Imagine that there are three creditors with equal claims and with discount factors  $d_h > d_m > d_l$ . E does not know the discount factors of the creditors, so it might delay in order to screen. The cost of delaying is that E obtains its payoff later than if it does not delay. E's payoff is on average lower with the liquidation floor (since it must give something to the creditor outside the coalition), so the per-period cost of delay ( $d$  times E's payoff) to E is lower. This would tend to increase the likelihood of delay. But what is the benefit to E of screening? It is difficult to predict E's optimal strategy, but the following logic is possible. In the absence of the floor, E could offer  $\frac{1}{3} b d_h^T v$  to two of the creditors, who would be certain to vote in favor of the plan, and so the plan would be approved in the first round. Alternatively, E could offer one creditor  $\frac{1}{3} b d_m^T v$  and the other  $\frac{1}{3} b d_l^T v$ . If these two creditors are the medium discount factor and low discount factor creditors, respectively, they will accept immediately, enabling E to obtain a higher payoff. This additional benefit from screening would be  $\frac{2}{3} b d_h^T v - \frac{1}{3} b d_m^T v - \frac{1}{3} b d_l^T v$ . With the liquidation floor, E could ensure no delay by offering all three creditors  $\frac{1}{3} b d_h^T v$ . Alternatively, it could pay one creditor  $\frac{1}{3} b d_h^T v$ , one  $\frac{1}{3} b d_m^T v$  and the third  $\frac{1}{3} b d_l^T v$ . If these are the high, medium, and low discount factor creditors, respectively, they will accept. The difference would again be  $\frac{2}{3} b d_h^T v - \frac{1}{3} b d_m^T v - \frac{1}{3} b d_l^T v$ . So at least in this situation, the cost of delay would be lower, and the benefit the same, so delay would be more likely with the liquidation floor. It is, however, difficult to generalize. E might adopt a different strategy under different assumptions.

We have assumed so far that the judge determines  $v$  accurately; more realistically, judges estimate  $v$  with some error. Call this estimate  $F$ . If all creditors are offered the discounted value of their share

of the liquidation value and vote in favor of the plan, the fact that  $F$  diverges from  $v$  does not matter (even if  $F > s > v$ ). Under the Code the judge must confirm a plan that all creditors approve, even if some creditors receive less than their pro rata share of  $v$ .<sup>84</sup> However, if  $E$  can anticipate  $F$  and  $F < v$ , it will offer creditors outside the winning coalition  $a_i F$  if  $a_i F < a_i d^T v$ . Those creditors will vote against the plan but the judge will approve the plan over their objections. Thus, if predictable error occurs, the liquidation floor's protection of prebankruptcy entitlements will be reduced.<sup>85</sup>

One might wonder how well the judge can estimate  $v$ . If the court is competent enough to produce a precise estimate of  $v$ , then why not have it estimate  $s$  as well and decide on a reorganization plan? If it can determine liquidation value accurately, perhaps it can also determine the optimal capital structure of the reorganized entity. We cannot answer this question, but it is worth pondering whether it is reasonable to suppose that courts have the right information to determine the liquidation value of a firm but not good enough information to determine its going concern value. It is possible that a judge can rely sufficiently on market comparisons when valuing individual assets but not when valuing an entire firm, which requires the evaluation of synergies and the projection of demand into the future. But since liquidation can involve the sale of lines of business or even the entire firm as a going concern, one cannot clearly distinguish "liquidation" value and "reorganization" value. It is possible that judges tend to underestimate liquidation value in Chapter 11 proceedings because they would have converted the case to Chapter 7 if they thought liquidation value included the going concern surplus. If this is true, judges systematically underestimate liquidation value in Chapter 11, with the result that the liquidation floor provides less protection of prebankruptcy entitlements than it would if judges actually knew the liquidation value. We will return to this issue when we discuss cram down.

### B. *The Absolute Priority Rule and Cram Down*

The "absolute priority rule" refers to a general principle that junior creditors should not receive value unless senior creditors are paid in full. The principle is reflected in two sections in Chapter 11. First, § 1129(a)(7)(A)(ii), which provides that every *individual* objecting creditor must receive as much as it would in Chapter 7, provides more protection to a senior creditor than to a junior creditor but does not

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<sup>84</sup> See 11 U.S.C. § 1129(a)(7)(A)(i) (1994).

<sup>85</sup> Because our imperfect information model does not produce clear predictions, we cannot say what effect error would have on the parties' incentive to delay.

guarantee that the senior creditor will be paid in full before the junior creditor is paid.<sup>86</sup> To see why, imagine that  $v=100$  and  $s=200$ , and that  $C_1$  has a senior claim worth 120 and  $C_2$  has a junior claim worth 120. Section 1129(a)(7)(A)(ii) ensures that  $C_1$  will receive 100 if it objects, because in Chapter 7 the absolute priority rule ensures that it would be paid before  $C_2$  received any value.<sup>87</sup> But this means that in Chapter 11  $C_2$  could receive as much as 100, even though  $C_1$  would not be paid in full.

Second, § 1129(b) provides that if a senior *class* objects to a plan and is not paid in full, a junior class will not receive any value.<sup>88</sup> This means that if a few creditors in a class object to the plan and are not paid in full, but the class votes in favor of the plan, junior creditors could be paid despite the fact that some objecting senior creditors are not paid in full. “Cram down” means that as long as a plan satisfies this requirement and the other rules of Chapter 11, a plan can be approved even though one or more classes vote against it, if at least one impaired class votes in favor of it.

Note that § 1129(b) does not prevent a plan from paying two classes at the same priority level different amounts—for example, 50 cents on the dollar to a class of unsecured trade creditors and 90 cents on the dollar to a class of unsecured workers—although a judge would need to find that the plan “does not discriminate unfairly.”<sup>89</sup>

In our two-party perfect information model, the absolute priority rule accounts for our continuing assumption that H can cram down a plan but that E cannot. H can, in principle, propose a plan at round  $e$  that pays  $(0, s)$  and confirm it (that is, cram it down) against E’s objection, because E is junior to H. But E cannot in any round propose and obtain confirmation of a plan that pays any amount to E unless H consents. Thus, in our two-party perfect information model, E can obtain value only because of its ability to use its power to delay in order to extract concessions from H.

This argument assumes that the court can properly enforce the absolute priority rule. Suppose that in round  $e$ , H proposes an all-equity plan that provides for  $(0$  shares,  $100$  shares). H’s claim is  $c=100$ , and H argues correctly that  $s=100$ . E objects to the plan, claim-

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<sup>86</sup> See 11 U.S.C. § 1129(a)(7)(A)(ii) (1994) (stating dissenting creditor must receive “not less than the amount [it would receive] . . . if the debtor were liquidated under Chapter 7 . . .”).

<sup>87</sup> See *id.* §§ 725, 726.

<sup>88</sup> See *id.* § 1129(b)(2)(B)(ii) (“[T]he holder of any claim or interest that is junior to the claims of such class will not receive or retain under the plan on account of such junior claim or interest any property.”).

<sup>89</sup> *Id.* § 1129(b)(1).

ing that  $s=200$  and that therefore, because H's prebankruptcy entitlement is limited to the satisfaction of  $c$ , H should receive only 50 shares. How can the judge evaluate this claim? If the judge cannot make an accurate estimate of  $s$ , then he or she simply cannot determine when cram down is appropriate. However, if the judge can make an accurate estimate of  $s$ , what is the purpose of the Chapter 11 voting rules? After all, if the judge can estimate  $s$ , he or she can reorganize the firm. The conclusion is inescapable that either judges should determine the new capital structure by themselves (which seems implausible) or judges should never cram down a plan that pays in the form of securities rather than cash.<sup>90</sup> Judicially sanctioned cram down might also raise concerns if one assumed that bankruptcy judges, lacking Article III status, might in some cases be biased towards reorganization and against liquidation in an effort to save local jobs.<sup>91</sup>

A problem with the absolute priority rule is that sometimes equity or junior creditors are willing to make loans to the reorganized debtor when imperfect capital markets prevent third party lenders from making such loans. It is possible that the going concern surplus is maximized if such loans are made, that the junior interest will make the loans only if they receive a share of the reorganized firm, and that strict application of the absolute priority rule would interfere with a plan that compensated the junior interest for this contribution because a class of senior creditors object to the plan. Although there is some controversy,<sup>92</sup> case law suggests that there exists a "new value exception" that prevents such interference.<sup>93</sup> Under this exception, a junior class can receive a share of the reorganization so long as it contributes "new value" to the reorganized firm.<sup>94</sup> New value usually is in the form of capital or service.

This raises again the judicial information problem discussed above. Application of the new value exception requires a judge to

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<sup>90</sup> If a plan is all-cash, cram down would still be puzzling: Why not simply have the judge distribute the cash according to the absolute priority rule? As noted above, cram down does not require respect for prebankruptcy entitlements among creditors at the same priority level. See *supra* note 89 and accompanying text.

<sup>91</sup> See Thomas H. Jackson, *The Logic and Limits of Bankruptcy Law* 220-21 (1986) (discussing bias of bankruptcy judges in favor of reorganization).

<sup>92</sup> See, e.g., Walter W. Miller, Jr., *Bankruptcy's New Value Exception: No Longer a Necessity*, 77 B.U. L. Rev. 975, 975-76 (1997) (arguing new value exception is, and should be, missing from Bankruptcy Code).

<sup>93</sup> See, e.g., *In re 203 N. LaSalle St. Partnership*, 126 F.3d 955, 966-67 (7th Cir. 1997), cert. granted, 118 S.Ct. 1674 (1998) (holding new value exception valid); *In re U.S. Truck Co.*, 800 F.2d 581, 588 (6th Cir. 1986) (discussing new value exception and citing pre-Code cases). For an analysis, see Baird & Picker, *supra* note 4, at 325-28.

<sup>94</sup> See *LaSalle St. Partnership*, 126 F.3d at 963.

determine the value of the junior interest's contribution and its compensation in the form of securities in the reorganized firm, so that it can confirm that the compensation is justified by the contribution. The contribution may be easy to evaluate, especially if it is a straightforward capital investment. But the compensation, if in securities, is a function of  $s$ , and by hypothesis the judge does not know what  $s$  is. So the new value exception, like the cram down power itself, depends on an assumption—a high degree of judicial accuracy—that would render the Chapter 11 voting rules unnecessary.

#### IV

#### MAJORITY AND SUPERMAJORITY RULES, AND BICAMERALISM

In Chapter 11 the proponent of the plan (usually the debtor) divides the creditors into classes. Each class votes on the plan separately. A class accepts a plan if (1) a majority of the claims in the class are voted in favor of the plan, and (2) two-thirds of the amount of the claims in the class are voted in favor of the plan.<sup>95</sup> It is convenient to think of this system as bicameral, with a “one claim, one vote” (OCOV) house in which a creditor holds one vote for each of its claims,<sup>96</sup> and a “one dollar, one vote” (ODOV) house in which each creditor has a vote for each dollar of its claim(s). Both houses must approve the plan. We discuss the division into classes (as opposed to having no classes) in Part V. Here we assume that all creditors are in a single class and ask: Why is voting bicameral, and why use a majority requirement for claims and a supermajority requirement for aggregated value?

##### *A. Majority and Supermajority Rules*

There is a continuum of possible voting rules, from dictatorship to unanimity, with majority and supermajority rules in between. If voters are sincere and voting costs are zero, the benefit of information pooling increases as the inclusiveness of the voting rule increases.<sup>97</sup> This result argues for majority, supermajority, or unanimity rules, as opposed to the dictatorship rule. Because the benefit of information pooling increases with the number of voters at a decreasing rate, the

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<sup>95</sup> See 11 U.S.C. § 1126(c) (1994).

<sup>96</sup> This is sometimes known as the “numerosity requirement.” See Sally S. Neely, Investing in Troubled Companies and Trading in Claims and Interests in Chapter 11 Cases—A Brave New World, in *Fundamentals of Chapter 11 Business Reorganizations* 109, 165-66 (ALI-ABA Course of Study No. C763, 1993) (explaining numerosity requirement).

<sup>97</sup> See Miller, *supra* note 18, at 175 (“‘[C]ollective competence’ increases as the size of the group increases . . .”).

gain from moving from a high supermajority rule to a unanimity rule will be small. Accordingly, if voting is costly, a supermajority or majority rule is superior to the unanimity rule.

If voters act strategically, the benefit of more inclusive rules is that it becomes more difficult to exclude parties from a winning coalition and to approve a plan that transfers value away from them to which they are otherwise entitled. Thus, the more inclusive voting rule reduces "exploitation costs." However, as the inclusiveness of the rule increases and more parties must agree, bargaining costs increase. Buchanan and Tullock argue that the optimal voting rule reflects a tradeoff between bargaining costs and exploitation costs.<sup>98</sup> Dictatorship minimizes bargaining costs, but maximizes exploitation costs. Unanimity minimizes exploitation costs, but maximizes bargaining costs. In our two-party models, the voting rule is not an issue: Either both parties must consent, in which case a unanimity rule prevails, or one party can cram down the plan, in which case dictatorship prevails.

To understand the role of voting rules, we must turn to our multiparty models. Initially, assume perfect information. Suppose that  $n$  creditors have claims of varying proportion,  $a_i$ , and varying discount factors,  $d_i$ . At each round a plan can be confirmed only if the voting rule is satisfied. We assume that the liquidation floor is in effect, and that  $e=T$ .

