

THE EX ANTE EFFECTS OF BANKRUPTCY REFORM ON INVESTMENT INCENTIVES

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The appropriate content of bankruptcy law has become the most hotly debated area of corporate law. The past few years have witnessed a rush of bankruptcy scholars trying to devise new legal regimes for dealing with firms in financial distress. A broad array of scholars have concluded that there are substantial problems with the existing corporate reorganization provision of the Bankruptcy Code, Chapter 11, and a number of proposals have been made in response to these problems. These proposals range from substantial tinkering with existing bankruptcy law¹ to wholesale abandonment of any type of federal bankruptcy law.² The more modest proposals include a special provision designed for smaller firms, while the more radical suggestions include having the bankruptcy court auction off companies, eliminating federal bankruptcy law in its entirety, and allowing firms at the time they incorporate to select from a menu of various choices which legal regime will govern should the firm encounter financial distress.³ These broadside attacks on extant law have not gone unnoticed.

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1. See David A. Skeel, Jr., *Markets, Courts, and the Brave New World of Bankruptcy Theory*, 1993 WIS. L. REV. 465, 510-20 (proposing a new bankruptcy provision for small firms); Lynn M. LoPucki, *The Trouble With Chapter 11*, 1993 WIS. L. REV. 729 (advocating the adoption of a new bankruptcy procedure).

2. See Barry Adler, *Financial and Political Theories of American Corporate Bankruptcy*, 45 STAN. L. REV. 311 (1993); James W. Bowers, *Whither What Hits the Fan?: Murphy's Law, Bankruptcy Theory, and the Elementary Economics of Loss Distribution*, 26 GA. L. REV. 27 (1991) [hereinafter Bowers, *Loss Distribution*]; James W. Bowers, *Groping and Coping in the Shadow of Murphy's Law: Bankruptcy Theory and the Elementary Economics of Failure*, 88 MICH. L. REV. 2097 (1990) [hereinafter Bowers, *Bankruptcy Theory*]; Michael Bradley & Michael Rosenzweig, *The Untenable Case for Chapter 11*, 101 YALE L.J. 1043 (1992).

3. See Robert K. Rasmussen, *Debtor's Choice: A Menu Approach to Corporate Bankruptcy*, 71 TEX. L. REV. 51 (1992); see also Alan Schwartz, *Bankruptcy Workouts and Debt Contracts*, 36 J.L. & ECON. 595 (1993) (arguing that bankruptcy should be a default rule).

Defenders of the current regime have leapt to the offensive in an attempt to beat back the calls for reform.⁴

Despite the ever-increasing number of articles on bankruptcy reform, the current debate is incomplete. Much of the recent literature on bankruptcy reform has focused on reducing the costs of financial distress once the firm has filed for bankruptcy.⁵ These costs can be broken down into two broad categories. The first is the current costs, both direct and indirect, of being in bankruptcy. The direct costs of a firm's filing for bankruptcy are the costs of the bankruptcy proceeding itself. Lawyers, accountants, and advisors all have to be paid. The indirect costs of a bankruptcy filing are those costs which arise because the managers of the firm must focus on the bankruptcy proceeding rather than on running the firm.⁶ Scholars have conducted studies to quantify the direct costs of bankruptcy proceedings,⁷ and have conjectured about the size of the indirect costs of filing for bankruptcy.⁸

4. See Elizabeth Warren, *The Untenable Case for Repeal of Chapter 11*, 102 YALE L.J. 437 (1992) (responding to Bradley and Rosenzweig's study); Donald R. Korobkin, *Rehabilitating Values: A Jurisprudence of Bankruptcy*, 91 COLUM. L. REV. 717 (1991) (reacting to the economic account of bankruptcy law and offering an alternative normative explanation).

5. There has also been a debate over the policies of bankruptcy law between those who assert that bankruptcy should only be concerned with promoting economic efficiency and those who assert that bankruptcy law must also attend to the demands of social justice. See, e.g., Korobkin, *supra* note 4; Elizabeth Warren, *Bankruptcy Policy*, 54 U. CHI. L. REV. 775 (1987). I have argued elsewhere that the concerns of social justice proffered by the latter group are in fact best served by a bankruptcy regime which promotes economic efficiency. See Robert K. Rasmussen, *An Essay on Optimal Bankruptcy Rules and Social Justice*, 1994 U. ILL. L. REV. 1. Given this conclusion, this article begins from the premise that bankruptcy law should be concerned solely with promoting economic efficiency.