Let us start with a dictatorship rule. One creditor,  $C_d$ , is given the exclusive right to approve or reject the plan.<sup>99</sup> Because of the liquidation floor, the plan is approved if the dictator votes yes and any creditor voting no receives at least its share of the liquidation value.<sup>100</sup> Each creditor obtains  $a_i d_i^T v$  and E retains the balance, which, under normal assumptions about discount factors, will be at least the entire going concern surplus. Despite the dictatorship, each creditor is paid according to the same criteria (discount factor and size of claim), and all creditors vote in favor of the plan. The reason is that E has all the bargaining power and will give dictator and nondictator alike just enough to obtain their assent—that is, the discounted liquidation

<sup>98</sup> See James M. Buchanan and Gordon Tullock, *The Calculus of Consent* 63-72 (1962).

<sup>99</sup> Dictatorship could work in many ways. The dictator could be selected randomly from the pool of creditors, or from a subset comprising the larger or more sophisticated creditors; the dictator could be determined by rule, for example, always the largest creditor; or the dictator could be selected by the judge using some standard of appropriateness.

<sup>100</sup> One might imagine that nondictator creditors do not vote, and are instead imputed to vote against the plan. In such circumstances we would see the "dictator's curse": Just as in our two-party model, the ability of the creditor to waive its right to receive its liquidation value causes it to receive *less* than liquidation value. Here the one voting creditor would be paid less than the nonvoting creditors.

value. If E tried to give a nondictator less value, the latter would object to the plan (preferring liquidation at round  $T$ ), the liquidation floor would prevent confirmation, and E would be forced to offer the higher amount in order to obtain the time value of its return.

Compare a unanimity rule. Using backward induction, E will reason that it must give each creditor enough every round in order to deter it from rejecting the offer with the expectation of eventually obtaining a share of the liquidation value. Therefore, each creditor will receive  $a_i d_i^T v$  and E will receive the balance. This is the same as the result obtained under the dictatorship rule. Surprisingly, then, unanimity and dictatorship produce the same distribution of value among the parties—as would, by the same logic, any intermediate rule such as majority or supermajority.

Let us now ask which rule produces the least delay and how delay produced by the rules may affect payoffs. In the perfect information model, no delay occurs. However, the unanimity rule produces this result whether or not the liquidation floor exists, whereas the majority and dictatorship rules would result in a payoff of 0 to creditors outside the winning coalition in the absence of the liquidation floor. To see why, recall that if a creditor votes no in round  $T-1$  under the unanimity regime, the firm is actually liquidated, and all the parties can anticipate what the yield will be. If a creditor votes no under dictatorship or majority rule, then the proponent can obtain confirmation by persuading the judge that the dissenting creditor receives liquidation value. Thus, the judge can err, and the parties can anticipate this error. If the cases the judge allows to remain in Chapter 11 are a biased sample where the judge tends to underestimate liquidation value, then the judge may err frequently, at least if  $d$  is relatively high and  $T$  is relatively low. The possibility of judicial error creates uncertainty that is likely to be costly. Therefore, the unanimity rule would seem to dominate the other rules along the dimension of judicial error cost.<sup>101</sup>

Now suppose the parties have private information about their valuations. Under the unanimity rule, the debtor and every creditor with relatively low valuations may signal, resulting in possibly substantial delay. Under the dictatorship rule with the liquidation floor, any creditor can also cause delay by voting against a plan that gives the creditor average discounted liquidation value. Thus, there is no reason to believe that either rule (or majority rule) produces less delay.

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<sup>101</sup> Other assumptions yield different results. For example, if some small creditors were likely to vote no due to error or inattention, plan confirmation would be difficult under a unanimity rule, while under a majority rule the debtor could give small creditors their actual liquidation value and the plan could be confirmed even if those creditors voted against it.

However, one might argue that—as above—judicial error might change this result. The difference between unanimity and dictatorship (and majority) is that if a creditor votes no under unanimity the bargaining proceeds to the next round, whereas if a creditor votes no under dictatorship the plan will be confirmed if the judge errs and concludes that the liquidation floor requirement has been met. It might thus appear that delay will occur less often under dictatorship (and majority) than under unanimity. However, it is possible that anticipating judicial error, the parties may, under any of the rules, modify their strategies in ways that we have not considered.

Assume now that  $e < T$ , with perfect information. The dictator would obtain the benefit of agenda control beginning in round  $e$ ,  $s - d^{T-e}v$ , and it and the other creditors would obtain  $a_i d^{T-e}v$ . Thus, the first round payoffs to debtor, dictator, and  $n-1$  other creditors would be  $\{s - d^e s, d^e(s - d^{T-e}v + a_i d^{T-e}v), a_i d^{T-e}v\}$ , with the last term referring to the payoff for each of the other creditors. By contrast, suppose that under the unanimity rule any creditor would have an equal chance to propose the plan at any given round  $t > e$ . The creditors would have equal expected payoffs:  $\{s - d^e s, d^e(1/n(s - d^{T-e}v) + a_i d^{T-e}v)\}$ . The last term reflects the fact that each creditor receives a  $1/n$  share of the surplus at round  $e$ , plus its discounted share of the liquidation value at round  $e$ . Notice that (i) the debtor receives the same payoff under both rules; (ii) the creditors share more equally under the unanimity rule than under the dictatorship rule, but that these shares reflect not just prebankruptcy entitlements (as reflected in  $a_i$ ) but also relative bargaining power ( $1/n$ ). So although the rules produce different distributions, there is no basis for preferring one rule over the other—except again the unanimity rule alone does not require the parties to anticipate a possibly erroneous judicial determination of liquidation value.

One might think that majority rule would produce distributions that lie between those produced by unanimity and dictatorship, but this is not the case. To see why, imagine a OCOV system, where each creditor has one claim, and thus one vote. Suppose there are three creditors, and assume away cycling. At round  $e$ , each creditor has a one-third chance (regardless of the size of its prebankruptcy entitlement) of proposing a plan that would include one other creditor in a coalition and exclude the third. (We will assume that the debtor does not make proposals after round  $e$ .) This means that at round  $e$ , each creditor has a two-thirds chance of being in a winning coalition. Assume further that if a creditor is in a winning coalition, it divides the round  $e$  surplus with the single other creditor in that coalition. All creditors, whether or not in the coalition, receive their discounted liquidation value; but those within the coalition also receive a share of



the round  $e$  surplus. Therefore, each creditor expects at round  $e$  to receive  $\frac{2}{3}b(\frac{1}{2})(s-d^{T-e}v)+a_i d^{T-e}v$ . Each creditor would thus vote in favor of a plan at round 0 that offered it  $\frac{1}{3}(d^e s-d^T v)+a_i d^T v$ .<sup>102</sup> However, and here is where the majority rule has bite, the debtor only needs to pay this amount to *two* creditors. The debtor could, of course, gain the assent of the third creditor by also offering it this amount, but it could instead give the third creditor its *actual* liquidation value.<sup>103</sup> In the latter case, although the creditor votes against the plan because it receives less than it expects given its chance for agenda control in the postexclusivity period, the plan will be approved over its objection because the dissenting creditor receives actual (not discounted) liquidation value and a majority approves the plan. To maximize its own share, therefore, the debtor pays the third creditor  $\min\{\frac{1}{3}d^e s-(\frac{1}{3})d^T v+a_i d^T v, a_i v\}$ , that is, either the creditor's discounted liquidation value plus round  $e$  surplus or the creditor's actual liquidation value—whichever is less. The third creditor can be any of the three creditors, so the debtor will choose which creditor to exclude in a manner that minimizes the total payout to the three creditors.<sup>104</sup> On average (as long as sometimes a minority of creditors do worse if they receive their share of actual liquidation value) the debtor is made better off under majority rule than under dictatorship or unanimity rule, and creditors are treated less equally than under these two alternatives. This result is counterintuitive in light of the Buchanan and Tullock hypothesis,<sup>105</sup> but it follows from the fact that the debtor has more bargaining power when it can play creditors against each other than when it must bargain with a single creditor (under dictatorship) or all the creditors equally (under unanimity).

Suppose that information is imperfect. For dictatorship and unanimity, as is the case when  $e=T$ , there is no reason to believe that the rules would produce differences in the amount of delay. Under both rules, all  $n$  creditors potentially have both an incentive to signal (to persuade the debtor and other creditors that they attach a high value to their liquidation share) and the means to do so (the debtor needs their vote, due to the voting rule under unanimity and to the liquida-

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<sup>102</sup> See *supra* Part I.B.4. Note that there we assumed two creditors but that the debtor can make a proposal after round  $e$ ; here we assume three creditors but that the debtor cannot make a proposal after round  $e$ .

<sup>103</sup> Alternatively, the debtor might gamble on judicial error and offer somewhat less than actual liquidation value if the savings from doing so outweigh the likelihood of the judge's correct enforcement of the liquidation floor times the cost of delay.

<sup>104</sup> Creditors with smaller claims and/or higher discount factors than other creditors would be good candidates for exclusion, as discussed *infra* Part IV.B.

<sup>105</sup> See Buchanan & Tullock, *supra* note 98, at 63-72 (suggesting majority rule may be optimal trade-off between exploitation and bargaining costs).

tion value floor under dictatorship<sup>106</sup>). With a majority rule delay may be *less* likely. If the debtor excludes some creditors and pays them their actual liquidation value, they lose the means to signal even if they have the incentive to do so because the judge confirms a plan over their objection. Because fewer creditors can signal, it would seem that delay is less likely.

Now let us consider the possibility of cycling, which can occur after the exclusivity period terminates, under both perfect and imperfect information. Cycling will not occur under any voting rule when  $e=T$ , so we confine our attention to the case when  $e<T$ . If the dictatorship rule prevails, cycling will not occur: In round  $e$  the dictator makes a take it or leave it offer, and the other creditors accept it. If the unanimity rule prevails, creditors could be expected to submit a blizzard of plans in round  $e$ , with each plan favoring its proponent. As a result, postexclusivity delay seems more likely than under dictatorship. This is not because dictatorship constrains the ability of creditors to express their preferences about a plan (given the liquidation floor, their assent, as we have seen, is necessary<sup>107</sup>). Rather, it is because under dictatorship the nondictator creditors remain passive about *what* plan will be voted on, whereas with unanimity numerous plans will be proposed and the winnowing of plans and progress towards unanimity might be time consuming and costly. For the same reason, postexclusivity delay is likely under majority rule. But the likelihood of postexclusivity delay does not translate into real delay. Given the exclusivity period, it translates instead into the debtor making lower offers to creditors. Because the creditors do not expect to capture  $s$  immediately in round  $e$ , the increase in the debtor's payout (from a base of discounted liquidation value) ordinarily necessitated when  $e<T$  will be reduced.

Thus, we conclude that creditors as a whole are likely to do best relative to the debtor under dictatorship, and worst under majority rule. Unanimity occupies an intermediate position. None of these rules leads to respect for prebankruptcy entitlements. The debtor and the dictator always do too well, and the other creditors' payoffs are a function of the distribution of bargaining power produced by the voting rules, rather than of prebankruptcy entitlements.

With respect to delay, majority rule reduces signaling, so delay may be reduced relative to the other rules. A dictatorship rule is likely to produce less delay than a unanimity rule, because sometimes

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<sup>106</sup> Although the point about judicial error for nonunanimity voting rules remains valid.

<sup>107</sup> See *supra* note 106 and accompanying text.

judicial error with respect to the liquidation floor will cause a plan to be confirmed over a (nondictator) creditor's dissent.

One final point: Some creditors, especially those with small claims, might opt not to vote. Under § 1126(c), the voting thresholds must be met only among those creditors who cast ballots for or against the plan.<sup>108</sup> Thus, the debtor might be expected to curry favor with larger creditors since they would be a larger percentage of voting creditors than of all creditors. However, the debtor cannot disfavor smaller creditors simply because most may not vote: Even a single negative vote from a small creditor could derail a plan because a dissenting creditor is protected by the liquidation floor.

### B. *Bicameralism*

One might think that the optimal voting rule, whatever it is, lies somewhere on the continuum between dictatorship or unanimity, its precise location depending on the optimal tradeoff among the factors discussed above. The drafters of the Code could have taken their best guess, and left it at that. Instead, they added another layer of complexity. The Code provides for a bicameral system, under which the creditors vote, in effect, twice: once based on the principle of "one claim, one vote," and once based on the principle of "one dollar, one vote."<sup>109</sup>

To analyze this bicameral system, we will use unicameral voting based on the size of claims as the baseline, because that is the system typically used by corporations outside of bankruptcy.<sup>110</sup> We then ask, what is gained by requiring an OCOV house?

Initially, we note that bicameralism has an effect only under majority or supermajority rule. Under a dictatorship rule, the single

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<sup>108</sup> See 11 U.S.C. § 1126(c) (1994) (counting only the "claims . . . that have accepted or rejected such plan").

<sup>109</sup> See *id.* (conditioning acceptance of plan on acceptance by majority of creditors of claims and by holders of at least two-thirds of value of total claims). Two systems, each different from Chapter 11's, were used under the Bankruptcy Act. Chapter XI used a bicameral system, requiring the assent of both a majority of creditors and a majority of the aggregated value of claims. See Bankruptcy Act of 1898, ch. 575, § 362(1), 52 Stat. 840, 892 (repealed 1978). Chapter X used a unicameral system, requiring the assent of two-thirds of the aggregated value of claims. See *id.* ch. 575, § 179, 52 Stat. at 911; see also Neely, *supra* note 96, at 144-45 (discussing voting under Bankruptcy Act).

<sup>110</sup> See Frank H. Easterbrook & Daniel R. Fischel, *The Economic Structure of Corporate Law* 68-69 (1991) (advocating one share, one vote as reflecting strength of shareholder's incentive to make good decisions, which varies with size of shareholder's economic interest). Note that one share, one vote in corporate voting occurs against a backdrop of equal treatment among shareholders in terms of their payouts. See, e.g., *Sinclair Oil Corp. v. Levien*, 280 A.2d 717, 720, 722-23 (Del. 1971) (holding controlling shareholder violated fiduciary duty where it caused firm to enter into transactions that benefited itself but injured minority shareholders).

creditor with the decisive vote in one house has control in both houses, so the outcome does not change when a second house is added. Under unanimity, if all the creditors agree in one house there is necessarily agreement in the second house as well, in spite of the fact that relative voting strength (nominally) differs between the houses. For simplicity, we begin by ignoring supermajority rule, and, accordingly, confine our attention to majority rule.

Bicameralism influences voting outcomes only when there are multiple creditors, so we set aside our two-party models. For the sake of brevity we confine our analysis to bargaining under perfect information. We assume  $e < T$ , because when  $e = T$  the voting rules do not matter: The debtor gives each creditor its discounted liquidation value.<sup>111</sup>

Assume  $n$  creditors, each with one claim,  $c_i$ . Under the OCOV majority rule, a majority coalition consists of any group of  $w$  creditors, such that  $w/n > 1/2$ . Under the ODOV majority rule, a majority coalition consists of any group of  $w$  creditors, such that  $\sum_{i=1}^w c_i / \sum_{i=1}^n c_i > 1/2$ . If all creditors have the same size claim, such that  $c_i = c$ , then the second formula becomes  $w/n > 1/2$ : The outcome is the same under both rules. Thus, bicameralism cannot be explained if one assumes that claims are homogenous.

Suppose, then, that claims are heterogeneous. As the average size of claims in the winning coalition rises, the first inequality can be violated while the second inequality holds. In the extreme, a single creditor with a claim of \$1000 can defeat 99 creditors with claims of \$10 in the ODOV house while losing in the OCOV house. At first sight, then, one might argue that by adding an OCOV house to a baseline represented by ODOV, the Bankruptcy Code reduces the power of large creditors as compared to small creditors.<sup>112</sup> The reality, however, is more complex.

To see why, we need to analyze the problem more rigorously. Recall our discussion of majority rule in Part IV.A, which assumed that each creditor has one vote. Recall that each of three creditors expects at round  $e$  to receive  $2/3(1/2)(s - d^{T-e}v) + a_i d^{T-e}v$ . Generalizing, let  $r_i$  be a creditor's probability of being in the winning coalition. Then,

<sup>111</sup> See *supra* Part IV.A.

<sup>112</sup> Note that if the large creditor held one hundred \$10 claims rather than one \$1000 claim, it could prevail in both houses. While we discuss this issue briefly *infra* Part VI.B, we generally assume in this section that each creditor has a single claim. Prevailing practice treats a creditor with, for example, ten bonds of \$100 as holding a single \$1000 claim, although the Bankruptcy Code's definition of "claim" is murky on this point, see 11 U.S.C. § 101(5)(A) (1994), and although courts may treat these bonds separately for the purpose of claim buying. See *infra* Part VI.B.

each creditor expects at round  $e$  to receive  $(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v$ . The debtor must pay the excluded creditors  $(\min\{(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v, a_i v\})$ . At round 0, payoffs for the included and excluded creditors are  $\{d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v], (\min\{d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v], a_i v\})\}$ . The debtor will receive  $s-\sum_{i=1}^w[d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v]]-\sum_{i=1}^n[\min\{d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v], a_i v\}]$ . To determine the relative effects of the OCOV and ODOV systems, we need to examine their effects on  $r$ , a creditor's probability of being in the winning coalition, and  $w$ , the size of the winning coalition.

How is  $r$  determined? To answer this question one must imagine how creditors bargain, beginning at round  $e$ . Each creditor has an equal  $1/n$  chance of proposing the plan, so the ability to propose cannot account for differences in  $r$ . Instead, what matters is whether a creditor, as the proponent, can persuade other creditors to vote for its plan and whether this creditor is likely to be selected by other proponents. Consider the following five possible distributions (1-5) of claim size for five creditors, A-E, under OCOV.

TABLE 1

	A(r)	B(r)	C(r)	D(r)	E(r)
1	10(.6)	10(.6)	10(.6)	10(.6)	10(.6)
2	10(.75)	10(.75)	10(.75)	10(.75)	10(0)
3	10(1)	10(1)	10(1)	10(0)	10(0)
4	10(1)	10(1)	1(.33)	1(.33)	1(.33)
5	10(1)	1(.5)	1(.5)	1(.5)	1(.5)

In distribution 1, the proponent (which is each creditor with probability  $1/5$ ) is indifferent about which other two creditors join in a winning coalition. Because a coalition must have three creditors, each creditor has a three in five chance of being selected. Therefore,  $r=0.6$ . In distribution 2, one might also think that for each creditor  $r=0.6$ , but this is false. If the proponent is a large creditor (A-D), it will prefer adding other large creditors to its coalition rather than small creditors. The reason is that the plan must pay *excluded* creditors their discounted liquidation value (if this amount is less than the amount necessary to obtain their consent), and large creditors have higher liquidation values than small creditors (assuming a constant discount factor<sup>113</sup>). The plan must pay *included* creditors a portion of the surplus, but this amount is invariant with respect to the size of a claim. So a proponent does better by including the larger creditors and ex-

<sup>113</sup> If a large creditor's discount factor is high, it might be replaced in the winning coalition by a smaller creditor with a lower discount factor.

cluding the smaller creditors. Accordingly,  $r=.75$  for the large creditors but  $r=0$  for E.<sup>114</sup>

This does not mean that small creditors never have voting power. In distribution 4, the small creditors have  $r=.33$  because three creditors are necessary to form the winning coalition; each small creditor has a  $\frac{1}{3}$  probability of being selected. But one would not observe a coalition of, say, A, C, and D, because A prefers to join B in order to avoid paying B's high discounted liquidation value. As for  $w$ , it is the smallest integer such that  $w > n/2$ .

In the ODOV house,  $r$  will differ under certain conditions (as italicized). In general, smaller creditors' votes are less necessary.

TABLE 2

	A(r)	B(r)	C(r)	D(r)	E(r)
1	10(.6)	10(.6)	10(.6)	10(.6)	10(.6)
2	10(.75)	10(.75)	10(.75)	10(.75)	1(0)
3	10(.67)	10(.67)	10(.67)	1(0)	1(0)
4	10(1)	10(1)	1(0)	1(0)	1(0)
5	10(1)	1(0)	1(0)	1(0)	1(0)

In distribution 3, A would never choose D or E for the reasons given above, and now a two-party coalition is sufficient, rather than the three-party coalition needed under the creditors system. This also explains the difference in distribution 4. Now  $w$  can be as low as 1 if a single creditor has a claim larger than half of the aggregate claims (as in distribution 5).

To compare the two systems, focus on the debtor's payoff function, and in particular the term,  $\sum_{i=1}^w [d^i [(r_i/w)(s-d^{T-c}v) + a, d^{T-c}v]]$ , which the debtor wants to minimize. We saw above that both  $r$  and  $w$  are on average smaller in the ODOV house than in the OCOV house. The reason is that in the former, fewer creditors will be in the coalition ( $w$ ) and, thus, each creditor has on average a smaller chance of being in the coalition ( $r$ ). The reduction in  $r$  as one moves from dollar-based to claim-based voting directly reduces the value of this expression, making the debtor better off. The reduction in  $w$ , however, has an ambiguous effect. On the one hand, it reduces the *number* of terms in

<sup>114</sup> More precisely, given our assumptions,  $r=.2$  for E, because E would include itself in the winning coalition when it is the plan proponent. In that case  $r$  for A-D would be  $.75(.8) + .5(.2) = .7$ . Note that this changes only the magnitude, but not the direction, of the effect of the size of a creditor's claim on  $r$ . This might be sensible if one imagined that smaller creditors have less information than larger creditors about maximizing  $s$ , and thus their plans might be taken less seriously by the group of creditors as a whole. For simplicity, however, we ignore this possibility.

the expression, and therefore, because all terms are positive, it reduces the aggregate. On the other hand, it increases the *value* of each term, and therefore it increases the aggregate. There is thus no *ex ante* reason to believe that on average moving from dollar-based to claim-based voting increases (or decreases) the payoff to the debtor.

As an example, consider distribution 5. Under the OCOV system, A would be in the coalition with a probability of 1, and B-E would be in the coalition with a probability of 0.5;  $w=3$ . Assume  $d=0.9$ ,  $e=2$ ,  $T=3$ ,  $s=10$ ,  $v=4$ . A must be paid  $(.81)[(\frac{1}{3})(10-(.9)(4))+(10/14)(.9)(4)]=3.81$ . Suppose the debtor chooses to include B and C. Then B and C each receive  $(.81)[(0.5/3)(10-(.9)(4))+(1/14)(.9)(4)]=1.07$ . D and E each receive  $\min\{(.81)[(0.5/3)(10-(.9)(4))+(1/14)(.9)(4)], (1/14)(4)\}=0.29$ . Thus, the debtor retains  $10-3.81-2(1.07)-2(.29)=3.47$ .

Under the ODOV system, A would be in the coalition with probability of 1, and B-E creditors would be in the coalition with probability 0;  $w=1$ . A must be paid  $(.81)[(1)(10-(.9)(4))+(10/14)(.9)(4)]=7.27$ . The four small creditors receive their *discounted* liquidation value, 0.21. (They would vote in favor of such a plan: Because they will not be in a postexclusivity winning coalition ( $r=0$ ) they do not benefit from the termination of exclusivity.) Thus, the debtor retains  $10-7.27-4(0.21)=1.89 < 3.47$ . In this example, the creditors as a group receive higher payouts under ODOV majority rule than under OCOV, but—as we said above—one cannot generalize.

Against this rather confusing background one can evaluate bicameralism. If the bicameral system required a majority of claims and a majority of aggregated value, it would produce an outcome identical to that of a unicameral OCOV system. The reason is that under OCOV majority rule, the plan proponent prefers to include the largest creditors in the winning coalition; therefore, any coalition that obtains a majority under OCOV contains a majority of aggregated claim value.<sup>115</sup> Thus, the comparison between majority bicameralism and the ODOV baseline is the same as the comparison between the OCOV system on its own and the baseline.

Chapter 11's bicameralism, however, provides that the ODOV house must approve the plan by a two-thirds supermajority. To see the effect of this requirement, consider the table below.

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<sup>115</sup> Counterintuitively, even though bicameralism is stricter in terms of the assent that is required for plan approval, creditors as a group might do worse than under ODOV, as seen in the last example. This is because under OCOV, individual smaller creditors are uncertain about whether they will be in the winning coalition, an uncertainty the debtor can take advantage of in round 0.

TABLE 3

# of creditors (claim value)	Total value of claims	2/3 Agg'd value rule: # of creditors (claim values)	Claim majority rule: # of creditors (claim values)	Bicameral: # of creditors (claim values)
9(1)	9	6(1)	5(1)	6(1)
1(10), 8(1)	18	3(10,1,1)	5(10,1,1,1,1)	5(10,1,1,1,1)
2(5), 7(1)	17	4(5,5,1,1)	5(5,5,1,1,1)	5(5,5,1,1,1)
3(4), 6(1)	18	3(4)	5(4,4,4,1,1)	5(4,4,4,1,1)
5(2), 4(1)	14	5(2)	5(2,2,2,2,2)	5(2,2,2,2,2)

Bicameralism affects the outcome under OCOV majority rule only when claims are relatively homogenous. The reason is that when claims are heterogeneous, the coalition under OCOV majority rule includes the largest creditors, so their claims frequently aggregate to greater than two-thirds of the total value of claims. Only when claims are more homogenous must the proponent add creditors to the coalition so that claim value reaches two-thirds. But we observed earlier that the OCOV and ODOV systems produce the same outcome when claims are homogenous. The difference in row 1 above, then, arises because Chapter 11's ODOV house requires a two-thirds supermajority while the OCOV house requires only a majority. So Chapter 11's bicameral system is basically the same as an OCOV system except that it requires a supermajority when claims are homogenous. We see no normative justification for this result.

To illustrate, distinguish the competition over value between the debtor and the creditors as a group, and the competition over value among creditors. In the first competition, the relative merits of the ODOV system and the OCOV system are ambiguous. In the second competition, small creditors do better under the OCOV system than under the ODOV system, because under the former small creditors are more likely to be included in the winning coalition. The bicameral system produces the same outcome as unicameral OCOV does, except by requiring a supermajority when claims are homogenous. It is hard to understand why this difference would be desirable.