6. See Lawrence A. Weiss, *Bankruptcy Resolution: Direct Costs and Violation of Priority of Claims*, 27 J. FIN. ECON. 285, 288-89 (1990) (including as examples of indirect costs: increased operating costs, a decline in the firm's competitiveness and lost sales, and a reduction in the value of inventory); Karen H. Wruck, *Financial Distress, Reorganization, and Organizational Efficiency*, 27 J. FIN. ECON. 419, 437-39 (1990) (describing further examples of indirect costs: the loss of corporate decisionmaking power, an increase in production costs, and the loss of managerial time).

7. See Weiss, *supra* note 6; Julian R. Franks & Walter N. Torous, *An Empirical Investigation of U.S. Firms in Reorganization*, 44 J. FIN. 747 (1989); Allan C. Eberhart et al., *Security Pricing and Deviations from the Absolute Priority Rule in Bankruptcy Proceedings*, 45 J. FIN. 1457 (1990); Lynn M. LoPucki & William C. Whitford, *Bargaining Over Equity's Share in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 139 U. PA. L. REV. 125 (1990).

8. See Edward I. Altman, *A Further Empirical Investigation of the Bankruptcy Cost Question*, 39 J. FIN. 1067, 1078 (1984) (finding that bankruptcy's total costs ranged between 11% and 17% of firm value); David M. Cutler & Lawrence H. Summers, *The Cost of Conflict Resolution and Financial Distress: Evidence From the Texaco-Pennzoil Litigation*, 19 RAND J. ECON. 157 (1988) (stating that indirect costs are 9% of firm value); Robert H. Mnookin & Robert B. Wilson, *Rational Bargaining and Market Efficiency: Understanding Pennzoil v. Texaco*, 75 VA. L. REV. 295, 313-15 (1989) (discussing the indirect costs involved in the *Pennzoil v. Texaco* case and querying why these costs did not force

The second cost of bankruptcy on which the reform literature has focused is the possibility that the extant bankruptcy regime makes the incorrect decision with regard to the firm's future.⁹ Financial distress forces the owners of the firm to decide whether the firm should continue its current method of operation, change this method, or cease operations entirely. In other words, someone, be it the shareholders, the creditors, the managers, or the bankruptcy court, must decide how the firm's assets will be deployed in the future. To the extent that the wrong deployment decision is made, the value of the firm's assets are reduced. This reduction in value entails a social cost because society as a whole bears the loss when assets are not engaged in their most productive use.

Defenders of extant law and proponents of change have argued back and forth over whether these two costs—the costs of being in bankruptcy and the costs of making the wrong deployment decision—could be reduced through a different type of bankruptcy system.¹⁰ This metric has formed the battleground of the current debate. Consider in this regard the much discussed proposal to eliminate Chapter 11 and replace it with a system in which a firm's failure to pay debt leads to an elimination of the interests of the firm's outstanding equityholders.¹¹ The architects of this proposal argue that such a system would reduce the costs of bankruptcy proceedings because it eliminates such proceedings in their entirety.¹² The opponents of this radical proposal counter that in fact federal bankruptcy law actually reduces the costs that necessarily arise when a firm encounters financial

earlier settlement); Michelle J. White, *Bankruptcy Costs and the New Bankruptcy Code*, 38 J. FIN. 477 (1983) (estimating that indirect costs are ten times larger than direct costs).

9. See Douglas G. Baird, *The Uneasy Case for Corporate Reorganizations*, 15 J. LEGAL STUD. 127 (1986); Michelle J. White, *Does Chapter 11 Save Economically Inefficient Firms?*, 72 WASH. U. L.Q. 1319 (1994); Robert Gertner & Randal C. Picker, *Bankruptcy and the Allocation of Control* (draft).