One might argue that for the purpose of information pooling, the ODOV system dominates the creditor system. If larger creditors have more information about a firm, then their votes are entitled to greater weight under the Condorcet Jury Theorem. Indeed, small and uninformed creditors like minor trade creditors, warranty holders, and



workers might have no information about the value of the firm.<sup>116</sup> If, for them,  $p=0.5$ , their vote should have no weight. Thus, the goal of information pooling implies reliance on ODOV-based voting, while the goal of avoiding exploitation does not clearly (or systematically) favor one method over the other. We leave open the question of how these competing goals can be reconciled, but see no reason to believe that requiring both kinds of voting in a bicameral system is the solution.

## V

### CLASSIFICATION AND THE EQUAL TREATMENT RULE

Chapter 11 requires that a reorganization plan divide creditors and other interest holders into classes<sup>117</sup> and states that claims placed in a given class must be “substantially similar” to one another.<sup>118</sup> The statute does not forbid the division of similar claims into different classes, but the courts tend to disapprove of this practice.<sup>119</sup> For the moment, we assume that this practice is forbidden. The Code also requires that all members of a class be treated equally.<sup>120</sup> The question we address now is why the Code would permit and require the division of claims into classes, rather than having a single class consisting of all the claims. We start by discussing equal treatment, then move on to classification.

#### A. *Equal Treatment*

Because classification and equal treatment are issues only if there is more than one creditor, we cannot rely on our two-party models. Instead, we must use the multicreditor models. Begin by assuming that the equal treatment rule prevails but that classification is not permitted. This would mean that the debtor must give every creditor the same number of cents on the dollar. Suppose that there are  $n$  creditors with claims of  $c_i$ , and  $e < T$ . Recall the payoffs under the dictatorship, unanimity, and majority rules:

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<sup>116</sup> The correlation between claim size and information need not always be positive. For example, two banks might have made identical loans to the debtor, but the bank with better information might have the smaller claim in bankruptcy if it used its information to accelerate part of its loan before the preference period or to decline to renew part of the loan. See George G. Triantis & Ronald J. Daniels, *The Role of Debt in Interactive Corporate Governance*, 83 Cal. L. Rev. 1073, 1094-95 (1995) (describing § 547(b)(3)'s debtor insolvency requirement as creating incentive for banks to accelerate loans preinsolvency, in turn signaling other creditors of impending problems).

<sup>117</sup> See 11 U.S.C. § 1123(a) (1994).

<sup>118</sup> *Id.* § 1122(a).

<sup>119</sup> See *infra* note 138.

<sup>120</sup> See 11 U.S.C. § 1123(a)(4) (1994).

TABLE 4

	Debtor	Dictator/Coalition	Other creditors
Dict.	$s-d^e s$	$d^e(s-d^{T-e}v+a_d d^{T-e}v)$	$a_i d^{T-e}v$
Unan.	$s-d^e s$	n/a	$d^e(1/n(s-d^{T-e}v)+a_i d^{T-e}v)$
Maj.	$s-x$	$d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v]$	$\min\{d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v], a_i v\}$
where $x=\sum_{i=1}^w [d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v]]+\sum_{i=w+1}^n [\min\{d^e[(r_i/w)(s-d^{T-e}v)+a_i d^{T-e}v], a_i v\}]$ .			

It might seem that the equal treatment rule would change these payoffs in significant ways. Consider first dictatorship. At round  $e$ , the dictator knows that it cannot insist on a plan that treats it better than the other creditors; if it did, a court would strike down the plan. Thus, the dictator must propose a plan that divides the round  $e$  surplus equally, giving each creditor (including itself)  $a_i s$ . Accordingly, in round 0 the debtor will propose to pay each creditor  $d^e a_i s$ . All creditors, including the dictator, will consent, because they can do no better from waiting. Thus, the equal treatment rule transfers value from the dictator to other creditors without affecting the debtor's payoff. And it does this with much more respect for prebankruptcy entitlements, as compared to the unanimity rule without equal treatment, because creditors share in the round  $e$  surplus based on the size of their prebankruptcy claim ( $a_i$ ) rather than on their expected postexclusivity bargaining power ( $1/n$ ).

The problem with this argument is that creditors can waive the right to equal treatment.<sup>121</sup> Because the dictator has agenda control at round  $e$ , it presents the creditors with a take-it-or-leave-it offer. If a creditor votes against the plan, it will expect the same plan in the next round, so it will do no worse by accepting the plan in the initial round. We saw the same phenomenon with the liquidation floor.<sup>122</sup> Creditors would benefit from the equal treatment rule only if they were not free to waive it!

It is worth examining in more detail how the equal treatment rule would protect creditors if they could not waive it. There are two reasons for doing so. First, a court might refuse to approve a plan that treats creditors too unequally, even if some of them waive their rights under the equal treatment rule. Second, the assumption that the dictator has agenda control may be too strong, and it is possible that under a model of alternating offers the equal treatment rule would affect parties' strategies.

<sup>121</sup> See *id.*

<sup>122</sup> See *supra* Part III.A.

We have assumed that each creditor has the same discount factor,  $d$ . If discount factors vary, then payoffs under dictatorship without the equal treatment rule are  $\{s-d_a^e(s-d_a^{T-e}v+a_d d_a^{T-e}v)-\sum_{i=1}^{n-1} a_i d_i^T v, d_a^e(s-d_a^{T-e}v+a_d d_a^{T-e}v), a_i d_i^T v\}$ . The equal treatment rule, in contrast, requires payoffs of  $\{s-d_h^e s, d_h^e a_i s\}$ , where  $d_h$  is the *highest* discount factor of any creditor.<sup>123</sup> This better respects prebankruptcy entitlements. The debtor's payout is reduced because  $d_h \geq d_a$ , and between-creditor payments more fully reflect prebankruptcy entitlements, which do not vary with  $d_i$ . With imperfect information, the number of creditors with an incentive to signal based on their discount factor would decline, but there might still be some signaling if the debtor incorrectly estimated  $d_h$ .

Equal treatment has similar beneficial effects under the unanimity and majority rules. With equal treatment, majority rule loses the disadvantage discussed in Part IV, namely, that the debtor can, by exploiting creditors' fear of being excluded from the winning coalition, give some creditors less than they would demand under unanimity or dictatorship. With equal treatment, each creditor obtains the same payoff whether or not included in the majority coalition. Thus, the debtor cannot use the threat to exclude creditors from the coalition in order to obtain more than  $s-d^e s$ . So, too, should equal treatment reduce the likelihood of postexclusivity cycling, since the plan proponent must treat itself, other members of the winning coalition, and members outside the winning coalition equally. Again, these arguments assume that equal treatment is not fully waivable.

However, the nonwaivable equal treatment rule can create problems when creditors differ with respect to whether they have a "postbankruptcy interest."<sup>124</sup> Suppose that  $n$  creditors have identical claims worth  $c$ , but that  $m < n$  creditors (for example, workers) have a postbankruptcy interest worth  $h$ . Note that  $h$  must be included in the social value of the firm,<sup>125</sup> so even if  $s=v$ , the firm should be reorganized: Its social value is  $v+mh$ . For simplicity, suppose that  $d=1$ . Sup-

<sup>123</sup> If creditors were instead offered only  $d_i^e a_i s$ , any creditor with a discount factor greater than the dictator's would vote against the plan. If the dictator were a large financial institution, its discount factor might tend to be on the high end of the range of creditors' discount factors. If a small creditor had the highest discount factor, the debtor might give it  $a_h v$ , and then pay the rest of the creditors their share of liquidation value discounted by the next highest discount factor.

<sup>124</sup> That is, they obtain some nonplan return from reorganization as opposed to liquidation; for example, workers avoiding dislocation or job search costs, or trade creditors retaining customers.

<sup>125</sup> From the perspective of an owner of the firm,  $h$  is a positive externality to reorganization, i.e., a benefit not captured by the owner (unless the  $m$  creditors organize to pay a bribe). To the extent that liquidation would result in other workers obtaining value which they would lose in a reorganization,  $h$  overstates the social value of reorganization. How-

pose the debtor proposes a plan that gives each creditor  $x(0)/n$ , where  $x(0) < v$ , but  $x(0) + mh > v$ . The creditors without postbankruptcy interests (for example, banks) would vote against the plan, because  $x(0)/n < v/n$ , and the workers would vote in favor of the plan, because  $x(0)/n + h > v/n$ . Under a unanimity rule, or a majority rule if  $m < n/2$ , the socially valuable plan would not be confirmed if equal treatment is required.<sup>126</sup> If equal treatment is not required, however, the debtor would offer the banks  $v/n$  and the workers  $v/n - h$ ; the plan would be confirmed. Thus, equal treatment can prevent some desirable reorganizations from occurring.

The equal treatment rule makes majority rule as attractive as dictatorship and unanimity, and it improves the results under all three rules by reducing the debtor's payoff, increasing the creditors' payoffs, and producing payoffs that more closely track prebankruptcy entitlements. However, the equal treatment rule has a significant disadvantage. It interferes with confirmation of plans where creditors have different postbankruptcy interests that, summed with the going concern value of the firm, exceed its liquidation value.

### B. Classification

Classification is best understood against the backdrop of the nonwaivable equal treatment rule.<sup>127</sup> As we saw above, the equal treatment rule is advantageous when creditors have different discount factors and/or when majority rule is used, but disadvantageous when creditors have differing postbankruptcy interests. Without the equal treatment rule, the debtor would not exercise its classification power (unless compelled by a court), because classification could only make it more difficult for a plan to be approved (setting aside cram down).<sup>128</sup> If the debtor did not have the support of a majority of

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ever, if  $h$  is a function of a relationship-specific investment that would be lost as a result of reorganization, it is quite possible that  $h > 0$  and reorganization is socially valuable.

<sup>126</sup> To be sure, the workers might voluntarily give up some of their cash, see 11 U.S.C. § 1123(a)(4) (1994) (allowing holder of claim or interest to choose less favorable treatment of such claim or interest), but bargaining and coordination costs might interfere with this result.

<sup>127</sup> See *id.* If the equal treatment rule is waivable, classification is hard to understand. The debtor would give each creditor its discounted liquidation value, and each creditor would waive its right to equal treatment. If the creditors waive their right to equal treatment, the debtor gains nothing by classifying creditors rather than treating them individually.

<sup>128</sup> Thus, since Canadian reorganization rules use class-based voting but lack equal treatment or cram down, see LoPucki & Triantis, *supra* note 3, at 324-25 (describing lack of cram down); George G. Triantis, *Keeping the Gates to Corporate Reorganization: Judicial Activism Under the BIA and CCAA*, 28 *Can. Bus. L.J.* 279, 289-90 & n.47 (1997) (book review) (discussing lack of equal treatment), we would expect to see most classification

claims and two-thirds of the aggregated value of claims from the creditors as a group, it could not obtain approval of the plan from all the classes produced by any possible division of creditors into subsets.<sup>129</sup> If the plan would pass if presented to the creditors grouped in a single class, it might fail once multiple classes are formed, since a minority that lacked veto power in a single class might have veto power as part of a smaller class. Put another way, the greater the number of classes, the greater the number of creditors whose assent is necessary for plan approval, which would reduce exploitation and increase bargaining costs, both to the disadvantage of the debtor.

Thus, the debtor's power to classify can be seen as a response to the rigidity created by the equal treatment rule. As illustrated above, the equal treatment rule interferes with reorganization when creditors have different postbankruptcy interests.<sup>130</sup> Recall the example above, where the equal treatment rule prevented the debtor from obtaining support for an optimal plan by giving the workers less than the banks. With the power to classify, the debtor can place the banks in one class and give them  $s/n$  each in cash or securities, and the workers in another class and give them  $s/n-h$  each. Because each trade creditor expects an additional  $h$ , and  $s/n-h+h > v/n$ , all creditors would approve the plan.

However, while classification mitigates the postbankruptcy interest problem,<sup>131</sup> it creates a new problem. The debtor can use the classification power to gerrymander, that is, to create classes opportunistically in order to maximize its return at the expense of the creditors (as compared to one class with the equal treatment rule in

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disputes feature creditors arguing that they should be classified separately, in order to increase their bargaining power. In the U.S. the picture would be more mixed, since separate classification increases a creditor's voting power but deprives it of equal treatment protection and raises the threat of cram down even if it votes no. See 11 U.S.C. § 1129(b)(1) (1994) (relaxing, for cram down purposes, § 1129(a)(8)'s requirement that each impaired class accept the plan).

<sup>129</sup> See Mark S. Scarberry et al., *Business Reorganization in Bankruptcy* 704 (1996) (explaining that there is no way to divide claims into classes that will consensually confirm plan where majority of creditors oppose plan).

<sup>130</sup> Another example of a return that could be captured only through unequal treatment is restricting the number of creditors paid with stock in the reorganized firm in order to avoid the cost of public registration. See, e.g., *In re Piece Goods Shops Co.*, 188 B.R. 778, 788-89 (Bankr. M.D.N.C. 1995) (approving separate classification on this ground).

<sup>131</sup> This analysis raises the puzzle of why creditors who would seem to have postbankruptcy interests are sometimes offered more by the debtor than creditors who seem not to have such interests. See, e.g., *In re Chateaugay Corp.*, 89 F.3d 942, 949-51 (2d Cir. 1996) (noting workers' compensation claims held by class of workers paid at higher rate than otherwise identical claims held by surety class). Perhaps the postbankruptcy interest is reciprocal—that is, the firm needs the workers in order to maximize its value as much as the workers need a reorganization to maximize their payout.

effect). There are at least three forms of gerrymandering. First, if each creditor  $i$  has a different discount factor,  $d_i$ , then the debtor would want to make a different offer to each creditor, such that  $x_i(0)=d_i^T v$ . The debtor avoids the equal treatment rule by placing impatient creditors in a separate class, and offering them less than patient creditors with identical prebankruptcy interests. If gerrymandering were unrestricted, the debtor could put every creditor in its own class and pay it a different share, thus completely undermining the effect of the equal treatment rule. Indeed, the debtor could go further and form classes in which impatient creditors can outvote a minority of patient creditors and approve plans that discriminate against the latter.<sup>132</sup>

Second, even if courts can strike down schemes that too obviously classify creditors by discount factor, debtors can gerrymander in more subtle ways. One such way is to divide the claims of a creditor with multiple claims among several classes ("overlap"). This practice is not necessarily undesirable, because sometimes creditors have different kinds of claims and therefore different interests: for example, a secured and an unsecured claim.<sup>133</sup> It is common to divide secured and unsecured claims of a single creditor into two classes. But if the debtor has this power, it can also classify creditors in an exploitative way. For example, suppose that the intraclass voting rule is bicameral, requiring a majority of claims and of aggregated value, and that the equal treatment rule is in effect. Assume that  $e < T$ , so that creditors expect to obtain more than  $d^T v$ . The debtor has three creditors, who have claims of 401, 401, and 300 respectively. Respect for prebankruptcy entitlements requires the creditors to receive roughly (4/11, 4/11, 3/11) of the payout. If the distribution of bargaining power is such that creditors will receive 100 in the aggregate, the creditors should receive 36, 36, and 27 respectively, and they would in a single class with equal treatment. Suppose now that the debtor divides the creditors into the following classes:

The debtor can obtain majorities of claims and dollars in both classes by attracting the votes of  $C_1$  and  $C_2$ ;  $C_3$  can be outvoted in both classes. By assumption,  $C_1$  and  $C_2$  will vote in favor of a plan that offers them a payout of 36. The debtor can thus obtain their assent by offering a payout of 84 to Class 1 and a payout of 1 to Class 2. To see why, observe that  $C_1$  and  $C_2$  each have a share of 3/7 in class 1. Thus,

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<sup>132</sup> This kind of opportunism is possible only when  $e < T$  and the outvoted, more patient creditors would need to receive at least their share of actual liquidation value, given the protection of the liquidation floor.

<sup>133</sup> See 11 U.S.C. §§ 506(a), 1111(b) (1994) (governing treatment of undersecured creditors).

TABLE 5

	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>
Class 1	300	300	100
Class 2	101	101	200

given the intraclass equal sharing rule, they each receive  $\frac{3}{7}$  of 84, or 36. C<sub>3</sub> receives only 12. The debtor's total payout is only 85, versus the 100 it would need to pay with a single class. Thus, debtor's classification power allows it to violate prebankruptcy entitlements while still respecting the (intra)class equal treatment rule.

In a third form of gerrymandering, if cram down is available, the debtor can treat one class well enough that it votes in favor of the plan, but treat other classes poorly<sup>134</sup> and then cram down the plan on the basis of one class having assented.<sup>135</sup> If this were too obviously unfair,<sup>136</sup> the debtor might propose an all-equity plan, overvaluing the reorganized firm's equity. This would give lower priority classes (including shareholders) a greater payout than if the absolute priority rule were followed. More senior classes might vote against such a plan because their payout (in equity) would be too low given the true value of the reorganized firm. But a class of junior creditors might vote yes, since the payment "in full" of senior creditors with overvalued shares could leave junior creditors with a greater share of the equity, and hence a higher real payout, than would a more accurate valuation.<sup>137</sup>

The debtor's gerrymandering power is not unrestrained. Gerrymandering to produce an assenting class (in order to seek cram down) is constrained by case law.<sup>138</sup> Overvaluation can be constrained by a

<sup>134</sup> That is, give them less than their bargaining power would otherwise require. For example, creditors classified separately but at the same priority level could be offered different payouts. This again assumes that creditors have enough bargaining power to obtain more than  $d^T v$  ( $e < T$ ), since creditors in a "poorly" treated class who vote against a plan receive the protection of the liquidation floor.

<sup>135</sup> See 11 U.S.C. § 1129(a)(10), (b) (1994).

<sup>136</sup> Cram down requires the judge to find that the plan is "fair and equitable" and "does not discriminate unfairly." 11 U.S.C. § 1129(b) (1994).

<sup>137</sup> See Stuart C. Gilson et al., *Valuation of Bankrupt Firms 22-23* (Aug. 1997 draft, on file with the *New York University Law Review*) (discussing incentive of junior priority creditors to favor high valuations of reorganizing firms).

<sup>138</sup> See, e.g., *In re Boston Post Rd. Ltd. Partnership*, 21 F.3d 477, 482 (2d Cir. 1994) ("[S]imilar claims may not be separately classified solely to engineer an assenting impaired class . . ."); *In re Greystone III Joint Venture*, 995 F.2d 1274, 1279 (5th Cir. 1992) (en banc) ("[T]hou shalt not classify similar claims differently in order to gerrymander an affirmative vote on a reorganization plan."). A plan proponent may still offer a legitimate business reason to justify a classification having an improper effect. See, e.g., *id.* at 1280-81.

judge who is alert to voting patterns that suggest misvaluation. But given the judge's imperfect information about the value of the firm (which, recall, motivates the voting rules), the difficulty of predicting its future (reorganized) profitability,<sup>139</sup> and the fact that different plans *will* in fact differ in value depending upon how effectively they deploy the firm's assets, it will be difficult for a judge to police strategic misvaluation. And if courts err when evaluating classification schemes, they will sometimes strike down a desirable plan that discriminates among creditors in order to solve the problem of differing postbankruptcy interests.

A "substantial similarity" requirement constrains the ability of the debtor to sneak some patient creditors into an impatient class, but it does not prevent the creation of classes consisting of impatient creditors. Presumably, this is because creditors with low discount factors (those who face credit rationing or otherwise less competitive credit markets) might also be those who have some particular interest in a reorganized debtor (for example, workers or trade creditors) and thus may need to be classified separately in order to maximize the value of the reorganized debtor. Separate classification on the basis of postbankruptcy interest in the reorganized debtor has been upheld by courts.<sup>140</sup>

Gerrymandering that creates or exploits "overlap" situations could be reduced through a more rigorous application of the "substantial similarity" requirement. That is, in terms of the example given above, the judge could require that  $C_3$ 's claims be classified separately (say, as 1A and 2A) on the basis that, given its different proportional

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On this note, the elimination of § 1124(3) in 1994 seems difficult to justify. Section 1124(3) stated that a class which was paid the allowed amount of its claims in cash on the effective date of a plan was unimpaired (and hence deemed to vote yes). With the elimination of § 1124(3), a class which is paid 100 cents on the dollar in cash and that votes in favor of the plan provides the vote of an "impaired" class and meets the § 1129(a)(10) requirement for cram down, even though another class or classes might be the true residual claimants under the plan. The subsection was eliminated in reaction to *In re New Valley Corp.*, 168 B.R. 73, 81 (Bankr. D.N.J. 1994), in which an unsecured class was paid in full but not given postpetition interest in spite of the debtor's solvency. See H.R. Rep. No. 103-835, at 47-48 (1994) (indicating § 1124(3) was being eliminated "[i]n order to preclude this unfair result in the future").

<sup>139</sup> See Gilson, *supra* note 137, at 16 (discussing reasons estimates of value of bankruptcy firms may be incorrect). There may be reasons other than intracreditor redistribution for misstating a firm's value in a plan, such as overstating value to gain greater future depreciation or other tax advantages. See *id.* at 12.

<sup>140</sup> See, e.g., *Matter of Jersey City Med. Ctr.*, 817 F.2d 1055, 1060-61 (3d Cir. 1987) (upholding separate classifications of physicians, trade creditors, employee benefit plan participants, and malpractice victims); *Teamsters Nat'l Freight Indust. Negot. Comm. v. U.S. Truck Co.*, 800 F.2d 581, 584, 587 (6th Cir. 1986) (upholding separate classification of workers' claim).



overlap,  $C_3$ 's claims are not substantially similar to the claims of  $C_1$  and  $C_2$ . However, given that overlap gerrymandering occurs only when creditors have enough bargaining power to obtain more than  $d^T v$ , the more rigorous the enforcement of the "substantial similarity" requirement, and hence the more fine-grained the classification, the greater will be bargaining costs (since more creditors have veto power) and the greater the likelihood of costly delay. In addition, the nature of the "substantial similarity" requirement is such that attempts by the judge to prevent exploitative classification without in effect requiring complete similarity would be difficult or impossible. This is because creditors can be substantially similar to each other in nontransitive ways.<sup>141</sup> We could imagine a situation in which  $C_4$  and  $C_5$  are substantially similar to each other, but not to  $C_6$ , in terms of having a postbankruptcy interest in the reorganized debtor, while  $C_5$  and  $C_6$  are substantially similar to each other, but not to  $C_4$ , in terms of having a chance to collect from a third party guarantor as well as from the debtor.<sup>142</sup> One solution would be to require separate classification of all three creditors, but if that is a requirement of "complete" similarity and in practice "substantial similarity" is the standard, then considerable latitude as to how to classify will rest with the plan proponent. The latter could be expected to classify  $C_5$  with either  $C_4$  or  $C_6$  by looking to its own advantage.

However, one might argue that if the court can accurately police gerrymandering in this way, then it must have enough information to determine the optimal plan by itself. In all of these cases, the court should strike down a classification scheme only if it can tell that the plan classifies in order to transfer value to the debtor without increasing overall plan value. It can make this determination, it appears, only if it can estimate plan value. If the rules for policing gerrymandering are mechanical, then either the debtor can anticipate the rule and work around it to his own benefit, or the rule will interfere with the flexibility needed to ensure that value is maximized. It is possible, however, that the court can obtain sufficient information from voting patterns in order to make an educated guess about whether gerrymandering is present.

Let us summarize the argument so far. The equal treatment rule can reduce exploitation against impatient creditors and allow the

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<sup>141</sup> See Eric Kades, *The Laws of Complexity and the Complexity of Laws*, 49 *Rutgers L. Rev.* 403, 468 (1997).

<sup>142</sup> This distinction was recognized as significant for classification purposes in *In re Johnston*, 21 F.3d 323, 328 (9th Cir. 1994) ("Steelcase is situated differently from other unsecured creditors. . . . [I]ts claim . . . is partially secured by collateral of . . . the primary obligor.") (emphasis omitted).

choice of a voting rule that reduces bargaining costs (here dictatorship would seem to dominate majority or supermajority rules, especially since it also eliminates cycling concerns). This tends to protect prebankruptcy entitlements and capture going concern value. But equal treatment also interferes with plans that can prevail only if creditors with postbankruptcy interests can trade the value to which they are entitled in bankruptcy to a debtor or other creditors who would otherwise prefer liquidation. Classification enables the debtor to escape this problem by allowing it to classify such creditors separately. But unlimited classification enables the debtor to avoid the equal treatment rule, returning us to the initial problem of exploitation. The classification power makes sense only if courts can prevent the debtor from using that power opportunistically. Unfortunately, it is not clear that courts have this ability.

### C. *Uncertainty About the Firm's Value*

We suggested in Part II that Chapter 11 might assign agenda control to the debtor because it has, on average, the best information about the bankrupt firm: that is, about whether there *is* a going concern surplus (rather than  $v \geq s$ ) and about which reorganization plan maximizes  $s$ . However, often a creditor or creditors<sup>143</sup> will have better information than the debtor, or the best information might come from a combination of the debtor's and creditors' information, as suggested by the Condorcet Jury Theorem. One possible role of classification<sup>144</sup> is to enable the debtor to give creditors an incentive to invest in information about  $s$ .<sup>145</sup>

Imagine that there are 10 tort creditors (each with a claim of 10) and 1 bank creditor (with a claim of 50);  $v=110$ ,  $d=1$ , and  $e=T$ . Given current information about the firm's prospects in its volatile market sector, the debtor and the creditors estimate that  $s$  is two-thirds likely to be 50 and one-third likely to be 200. The expected value of  $s$  is therefore 100. Assume further that the bank, at a cost of 1, could gather enough information to resolve the uncertainty about  $s$ , but that the debtor and the creditors cannot, and that the bank cannot credibly convey information to the tort creditors or the debtor. If the debtor

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<sup>143</sup> Certain creditors likely have better information, and/or cheaper access to additional information, about the firm's value. Tort claimants or taxing authorities, for example, might have less access to valuation information than banks. See Jackson, *supra* note 91, at 218 (noting that not all creditors will have access to same valuation information).

<sup>144</sup> See Triantis, *supra* note 128, at 291 (suggesting classification might play role in eliciting information about debtor from creditors).

<sup>145</sup> Ideally, the debtor would classify in such a way that equalizes  $p_i$  for each creditor. See Miller, *supra* note 18, at 187-88 (explaining that equal informational competency fosters collective competence).

creates a single class, the class will reject any reorganization plan, because the expected value of the plan to each tort creditor  $(6.7)^{146}$  is less than the expected value of its share of liquidation  $(7.3)^{147}$ . If the debtor's plan(s) are rejected, the firm will be liquidated and the debtor receives nothing. The bank will not bother to invest 1 in determining the true value of  $s$ , because even if it discovers that  $s=200$ , the tort creditors will still vote against any reorganization plan.