10. See THOMAS H. JACKSON, *THE LOGIC AND LIMITS OF BANKRUPTCY LAW* 218-24 (1986) (questioning whether Chapter 11 should be retained); Frank H. Easterbrook, *Is Corporate Bankruptcy Efficient?*, 27 J. FIN. ECON. 411 (1990) (arguing that Chapter 11 is cheaper than a regime which auctions off insolvent firms); Robert G. Hansen & Randall S. Thomas, *Auctions in Bankruptcy: Further Analysis and Practical Guidance* (draft) (disputing Easterbrook's empirical analysis); Baird, *supra* note 9 (arguing for an auction regime).

11. See Adler, *supra* note 2; Bradley & Rosenzweig, *supra* note 2.

12. See Barry E. Adler, *Finance's Theoretical Divide and the Proper Role of Insolvency Rules*, 68 S. CAL. L. REV. 401 (forthcoming 1994) (arguing that a system of private contracts can mimic any efficiency gains attributable to current law while eliminating the costs of running a bankruptcy proceeding); Bradley & Rosenzweig, *supra* note 2, at 1078 ("Judicially-supervised corporate reorganization imposes on society the expense of compensating those responsible for reorganization plans (judges, lawyers, accountants, and financial advisors) and more than likely produces plans that seriously undermine allocative efficiency.") (emphasis in original).

distress.¹³ While the various proponents debate which regime best reduces costs once the firm files for bankruptcy, most seem to agree that postbankruptcy costs form the relevant battleground.

Virtually unnoticed in all of the current proposals to overhaul existing law is the effect that such changes would have on firm behavior prior to the initiation of a bankruptcy proceeding.¹⁴ This oversight omits a significant element for analyzing the desirability of any bankruptcy system. To see why this is so, one must look at the changes wrought by a bankruptcy proceeding. Such a proceeding results in a change in the firm's capital structure, most likely a change in its management (especially if the company is publicly held),¹⁵ and perhaps a significant change in its day-to-day operations as well.

The possibility that such major events might occur affects the behavior of those in control of the firm long before a bankruptcy petition is filed. This conclusion is hardly surprising. Bankruptcy law determines the allocation of a firm's assets when the firm cannot meet its obligations. This allocation in turn affects the investment decisions of the firm outside of bankruptcy. While recent efforts have looked at the ex ante effect of Chapter 11,¹⁶ little attention has been paid to the ex ante effects of the

13. See Lynn M. LoPucki, *Strange Visions in a Strange World: A Reply to Professors Bradley and Rosenzweig*, 91 MICH. L. REV. 79, 97-106 (1992) (noting that the transaction costs involved in communication and coordination, achieving liquidity, providing "soft landings" for failed executives, and providing relief from contractual default provisions make the Bradley and Rosenzweig proposal unworkable); Elizabeth Warren, *Bankruptcy Policymaking in an Imperfect World*, 92 MICH. L. REV. 336, 379-82 (1993) (noting that bankruptcy policy must be viewed in light of various market imperfections including transaction costs and asymmetrical access to information); Warren, *supra* note 4, at 474-77 (citing the example of Federated Department Store's Chapter 11 reorganization and arguing that, while Bradley and Rosenzweig's proposal may work in a perfect world, it is not well suited to the actual environment in which business failures occur).

14. A few scholars have noted some of the possible ex ante effects of various bankruptcy regimes. See Adler, *supra* note 2, at 330-31; Skeel, *supra* note 1, at 476-94. Nevertheless, they have failed to provide a comprehensive analysis of the subject.

15. Studies have consistently shown that managers are likely to lose their jobs after a firm files for bankruptcy. See Stuart C. Gilson, *Management Turnover and Financial Distress*, 25 J. FIN. ECON. 241, 247 (1989) (reporting that only 29% of senior managers survive financial distress); Lynn M. LoPucki & William C. Whitford, *Corporate Governance in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 141 U. PA. L. REV. 669, 723 (1993) (finding a change in CEO during financial distress in 91% of cases studied).