If the debtor classifies the bank separately, however, it could induce the bank<sup>148</sup> to make the investment in additional information, which would be socially valuable. The debtor might offer an all-stock plan, with the following payout (debtor, bank, tort creditors): (6%, 20%, 74%). The tort creditors expect their share of a liquidation to be two-thirds of 110, or 73.33. They would thus vote in favor of the plan, because they estimate 74% of the reorganized firm's equity to be worth 74. Without an investment in information, the bank prefers its share of a liquidation (one-third of 110, or 36.3) to its payout under the plan (which it estimates to be worth 20). However, it is now rational for the bank to make the investment in additional information. It is 33% likely to learn that  $s=200$ . In that case, its payout under the plan is 40 (20% of 200), and because the tort creditors vote for the plan the bank can assure its adoption by voting yes. The bank's one-third chance of realizing an additional 3.7 (40-36.3) payout more than covers its cost (1) of gathering the additional information. The debtor, of course, benefits from the bank's investment: It now has a one-third chance of receiving a payout of 12. The investment is socially valuable, because now the firm will not be inefficiently liquidated in those cases in which  $s > v$ .

The debtor, however, will not always use its power to classify to induce the production of socially valuable information. For example, imagine that  $v=90$ . Without additional information, the creditors expect  $s$  to be 100. They vote in favor of a plan with payouts of (8%, 31%, 61%). This benefits the debtor, even though there is a two-thirds chance that the firm is worth only 50, and that reorganization is therefore inefficient. The debtor has no interest in inducing the bank to gather such information, however, for if the bank learns that  $s=50$ , it would demand at least 60% of the firm's equity to vote for reorganization. Because the tort creditors demand at least 60% (without in-

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<sup>146</sup>  $10/150$  times 100.

<sup>147</sup>  $10/150$  times 110.

<sup>148</sup> With more than one bank, the separate bank class would face its own collective action problem in gathering additional information, although this would be mitigated to the extent that the judge appointed a bank creditors' committee, see 11 U.S.C. § 1102(a) (1994), and allowed its expenses as an administrative expense, see *id.* § 503(b)(3)(F).

formation), no reorganization would be feasible. The debtor would therefore classify the tort creditors and bank together, and socially valuable information would not be produced.

A desire to generate information might underlie the otherwise puzzling case law which holds that secured creditors are not similarly situated unless they share the same collateral and priority level as another secured claim.<sup>149</sup> This doctrine increases the number of classes significantly, which might be expected to have some of the negative effects discussed above. However, an offsetting benefit may result from the fact that separate classification, by giving a secured creditor veto power, may induce secured creditors to gather additional information about the firm. Certain secured creditors (for example, one with a floating lien in the debtor's inventory and/or receipts) are well-positioned to gather information about the firm at relatively low cost because of their prebankruptcy incentives and specialization.<sup>150</sup>

One might object that, given their priority level, secured creditors are unlikely to be motivated to gather information even if provided with veto power. Such an objection overlooks, however, the fact that a secured creditor, even if paid in full under the plan, may not be paid immediately in cash. For example, if it is offered equity in the reorganized firm, then *s* is of obvious importance. So too if the creditor is offered deferred cash payments: Knowledge about the future prospects of the reorganized firm allows the creditor to determine whether the (implicit) discount factor being applied to the cash stream is advantageously low or disadvantageously high.

That inducing the production of socially valuable information is one of the goals behind requiring classification gains some additional support from the Code's waiver, for small claims, of the prohibition against classifying dissimilar claims together.<sup>151</sup> Small claimants are

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<sup>149</sup> See, e.g., *In re Commercial Western Fin. Corp.*, 761 F.2d 1329, 1338 (9th Cir. 1985) (stating "creditors with claims against different properties generally are entitled to separate classification"); *Federal Home Loan Mortgage Corp. v. Bugg (Matter of Bugg)*, 172 B.R. 781, 783-84 (E.D. Pa. 1994) (rejecting placement of secured creditors with liens on different property in same class).

<sup>150</sup> On the other hand, a creditor with a security interest in one of the debtor's physical assets may not be particularly well-situated (with respect to information about *s*). Yet such a creditor would be classified separately from a creditor with a security interest in another of the debtor's assets. This suggests that Canadian bankruptcy practice, which allows secured creditors to be classified together even if their underlying collateral differs, see *Triantis*, *supra* note 128, at 290, may be attractive on this point, although it does involve a risk of judicial error resulting in the inventory creditor being classified with other secured creditors.

<sup>151</sup> See 11 U.S.C. § 1122(b) (1994) (allowing class with dissimilar claims for "administrative convenience").

unlikely to have much information about the debtor,<sup>152</sup> and would find the cost of gathering additional information high (relative to their small potential benefit, given the small size of their claims).

To summarize, the debtor's classification power may enable it to give creditors incentives to invest in information or share information that they already have. The debtor could place a creditor it thought had better access to information in its own class. This would give it veto power and hence an incentive to gather additional information.

## VI

### AGENCY COSTS AND VOTE BUYING

#### A. *Debtor and Managers*

Earlier sections assumed an identity of interest between the firm's managers and its equityholders. As the agency cost literature shows, however, managers' interests typically diverge from those who have the right to the residual value of the firm.<sup>153</sup> This problem raises the question of whether the voting rules in Chapter 11 properly deal with managerial incentives.

Managers' interests diverge from those of equity for several reasons. In particular, managers rarely own all the equity of the firm. When they own little equity, they usually receive less variable returns than equity, such as salaries and other benefits. To the extent that regular salaries compensate the managers, they have a strong incentive to avoid risk (relative to equity's interest) and to keep the firm in business even after it is no longer viable. In closely held corporations (most Chapter 11 filings are by closely held firms)<sup>154</sup> managers typically own considerable equity and hence are more likely to seek to maximize its value than are managers of public corporations. However, such managers still may prefer private benefits to increases in equity value which must be shared with other shareholders. The larger Chapter 11 cases, and those most likely to lead to the confirmation of a reorganization plan,<sup>155</sup> involve primarily publicly held corporations. In such a firm the managers were initially selected by the

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<sup>152</sup> At least in the usual case where obtaining such information has some cost.

<sup>153</sup> 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, 308 (1976) (discussing how divergence of interests between owner(s) and manager(s) leads to expenditure of monitoring and bonding costs).

<sup>154</sup> See Douglas G. Baird, *Revisiting Auctions in Chapter 11*, 36 *J.L. & Econ.* 633, 636-37 (1993) (stating that closely held firms dwarf publicly held firms in number of Chapter 11 filings).

<sup>155</sup> See Lynn M. LoPucki & William C. Whitford, *Patterns in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 78 *Cornell L. Rev.* 597, 600-01 (1993) (reporting significantly high—96%—confirmation rates for large firms in Chapter 11).

equityholders or their representatives (the directors), but the managers typically hold only a small portion of the firm's equity.

In the perfect information model without agency costs, delay does not occur. With agency costs, managers may strategically cause delay in order to maintain their position as long as possible.<sup>156</sup> This might explain why reorganizations of public corporations take longer than reorganizations of closely held corporations, whose managers usually own a substantial amount of equity.<sup>157</sup> Also, in the perfect information model, the distribution of value will no longer depend on the relative bargaining power of the firm and the creditors, but on the manager's outside options. A manager with more valuable outside options can more credibly threaten departure than a manager with fewer valuable outside options, and thus obtain greater concessions from equityholders and creditors.<sup>158</sup>

The introduction of agency costs in the imperfect information model might increase the amount of delay in equilibrium. Some managers will engage in delay solely to save their jobs. Even managers who act loyally will have to delay if they control a low-value firm, because they must persuade creditors that the delay reflects the firm's valuation, not their independent interests. An important normative implication of managers' tendency to engage in costly delay is that it may be socially desirable to reduce the incentive to delay even through violation of prebankruptcy entitlements.<sup>159</sup> This is analogous to our claim that the exclusivity period may be desirable, even though it leads to violation of prebankruptcy entitlements, if it prevents the debtor from engaging in delay. One way to discourage managers from delaying is to give them more value in bankruptcy than they would otherwise be entitled to. This could be in the form of more value to the debtor to the extent that the manager has equity, or more value to the managers directly via side payments.

A countervailing force might arise from managers' desires to maintain good reputations. They might avoid delay and other forms

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<sup>156</sup> To be sure, equityholders and creditors could offer a side payment to the managers in order to induce them to hurry up.

<sup>157</sup> In general, publicly-traded corporations are larger and more complex, so the explanation doubtless also includes more benign investment in information about how to maximize *s*.

<sup>158</sup> See Baird & Picker, *supra* note 4, at 319 ("The amount that [Manager] can command in some alternative line of work puts a floor on what Creditor will have to give to induce her to continue to manage Firm . . .").

<sup>159</sup> See generally Lucian Arye Bebchuk & Randall C. Picker, *Bankruptcy Rules, Managerial Entrenchment, and Firm-Specific Human Capital* (unpublished manuscript, on file with the *New York University Law Review*) (discussing effects of allowing ex post violations of absolute priority on firm's managers' incentives).

of strategic behavior so as to avoid bad reputations. Creditors could do *better* than we concluded in preceding sections if they can induce management to favor creditors over equityholders by threatening the managers with replacement if the managers do not adopt a more procreditor plan.<sup>160</sup> If the managers' plan paid creditors in stock, rather than with cash, management might fear replacement after the plan is approved. Even in such a situation, however, they might include long-term employment contracts for themselves as part of the plan,<sup>161</sup> or they might prefer obtaining benefits now<sup>162</sup> to retaining their jobs post-reorganization. The creditors could also petition the court for appointment of a trustee, which would result in the removal of at least some of the current managers, but such an appointment is difficult to obtain in the absence of outright fraud or incompetence by the managers.<sup>163</sup> More important, creditors might refrain from seeking the removal of managers because the appointment of a trustee ends the exclusivity period<sup>164</sup> and initiates multicreditor bargaining with its attendant dangers of cycling and rent seeking.<sup>165</sup>

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<sup>160</sup> Replacing the managers would be a "threat" if the managers earn more in their present jobs than they could elsewhere. This might be especially true in the Chapter 11 context, since the bankruptcy of their firm likely would damage the managers' reputations. See Stuart C. Gilson, *Management Turnover and Financial Distress*, 25 *J. Fin. Econ.* 241, 253-56 (1989) (presenting evidence that managers leaving financially distressed firms suffer lost earnings). But see Baird & Picker, *supra* note 4, at 320 n.23, 334 n.50 (discussing reasons managers might be paid less by bankrupt firm than elsewhere). If the threat of being fired were not enough to cause managers to hew to a more procreditor line, the creditors could simply follow through on their threat, although this might come at some cost to creditors if new managers would manage the firm less efficiently for a time.

<sup>161</sup> This is seemingly contemplated by 11 U.S.C. § 1129(a)(5)(B) (1994), which requires the disclosure of postconfirmation compensation agreements made with managers. Note that long-term contracts for incumbent managers might lower the value of the firm, as they could be expected to increase agency costs; thus "golden handshake" agreements in which managers received generous termination benefits might be advantageous for both managers and creditors.

<sup>162</sup> See *infra* note 166 and accompanying text.

<sup>163</sup> See, e.g., *In re Aardvark, Inc.*, 1997 WL 129346, at \*3 (D. Del. March 4, 1997) (stating that "appointment of a trustee is seen as an extraordinary remedy"). Courts feel that liberal appointment of trustees would undercut Chapter 11's seeming commitment to the operation of bankrupt firms by prebankruptcy management (the "debtor in possession"), presumably based on the idea that the current management has better knowledge of how to operate the firm. See George G. Triantis, *A Theory of the Regulation of Debtor-In-Possession Financing*, 46 *Vand. L. Rev.* 901, 918 (1993) ("[T]he advantage in information . . . enjoyed by the debtor's management tends to reinforce the deference of the courts to the managers' business judgment.").

If managers seek to divert funds from creditors to equityholders, it would be difficult to reconcile their removal with § 1104(a)(2), which sanctions removal if it "is in the interests of the creditors, any equity security holders, and other interests of the estate" rather than simply in the interests of creditors. See 11 U.S.C. § 1104(a)(2) (1994).

<sup>164</sup> See 11 U.S.C. § 1121(c)(1) (1994).

<sup>165</sup> See *supra* Part II.

Agency costs could also manifest themselves through managers attempting to seize the benefits of agenda control for themselves, rather than simply seeking to preserve their salaries. In such a situation the debtor's agenda control may harm both creditors and equityholders, because the managers introduce a self-interested plan that is in the interest of neither creditors nor (nonmanagement) shareholders. In essence, the managers may submit a plan that offers creditors  $d^T v$ , nonmanagement equityholders 0, and management  $s - d^T v$ .<sup>166</sup> Of course, such a plan awards more to management equityholders than to nonmanagement equityholders,<sup>167</sup> but the managers could argue that they were not similarly situated to the other equityholders, since they were contributing "new value" to the firm in agreeing to continue to work for the firm during (and after) the reorganization.