16. See Lucian A. Bebchuk & Randal C. Picker, *Bankruptcy Rules, Entrenchment, and Human Capital* (draft); F.H. Buckley, *The Termination Decision*, 61 UMKC L. REV. 243 (1992); Robert Gertner & David Scharfstein, *A Theory of Workouts and the Effects of Reorganization Law*, 46 J. FIN. 1189 (1991); Gertner & Picker, *supra* note 9; Susan Rose-Ackerman, *Risk Taking and Ruin: Bankruptcy and Investment Choice*, 20 J. LEGAL STUD. 277 (1991).

various regimes that have been touted as replacements for extant law. This lack of attention must be remedied. Any serious attempt to reform bankruptcy law must take account of the relative merits of the competing regimes. It is easy to show that any system of laws fails when compared to an ideal world. Given the complexities of the real world, it takes little imagination to demonstrate that the current state of affairs is not perfect. This argument, however, engages in the nirvana fallacy: comparing a real-world system to an unattainable ideal.¹⁷ To avoid this fallacy, an advocate of change must show that current bankruptcy law is worse than one of the proposed alternatives, not that it falls short of the unattainable goal of perfect efficiency.

In short, the interesting question is not whether bankruptcy law affects firm behavior; it does. Rather, the interesting question is whether the effects of current law are worse than those that would accompany a different bankruptcy regime. Advocates for change must show that the ex ante effects of their proposal on firm behavior are better—or at least no worse—than the ex ante effects of current law. Failure to do so would leave their criticisms of current law incomplete.

The importance of inquiring into the ex ante effects of bankruptcy law cannot be understated. Saving a few dollars through a new bankruptcy process may not be worth the cost if it would lead all firms—those that file for bankruptcy and those that do not—to pursue inefficient courses of action prior to reaching the bankruptcy forum. Ex post efficiency involving the relatively few firms that file for bankruptcy should not come at the expense of ex ante inefficiency for all firms in the economy.

Intertwined with the analysis of the ex ante effects of bankruptcy on corporate behavior is the issue of the time at which a bankruptcy petition is filed. It is now common wisdom that many firms in financial distress do not file for bankruptcy.¹⁸ The effect that bankruptcy law will have on behavior outside of bankruptcy turns in large part on when bankruptcy proceedings begin. A bankruptcy regime that comes into play only when the assets of the firm are depleted has different effects than a similar

17. See Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1, 2 (1969); see also Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 43 (1960) (“Actually very little analysis is required to show that an ideal world is better than a state of laissez faire But the whole discussion is largely irrelevant . . . since whatever we may have in mind as our ideal world, . . . we have not yet discovered how to get to it from where we are.”).

18. See Douglas G. Baird, *The Reorganization of Closely Held Firms and the “Opt Out” Problem*, 72 WASH. U. L.Q. 913 (1994); Stuart C. Gilson, *Bankruptcy, Boards, Banks, and Blockholders*, 27 J. FIN. ECON. 355 (1990).

regime that is invoked shortly after the firm becomes insolvent. Stated differently, it is one thing to design an optimal bankruptcy system in theory; it is another thing to have people actually use the system in the way that it was intended.

To assess the ex ante costs of bankruptcy reform, Part I of this Article begins with an examination of the literature on the agency costs in corporations. The costs arise both with the division of ownership among different claimholders and with the separation of ownership and control. Implicit in this literature is the assumption that bankruptcy law respects the contractual priority among the various claimants of the firm. It is well known, however, that bankruptcy law in practice deviates from contractual priority. Shareholders generally receive payouts even though the firm is insolvent. Part II examines the way in which this deviation affects the decisions of those charged with running the firm prior to the filing for bankruptcy. Part III compares these effects with the effects associated with the various proposed replacements for current law.

Part IV sets forth the implications of these results for bankruptcy reform. The major implication is that it is impossible to determine as a categorical matter that any of the proposed reforms has better ex ante effects than current law. Much depends on the nature of the firm itself. The question then becomes how this diversity in the types of firms should be addressed. Congress could legislate different bankruptcy regimes for different firms as some have proposed,¹⁹ it could leave the entire matter to private contract,²⁰ or it could allow firms to sort themselves at the time the firm is formed by adopting a bankruptcy regime that allows the owners of the firm to select the set of bankruptcy rules that they believe best serves the firm's needs.²¹

The last approach is the most desirable. While a legislature could make gross generalizations about such needs, it is probably better to have the individuals themselves express their preferences. Such a system does not guarantee perfect results since the possibility that individuals will make mistakes still exists. However, on balance, we should expect a world of private ordering to perform better than one where government ordering is the norm. Purely private contracting, on the other hand, creates significant coordination and communication problems. The coordination problem is

19. See Skeel, *supra* note 1, at 510-20; LoPucki, *supra* note 1.

20. See Adler, *supra* note 2; Barry E. Adler, *A World Without Debt*, 72 WASH. U. L.Q. 811 Bowers, *Loss Distribution*, *supra* note 2; Bradley & Rosenzweig, *supra* note 2.

21. See Rasmussen, *supra* note 3.

that the various contracts that a debtor has with its various creditors must be consistent in terms of the promised disposition of the firm. The communication problem is that all creditors have to be told what terms govern when the firm encounters financial distress. A "menu approach" to bankruptcy law, by rejecting the fallacy that Congress can determine the appropriate treatment of all firms in financial distress, and providing standard forms to ameliorate the coordination and communication problems that would plague a system of pure private contracts, would be a marked improvement over the current state of affairs.

I. THE AGENCY COSTS OF DEBT AND SEPARATION OF OWNERSHIP AND CONTROL

Common wisdom associates the initiation of a bankruptcy proceeding with two events: the inability of the firm to pay its debts and the need to make a decision about the future deployment of the firm's assets.²² While these two events are correlated, they nevertheless are distinct. A solvent firm may have its assets deployed in a less than desirable manner. Indeed, an all-equity firm may never become insolvent regardless of how poorly it is run.²³ Conversely, an insolvent firm may be using its assets in an optimal way. Many large firms which file under Chapter 11 eventually reorganize with their core business intact.²⁴ This distinction between a firm's capital structure and its value follows directly from the Modigliani and Miller Theorem.²⁵ Thus, from the perspective of social welfare, the proper deployment of a firm's assets is independent of its capital structure.

22. See Lemma W. Senbet, *Comment: Protecting Stakeholder Interests in Bankruptcy Reorganization*, 43 TORONTO L.J. 717, 719 (1993) ("[T]here is a tendency to confound economic and financial distress.").

23. Dean Baird notes that there are many firms which have little or no debt. See Baird, *supra* note 18, at 919-20.

24. LoPucki and Whitford report that in their study of 43 Chapter 11 cases involving large, publicly held companies, 22 survived with their core business intact at the conclusion of the case. Lynn M. LoPucki & William C. Whitford, *Patterns in the Bankruptcy Reorganization of Large, Publicly Held Companies*, 78 CORNELL L. REV. 597, 602-04 (1993). See also Steven N. Kaplan, *Federated's Acquisition and Bankruptcy: Lessons and Implications*, 72 WASH. U. L.Q. 1103, 1121 ("The Federated purchase, therefore, illustrates that a highly leveraged transaction can increase value, but still be unable to make its debt payments.").

25. Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261, 293 (1958). The original Modigliani and Miller Theorem ignores taxes. See Franco Modigliani & Merton H. Miller, *Corporate Income Taxes and the Cost of Capital: A Correction*, 53 AM. ECON. REV. 433 (1963); see also Joseph E. Stiglitz, *On the Irrelevance of Corporate Financial Policy*, 64 AM. ECON. REV. 851 (1974).

Stated differently, financial distress is different from economic distress.²⁶ A firm that cannot pay its debts is not necessarily a firm whose assets should be redeployed.

Despite the general acceptance of the Modigliani and Miller Theorem,²⁷ it has been long recognized that a firm's capital structure affects the decisions made by those in control of the firm.²⁸ These effects stem from two sources. The first is that the ownership interests in the firm are often divided amongst diverse claimants. This division in ownership leads to a difference in desires regarding the future conduct of the firm. Those holding fixed claims against the firm would prefer a different course of action than those holding residual claims. Holders of fixed claims may prefer less risky investments that will insure repayment of debt, whereas shareholders may prefer riskier projects that increase the expected value of their shares. Traditional corporate law leaves the ultimate responsibility for the firm's operations in its residual claimants—the shareholders.

These responsibilities are discharged in different ways in different types of firms. In small, closely held corporations, the shareholders usually conduct the day-to-day operations of the firm. In large, publicly held corporations, the shareholders delegate the responsibility for the day-to-day operation of the firm to their agents—the firm's managers. This division between ownership and control is the second source of conflict in corporate governance. The goals of the shareholders may differ from the goals of the managers. Shareholders may be concerned with maximizing the value of their shares while managers may be focused on prolonging their tenure.