To the extent shareholders can threaten to remove managers during the pendency of the bankruptcy proceedings, the situation would more closely resemble the analysis presented in preceding sections, where managers act on behalf of equityholders. During a bankruptcy, shareholders can meet and remove the firm's management unless doing so constitutes a "clear abuse."<sup>168</sup> It might seem surprising that shareholders would be allowed to control a firm's managers during bankruptcy, as they could use this power to disadvantage creditors and benefit themselves. Yet the case law suggests that shareholders' replacement of management in order to improve the bargaining position of shareholders as against creditors is not a "clear abuse."<sup>169</sup> There are two answers to this puzzle. The first is that use of Chapter

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<sup>166</sup> See Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 *Yale L.J.* 1043, 1052 (1992) (discussing managers' extraction of value to detriment of both equity and creditors).

<sup>167</sup> In terms of prebankruptcy incentives, see *supra* note 14, such a return would mitigate the underinvestment problem caused by "debt overhang," see George G. Triantis, *A Free-Cash-Flow Theory of Secured Debt and Creditor Priorities*, 80 *Va. L. Rev.* 2155, 2162 (1994), in which managers will neglect to make low-risk but positive return investments whose gains will be realized only by debtholders.

<sup>168</sup> See, e.g., Lynn M. LoPucki & William C. Whitford, *Corporate Governance in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 141 *U. Pa. L. Rev.* 669, 695 & n.94 (1993) (discussing "clear abuse" standard).

<sup>169</sup> See, e.g., *In re Johns-Manville Corp.*, 801 F.2d 60, 65 (2d Cir. 1986) ("[T]he shareholders' mere intention to exercise bargaining power . . . cannot without more constitute clear abuse."); *In re Allegheny Int'l, Inc.*, 1988 WL 212509, at \*5 (W.D. Pa. May 31, 1988) (stating that "the ability of shareholders to exercise their rights to corporate governance cannot be enjoined simply on the basis that a group of shareholders may be successful in their bid to elect directors whose views concerning a plan of reorganization may differ from those of existing management"); see also David A. Skeel, Jr., *Rethinking the Line Between Corporate Law and Corporate Bankruptcy*, 72 *Tex. L. Rev.* 471, 506-07 (1994) (criticizing application of state law regarding shareholder meetings to insolvent corporation).



11 does not require insolvency,<sup>170</sup> so shareholders may continue to be the residual claimants during bankruptcy and thus should be allowed to control the firm's decisionmaking. This would nonetheless suggest that the "clear abuse" standard should prevent shareholders from replacing management if the firm is in fact insolvent. While there is some dicta in the case law suggesting this result,<sup>171</sup> it is not a major theme of the cases.<sup>172</sup> Insolvency can be hard to prove in any event, given courts' difficulty in verifying firm value. The better explanation may be that given the limited ability of creditors to control the firm's management, it is not clear whether shareholder control is worse for creditors (shareholders likely tend towards excessive risk taking<sup>173</sup>) than is allowing the firm's managers to operate as principal-less agents who can arrogate the exclusivity-period benefits to themselves.

Even apart from the potential ability of shareholders to force managers to act on their behalf in formulating an exclusivity-period plan, there are limitations on how far incumbent managers can take advantage of their control in order to appropriate  $s-d^T v$ . The first is that, in spite of the difficulty of a court verifying firm value, there may be practical constraints on the absolute size of the stake that managers can allocate to themselves before a plan appears to be plainly abusive (at least in its treatment of managers vis-a-vis other shareholders).<sup>174</sup> A second point is that in bankruptcy a firm's directors and managers

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<sup>170</sup> See 11 U.S.C. § 109 (1994). Instead, a firm may, for example, face cash flow problems and attempt to hold off foreclosure by a secured creditor. Such foreclosure might harm unsecured creditors and/or equityholders by interfering with the firm's operations. See Jackson, *supra* note 12, at 864 (discussing harm that can result from "piecemeal dismantling of a debtor's business").

<sup>171</sup> See, e.g., *In re Johns-Manville*, 801 F.2d at 65 n.6 (suggesting that if debtor is insolvent, shareholder meeting should be enjoined).

<sup>172</sup> See, e.g., *In re Saxon Indus.*, 39 B.R. 49, 50 (Bankr. S.D.N.Y. 1984) (refusing to enjoin equityholders' committee from seeking to compel shareholders' meeting in state court, even though debtor was insolvent and equityholders would have "no interest" under proposed reorganization plan); *Saxon Indus., Inc. v. NKFw Partners*, 488 A.2d 1298, 1300 (Del. 1985) ("[I]nsolvency alone, irrespective of degree, does not divest the stockholders of a Delaware corporation of their right to exercise the powers of corporate democracy.").

Indeed, in *In re Johns-Manville Corp.*, 52 B.R. 879 (Bankr. S.D.N.Y. 1985), the bankruptcy court, while not conducting a formal analysis, stated that the assertion that the debtor was solvent "fails to accept reality," *id.* at 885, but the Second Circuit declined to take account of that fact on procedural grounds, see *In re Johns-Manville*, 801 F.2d at 65 n.6.

<sup>173</sup> Some of which may be controllable by the court. See, e.g., 11 U.S.C. § 363(b)(1) (1994) (requiring notice and hearing before debtor uses or sells its property outside "the ordinary course of business").

<sup>174</sup> Cf. Henry Hansmann, *The Ownership of Enterprise* 37 (1996) (discussing limits to magnitude of managerial opportunism).

owe fiduciary duties to creditors as well as to shareholders.<sup>175</sup> Thus, to the extent any violations of such duties are verifiable by a court, managers would be constrained by the fear of creditor suits.

### B. Claim Buying

Creditors sometimes purchase the claims of other creditors in anticipation of bankruptcy or during bankruptcy. Because a creditor's voting power in the ODOV house depends on the size of its claim, the creditor that purchases claims expands its voting power during reorganization. Some judges and commentators criticize this practice, arguing that creditors should not be permitted to "buy votes."<sup>176</sup> The precise nature of their criticism, however, is unclear. The purchase of votes in political elections is illegal, and the trading of votes, or log-rolling, in legislatures is often considered undesirable. But the institutional context is different in Chapter 11. This section briefly evaluates Chapter 11 concerns about claim buying in light of the analysis in prior sections, where claim buying was assumed not to occur.

It will be helpful to begin by explaining why vote buying and log-rolling raise general concerns. Consider the following example:<sup>177</sup>

TABLE 6

Voter	Projects			
	A	B	C	D
1	5	-1	5	-3
2	-1	5	-3	5
3	<u>-1</u>	<u>-1</u>	<u>-3</u>	<u>-3</u>
TOTAL	3	3	-1	-1

The table displays the utilities that four projects (A-D) confer on three voters (1-3). Suppose voters 1, 2, and 3 must vote separately on

<sup>175</sup> See *CFTC v. Weintraub*, 471 U.S. 343, 355 (1985) (noting that fiduciary duty of directors runs to creditors and shareholders). That shareholders are owed a fiduciary duty in bankruptcy when the corporation is insolvent is somewhat anomalous: Certainly the firm's stock has some option value, but under nonbankruptcy law that option value would accrue to creditors if they took possession of the firm's assets when it became insolvent. See also Steven L. Schwarcz, *Rethinking a Corporation's Obligations to Creditors*, 17 *Cardozo L. Rev.* 647, 665-68 (1996) (discussing fiduciary duties).

<sup>176</sup> See David A. Skeel, Jr., *The Nature and Effect of Corporate Voting in Chapter 11 Reorganization Cases*, 78 *Va. L. Rev.* 461, 518 n.223 (1992) (suggesting claim buying "seems problematic . . . given the danger of strategic behavior by the buyer"); Frederick Tung, *Confirmation and Claims Trading*, 90 *Nw. U. L. Rev.* 1684, 1714-29 (1996) (discussing drawbacks to claim buying).

<sup>177</sup> This example is adapted from Thomas Stratmann, *Logrolling*, in *Perspectives on Public Choice: A Handbook* 322, 323-24 (Dennis C. Mueller ed., 1997).

whether to approve project A and project B. A project is approved if it receives a majority of the votes. If vote trading is not possible, neither A nor B will be approved under majority rule. If vote trading is possible, voter 1 will vote for B in return for voter 2's promise to vote for A, and both projects will be approved. In this example, the trade enhances aggregate welfare. Suppose, however, that the voters are supposed to vote to approve project C and project D. The projects will be approved only if vote trading is possible, but approval of the projects this time reduces aggregate welfare. The conclusion is that vote trading does not necessarily improve or reduce aggregate welfare.<sup>178</sup>

Claim buying in Chapter 11 is different from vote trading in this example, because creditors actually pay money for claims, rather than trading votes. One might believe that vote *buying* (as opposed to vote trading) is desirable, because it allows voter 1 to pay \$2 to voter 2 in order to obtain majority approval of welfare enhancing project A. But vote buying also allows voter 1 to pay \$4 to voter 2 in order to obtain majority approval of welfare reducing project C. In general, vote buying under a system of majority rule enables a coalition to form and exploit a minority. It can also lead to cycling. Note, however, that vote buying under a system of *unanimity* results in the approval only of welfare enhancing projects.

Claim buying in Chapter 11 also differs from vote buying in the political sphere because of the bicameral system. When a creditor buys a claim, it obtains votes equal to the dollar value of that claim for the purpose of the ODOV house, and it obtains one additional vote for the purpose of the OCOV house.<sup>179</sup> When a creditor needs votes in the ODOV house, it will purchase large claims, rather than multiple small claims, in order to minimize transaction costs. When a creditor needs votes in the OCOV house, it will purchase small claims, rather than large claims, because small claims are cheaper and produce the same voting power.

Let us now focus on the question of whether, given the current voting rules of Chapter 11, claim buying should be permitted. Initially, it should be clear that we need a multiparty model. With a single hypothetical creditor, no claim buying can occur. We will focus on

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<sup>178</sup> See *id.* at 324.

<sup>179</sup> See *In re Figter Ltd.*, 118 F.3d 635, 640 (9th Cir. 1997) (reading § 1126(c) to provide claim buyer with additional votes in OCOV house); *In re Concord Square Apts. of Wood County, Ltd.*, 174 B.R. 71, 74 (Bankr. S.D. Ohio 1994) (same); *In re Gilbert*, 104 B.R. 206, 211 (Bankr. W.D. Mo. 1989) (same). The cases point out that proofs of claim were filed separately by the original claimant, see *id.*, and thus a different outcome could be expected if the claim buyer were the initial holder of the claims.

examples with perfect information, imperfect information with respect to the creditor's type, and imperfect information with respect to optimal capital structure.

### 1. Perfect Information

Suppose that two creditors  $C_i$ ,  $i=1, 2$ , have claims with liquidation value  $a_i v$  and discount factors of  $d_i$ . If  $e=T$ , the debtor's plan will transfer  $a_i d_i^T v$  to each. If  $d_1=d_2$ , then the creditors have no reason to buy or sell claims. But supposing, say,  $d_1 < d_2$  (and the claims can be classified separately), we obtain a different result.  $C_1$  will sell its claim to  $C_2$  and  $C_2$  can demand from the debtor a larger share than could  $C_1$  and  $C_2$  in the aggregate.

A numerical example will clarify the argument. Let  $s=100$ ,  $v=100$ ,  $c_1=c_2=100$  (therefore,  $a_1=a_2=0.5$ ),  $d_1=0.2$ ,  $d_2=0.4$ ,  $T=1$ . Without claim buying the payoffs for  $\{E, C_1, C_2\}$  are  $\{70, 10, 20\}$ . If claim buying is permitted,  $C_2$  will buy  $C_1$ 's claim for some amount between 10 and 20, say, 15. Then the debtor must give 40 to  $C_2$ , and the final payoffs will be  $\{60, 15, 25\}$ . Claim buying leads to an overall improvement, because there is more respect for prebankruptcy entitlements and the capture of going concern value is not affected.

Let us now add a third creditor,  $C_3$ , with a liquidation claim equal to  $c_3$  and a discount factor of  $d_3$ , with  $d_1 < d_2 < d_3$ ; and assume  $e < T$ . Recall that if  $e < T$ , the creditors will collectively obtain some amount greater than their share of liquidation value. In the two-party model, the hypothetical creditor would receive an amount between  $d^e(1/2)(s - d^{T-e}v)$  and  $d^e s$ , depending on the effectiveness of cram down. Denote this amount as  $b$ . Assume that with three creditors, each creditor expects, at round  $e$ , to receive  $b/3$ . Suppose that  $c_1=c_2=c_3$ .  $C_3$  will give  $C_1$  a sum equal to  $d_1^e(b/3)$  in return for  $C_1$ 's claim. Now  $C_3$  has two out of three claims and two-thirds of the value of all the claims, so it can outvote  $C_2$ . Then  $C_3$  can demand from E, at round  $e$ ,  $b - (1/3)d_2^{T-e}v$ . This refers to the creditors' payout, minus the minimum amount that must be paid to  $C_2$ , because of the liquidation floor. So at round zero E will offer  $C_3$ :  $d^e b - (1/3)d_2^T v$ . Although the liquidation floor guarantees that  $C_2$  will receive  $(1/3)d_2^T v$ ,  $C_2$  does not obtain its share of  $b$ .  $C_2$  will not vote against the plan, because a vote would just cause delay and it could not obtain better than liquidation value at a later round. This result—which assumes that equal treatment is waivable—is a violation of prebankruptcy entitlements.  $C_3$ 's purchase of  $C_1$ 's claim allows it to exploit  $C_2$ . However, this result is not necessarily worse than the result without claim buying. Because of cycling and differing bargaining

strengths among creditors, prebankruptcy entitlements will not usually be respected.<sup>180</sup>

In sum, in the perfect information model, claim buying produces efficiency improvements to the extent it enables creditors to aggregate their bargaining power against the debtor. If the debtor already obtains too large a portion of the surplus, an increase in the bargaining power of the creditors is a desirable result, as it reduces the debtor's power to violate prebankruptcy entitlements. Since the more patient creditor must pay the less patient creditor for its claim, no creditor is made worse off by the availability of claim buying. At the same time, claim buying enables one creditor to exploit a second creditor by purchasing the claim of a third. But there does not seem to be any reason to believe that exploitation here is any worse than in the regime without claim buying, in which the debtor will choose a plan that prefers some creditors to others on the basis of their bargaining power, rather than their prebankruptcy entitlements, or in which a dominant creditor exercises its bargaining power after the exclusivity period expires.