These two divisions—among the owners of the firm and between the firm's owners and its management—impose agency costs on the firm. In other words, these divisions can create incentives for those in control of the firm to make decisions that are not optimal from the view of the firm as a whole. These costs have been well noted.²⁹ Moreover, recent literature

26. See Jeremy I. Bulow & John B. Shoven, *The Bankruptcy Decision*, 9 BELL J. ECON. 437 (1978); Michelle J. White, *Public Policy Toward Bankruptcy: Me-first and Other Priority Rules*, 11 BELL J. ECON. 550 (1980); White, *supra* note 8.

27. See Merton H. Miller, *The Modigliani-Miller Propositions After Thirty Years*, J. ECON. PERSP., Fall 1989, at 99, 99-100 (1988).

28. See Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976) (arguing that debt may cause managers to invest in negative net present value projects); Stewart C. Myers, *Determinants of Corporate Borrowing*, 5 J. FIN. ECON. 147 (1977) (stating that debt may cause managers to pass up positive net present value projects).

29. The seminal piece in this area is that of Jensen and Meckling, *supra* note 28.

has attempted to explain the way in which these costs are affected by current bankruptcy law. What has escaped attention, however, is the effect that competing bankruptcy reform proposals would have upon these costs. This Part of the Article examines these agency costs as a general matter, while the next two Parts explore these costs, first in the context of existing bankruptcy law, and second in the context of the recent calls for bankruptcy reform.

A. The Agency Costs Associated with Debt

Financial distress is solely a function of a firm's capital structure. An all-equity firm encounters economic distress when its revenues are less than its expenses. It cannot, however, encounter financial distress, which is defined as difficulty in paying its debts as they become due. This is because an all-equity firm has no debts.³⁰ The introduction of debt, however, creates the possibility that the firm will encounter financial distress. Committing to pay money in the future raises the possibility that such funds may not be available. This inability to pay contractual obligations may arise even if the firm is economically viable in the sense that its revenues exceed its costs of production.³¹

The effects of debt on the incentives of the owners of the firm have been thoroughly discussed.³² It is necessary to review these effects so that the effect of bankruptcy reform on all firms can be evaluated. An integral part of analyzing the agency costs of debt is examining the payoff received by the various claimants of the firm if the firm becomes insolvent. To the extent that bankruptcy law affects these payoffs, it affects the agency costs of debt. To measure these changes, it is necessary first to establish a baseline. This part of the Article establishes such a baseline by setting forth the conclusions of the literature on the agency costs of debt.

To explore the effects of debt on the way in which a firm makes decisions concerning its future course of action, consider the following situation. Commodore Corporation has \$100 in assets. These assets consist of cash in the bank. Commodore owes its debtholders \$80. All of

30. Of course, the firm may have short-term trade debt. For the purposes of exposition, I am assuming that the firm always has sufficient cash to pay such debt.

31. See Kaplan, *supra* note 24, at 1121.

32. See generally Elazer Berkovitch & E. Han Kim, *Financial Contracting and Leverage Induced Over- and Under-Investment Incentives*, 45 J. FIN. 765 (1990); Richard C. Green, *Investment Incentives, Debt, and Warrants*, 13 J. FIN. ECON. 115 (1984); Jensen & Meckling, *supra* note 28; Myers, *supra* note 28.

this debt is payable in one year and is of equal priority.³³ Assume further that Smith is the sole shareholder of Commodore, and that she runs Commodore's day-to-day operations. This assumption allows us to focus on the agency costs that arise when there is a division in the ownership of the firm as opposed to those costs which flow from the separation of ownership and control. For the moment, also assume that Smith is risk neutral.

Under these assumptions, the current value of Commodore's debt is \$80. With the money in the bank, Commodore's debtholders are assured full repayment. From the perspective of Commodore's debtholders, however, leaving the responsibility for running the firm in the hands of Smith subjects them to the risk that she will take actions which decrease the value of the debt. Such devaluation can occur in four ways: dividend payment, asset substitution, claim dilution, and underinvestment.³⁴

Dividend payment is the most obvious way in which shareholders can transfer wealth to themselves from the debtholders. In our example, Smith could have Commodore declare a \$100 dividend. Such action would transfer \$80 in value from the debtholders to Smith. Before the payment, Smith's interest in Commodore is worth \$20 and the debtholders' interest is worth \$80. After the dividend, Smith's interest increases to \$100 while that of the debtholders falls to \$0.