## 2. *Imperfect Information with Respect to Type*

We noted earlier that as the number of creditors increases, the problem of delay becomes increasingly severe.<sup>181</sup> Any creditor with veto power and either a high discount factor or a small postbankruptcy interest has an incentive to delay in order to reveal its type. Supposing that half the creditors have low valuations, a reorganization involving just one creditor will involve delay only half the time. But a reorganization involving ten creditors will involve delay 99.9% of the time  $(1-(1/2)^{10})$ <sup>182</sup>, and delay will be longer if creditors take turns signaling their type, as illustrated (for two parties) by the attrition model.<sup>183</sup>

This problem raises the possibility that claim buying is desirable, because if a single creditor purchases the claims of most or all of the remaining creditors, fewer creditors will have an opportunity to engage in delay. Intuitively, we expect bargaining costs—including both delay caused by strategic behavior and the sheer time consuming nature of haggling with many people—to decline when the number of bargainers declines.

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<sup>180</sup> See *supra* Part IV.A.

<sup>181</sup> See *supra* Part I.B.5.

<sup>182</sup> See *supra* note 48.

<sup>183</sup> See *supra* note 40.

The problem with this analysis is that claim buying does not eliminate bargaining among multiple parties; it just moves it to an earlier stage. Rather than the debtor bargaining with multiple creditors, the creditors must bargain with each other. Each creditor might know as little about the valuations of other creditors as the debtor knows. Without claim buying, the signaling or screening game takes place between the debtor and each creditor. With claim buying, the signaling or screening game takes place between each creditor. Low valuation creditors will hold out for higher prices, resulting in delay.

A possible countervailing force is that each creditor might fear that if it does not sell its claim, it will be left outside a coalition and with little bargaining power. Thus, creditors will not engage in delay but sell their claims eagerly. In addition, note that the most patient creditor will buy the claims of the less patient creditors, because the most patient creditor values the claims most and the less patient creditors value cash more. This means that after the most patient creditor buys up all the claims, E no longer has imperfect information about that creditor's type (or, at least, E's information about that creditor has improved: E knows that the remaining creditor is at or near the top of the distribution). Thus, it is possible that by revealing information about the remaining creditor, claim buying eliminates the signaling problem between that creditor and the debtor, and the gain from prevention of delay offsets the cost of haggling among the creditors.

### 3. *Imperfect Information with Respect to Optimal Capital Structure*

Suppose that  $C_1$  and  $C_2$  have identical claims and discount factors, but that  $C_1$  has more information about the debtor than  $C_2$  does.  $C_1$  might be, for example, the debtor's regular bank, while  $C_2$  is a tort creditor or a sometime trade creditor. If  $C_2$  underestimates the value of the debtor as a going concern,  $C_2$  might vote against a plan that would net  $C_1$  and  $C_2$  more than would liquidation. If  $C_1$  merely informs  $C_2$  that their shares would be maximized if they voted for the plan,  $C_2$  might not believe  $C_1$ , thinking that  $C_1$  has a postbankruptcy interest that renders even an inefficient reorganization privately advantageous to  $C_1$ . But if  $C_1$  can purchase  $C_2$ 's claim,  $C_1$  can ensure the plan is approved, and  $C_2$  will do no worse than if it had voted against the plan. Thus, the availability of claim buying may enable creditors to exploit information advantages, resulting in maximization of going concern value. By the same token, a more informed creditor will obtain a larger share of the surplus than a less informed creditor, resulting in possibly greater violations of prebankruptcy entitlements.

The reader will notice that this analysis resembles the analysis of classification.<sup>184</sup> The main difference is that the debtor uses its classification power in order to encourage creditors to exploit their information advantages, whereas creditors use the claim buying power to exploit their information advantages. In both cases, one must balance the enhanced going concern value with the greater danger of violation of prebankruptcy entitlements.

#### 4. *Summary*

We have only scratched the surface of a very complex problem. The availability of claim buying can sometimes increase efficiency and sometimes not. Whether it will in any particular case depends on a variety of parameters, which are probably not easily evaluated by a judge. Yet it is impossible to say whether the availability of the right to buy and sell claims is efficient overall. In addition, we have not compared the existing bankruptcy regime (with and without claim buying) to alternative regimes in which claim buying is available. For example, it might be argued that a unanimity rule with claim buying would be superior to the existing regime. Future research should consider these questions.

### CONCLUSION

Much work remains to be done before proposals for reform of Chapter 11 can be confidently asserted. We therefore start with some suggestions for future research, and then we draw some tentative normative conclusions from our analysis.

The most pressing problem is that of determining the proper way of modeling bargaining in Chapter 11. Only further theoretical and empirical research into bargaining problems can resolve this issue. More research could resolve such issues as the significance of delay and the violation of prebankruptcy entitlements, the importance of variation in creditors' discount factors, the extent to which creditors have postbankruptcy interests, the success with which courts determine liquidation value, and so on. Our understanding of Chapter 11 will remain at a preliminary stage until adequate formal models of multiparty bargaining are discovered.

Although our work is too tentative to support normative proposals, we are reasonably confident about the following propositions. Agenda control has attractive features, but it is possible that it should be given to a trustee or a significant creditor rather than the debtor, and that the current exclusivity period is too short or too long. The

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<sup>184</sup> See *supra* Part V.B.

liquidation value floor makes sense as long as judges can estimate liquidation value with sufficient accuracy.

It is difficult to see the merits in the current bicameral structure. If information pooling is important and large creditors have greater information about the debtor, ODOV voting is attractive. If strategic behavior is important and relative information advantages among creditors are relatively small, the relative advantages of ODOV and OCOV are hard to determine. Cram down appears to rely on overly optimistic assumptions about courts' ability to evaluate debtors. Dictatorship (with mandatory equal treatment) would be a surprisingly effective voting rule. But reliance on equal treatment will interfere with plans that exploit differences in postbankruptcy interests. Classification addresses this problem, but only if judges are able to prevent gerrymandering, which again seems doubtful given normal assumptions about judicial competence. Of course, if equal treatment is truly waivable, then it does not interfere with desirable gerrymandering so classification is no longer necessary. Likewise, if equal treatment is waivable, then it will not interfere with the ability of the debtor or dominant creditor to obtain confirmation of a plan that violates prebankruptcy entitlements. The choice of voting rule is sensitive to one's assumptions about the costs of bargaining, the valuations of parties, and the importance of information pooling. Claim buying seems to make sense, albeit perhaps with judicial review in order to deter abuse.

A recurring theme has been Chapter 11's inconsistent assumptions about judicial information. Chapter 11 assumes that the court does not have enough information to determine  $s$ , or indeed whether  $s > v$ , but it does rely on the court having *some* information. In particular, the liquidation floor rule assumes that the court can determine  $v$ ; the absolute priority rule assumes that the court can determine whether  $s > v$  for noncash plans; the equal treatment rule assumes that the court can determine the relative value of claims; the classification rule assumes that the court can determine which claims are "alike" and "different," although we suggested that this inquiry cannot be done in the abstract and ultimately assumes that the court can determine whether  $s > v$  under a particular plan; and so on. Many of these assumptions appear to be inconsistent.

The various problems with Chapter 11 have led scholars to propose market-driven corporate bankruptcy systems, such as the use of mandatory auctions mentioned in the Introduction. These systems have three virtues, their proponents argue. First, they straightforwardly respect prebankruptcy entitlements. Lower priority creditors, and holders of equity interests, do not receive value unless higher pri-



ority creditors are fully paid off. Second, they reduce bargaining costs. Third, the schemes avoid the danger of judicial error. The debtor will be valued by a market process rather than by the judge. The judge can also avoid approving classifications and making other substantive determinations; he or she simply ensures that all players abide by procedures.

Our analysis sheds light on several aspects of this debate. Initially, the proponents of alternative schemes tend to compare their favored (and idealized) scheme with the imperfect Chapter 11 bargaining procedure currently in place. However, as we have shown, some aspects of Chapter 11 seem arbitrary, or require additional analysis before they can be justified. The appropriate comparison for those who would jettison Chapter 11 is between a practical implementation of alternative schemes and the best version of Chapter 11 that could be implemented.<sup>185</sup>

Nevertheless, it does seem true that alternative systems can respect prebankruptcy entitlements more effectively than Chapter 11 does. Any voting or bargaining system will divide the firm's value according to bargaining or voting power, rather than prebankruptcy entitlements. We saw this most starkly in Part IV.A, where creditors shared the round *e* surplus according to bargaining power rather than prebankruptcy entitlement. It might be argued that recent articles on secured transactions have cast doubt on the claim that prebankruptcy entitlements are efficient.<sup>186</sup> If security interests and other contractual priorities transfer value from tort creditors, small contract creditors, and other nonadjusting creditors, then it may be inappropriate to respect them in bankruptcy. Additionally, it may be necessary to violate prebankruptcy entitlements in order to reduce agency costs.<sup>187</sup> However, this does not justify Chapter 11's disregard of prebankruptcy entitlements: The auction or option approaches could be modified to provide any desired degree of respect for prebankruptcy entitlements,<sup>188</sup> and presumably more systematically than a system that relies on, for example, creditor discount factors.

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<sup>185</sup> See Thomas H. Jackson, Comment on Baird, "Revisiting Auctions in Chapter 11," 36 J.L. & Econ. 655, 663 (1993) (warning against "nirvana fallacy").

<sup>186</sup> See *supra* note 16.

<sup>187</sup> See Michael Frierman & P. V. Viswanath, Agency Problems of Debt, Convertible Securities, and Deviations from Absolute Priority in Bankruptcy, 37 J.L. & Econ. 455, 469-70 (1994) (concluding *ex post* deviations from absolute priority reduce *ex ante* agency costs).

<sup>188</sup> See Lucian Arye Bebchuk, The Options Approach to Corporate Reorganization 4 (1998 draft, on file with the *New York University Law Review*) (stating that options approach can permit payment of creditors and equityholders regardless of degree to which desirable distribution is consistent with absolute priority rate).

The main advantage of Chapter 11's bargaining system compared to an auction approach is its flexibility within the constraints provided by a supervising judge. Bargaining enables parties to agree to a reorganization when parties have substantial noncontractable postbankruptcy interests. The auction approach (and similar approaches) does not allow the confirmation of such plans unless parties with postbankruptcy interests can borrow enough to purchase the firm or can buy the claims of other parties. However, purchase may not be possible when capital markets are sufficiently imperfect, and claim buying requires parties to bargain with each other, with all the attendant problems. Thus, if capital markets are imperfect, the auction system requires parties to bargain, just like in Chapter 11. The advantage of Chapter 11 is that bargaining is structured and relies on judicial supervision. To the extent judicial expertise is exploited properly, it can be used to mitigate delay and violation of prebankruptcy entitlements.

The case for auctions, then, comes down to the claim that information is sufficiently available, and capital markets sufficiently robust, that either the party with the greatest expertise can buy the distressed firm at the highest price or that information can be aggregated through other, standard market mechanisms. If this claim is not true, then structured bargaining might be superior to the extent that it forces parties to reveal information while enabling them to protect their entitlements. Whether the Chapter 11 system actually does this is a hard, and essentially empirical, question, but our analysis is a step toward finding an answer.

## APPENDIX

*Table of Variables*

- $a_i$  - creditor  $i$ 's claim as a fraction of total claims  
 $c_i$  - value of creditor  $i$ 's claim  
 $d$  - discount factor ( $d_l$  is low discount factor;  $d_m$  is medium; and  $d_h$  is high)  
 $e$  - the number of rounds in the exclusivity period  
 $F$  - judge's estimate of  $v$   
 $h$  - value of a creditor's postbankruptcy interest  
 $m$  - number of creditors with postbankruptcy interests  
 $n$  - number of creditors  
 $p$  - probability that a voter votes correctly  
 $q_l$  - probability of low value  
 $q_h$  - probability of high value  
 $r$  - creditor's probability of being in the winning coalition  
 $s$  - going concern value ( $s_l$  is low value;  $s_h$  is high value)  
 $t$  - each round of bargaining  
 $T$  - number of rounds of bargaining  
 $v$  - liquidation value ( $v_l$  is low value;  $v_h$  is high value;  
 $v_0 = q_l v_l + q_h v_h$ )  
 $w$  - number of creditors in winning coalition  
 $x(t)$  - value of plan offered to creditor at time,  $t$