The risk of dividend payment does not loom large in an analysis of the ex ante effects of bankruptcy law. As an initial matter, nonbankruptcy law prohibits the payment of dividends by an insolvent firm.³⁵ These laws are not considered to be wholly effective in protecting debtholders from the harm posed by such payments.³⁶ However, to the extent that these laws provide inadequate protection to debtholders, the debtholders can protect themselves against dividend payments that devalue their debt. Dividend payment is an observable and verifiable event. It is therefore easy to write a contract prohibiting such action.³⁷ Indeed, such contractual prohibitions

33. For the sake of simplicity, I assume both that the rate of interest on the debt and the discount rate are zero.

34. See Jensen & Meckling, *supra* note 28, at 333-37; Clifford W. Smith, Jr. & Jerold B. Warner, *On Financial Contracting: An Analysis of Bond Covenants*, 7 J. FIN. ECON. 117, 118-19 (1979); AMIR BARNEA ET AL., AGENCY PROBLEMS AND FINANCIAL CONTRACTING 31-40 (1985).

35. See, e.g., CAL. CORP. CODE § 501 (West 1994); DEL. CODE ANN. tit. 8, § 170(a) (1983); N.Y. BUS. CORP. LAW § 510(a) (Consol. 1994).

36. BAYLESS MANNING & JAMES J. HANKS, *LEGAL CAPITAL* 65-67 (3d ed. 1990).

37. For a survey of such restrictions, see Avner Kalay, *Stockholder-Bondholder Conflict and Dividend Constraints*, 10 J. FIN. ECON. 211, 214-18 (1982).

are commonplace. Given these statutory and contractual constraints on dividend payment, there is little room left for bankruptcy law to affect this type of behavior. For this reason, the remainder of this Article does not focus on this cost of debt.

The second way in which shareholders can transfer wealth to themselves from existing debtholders is to have the firm issue new debt. To see how this action reduces the value of the existing debt, consider again the example of Commodore Corporation. The initial interest rate on the \$80 in debt that Commodore has issued was based on a certain likelihood that the company would repay the loan. If Smith were to increase Commodore's leverage by having it issue new debt which was not subordinated to the existing debt, Commodore would become less likely to pay off the preexisting debt.

For example, assume that Smith had Commodore borrow an additional \$100, and that this loan has priority over the preexisting debt. To see the effect of this new debt on the old debt, further assume that Smith is presented with two projects, each of which would cost \$100 and each of which would pay either \$120 or \$80, with each payoff being equally likely. Had the new loan not been made, Smith could have invested in only one of these projects and the debtholders would still have been assured full repayment. After the loan, however, Smith can invest in both projects. This increases the expected return to Smith. Had Smith only invested in the first project, the value of her shares would have been \$20.³⁸ If she invests in both projects, however, the value of her interest rises to \$25.³⁹ This increase in the value of Smith's holding comes at the expense of the debtholders. While they still will be paid in full 75% of the time, 25% of the time they will only receive \$60. Thus, their claim against Commodore would now be worth \$75. By issuing new debt, Smith has increased her expected return at the expense of the existing debtholders.

As with increased dividends, the threat of decreasing the value of existing debt by issuing new debt can be handled by contract. Lending contracts commonly restrict the borrower's ability to take on new debt.⁴⁰ This ability to contract against issuance of new debt leaves little room for

38. This is because she will either receive \$0 or \$40, with each possibility being equally likely.

39. One quarter of the time she receives \$60 (\$240 - \$180), half of the time she receives \$20 (\$200 - 180), and one quarter of the time she receives \$0.

40. See Alan Schwartz, *A Theory of Loan Priorities*, 18 J. LEGAL STUD. 209, 216-18 (1989) (noting that lenders routinely constrain the debtor's ability to borrow in the future).

legal intervention.⁴¹ There may be limits on the extent to which parties are able to write a contract which provides the optimum level of protection for existing debtholders while still allowing the firm to borrow additional funds when necessary.⁴² But this problem is unaffected by the content of bankruptcy law. To the extent that contractual restrictions are enforced prior to bankruptcy, the effect of bankruptcy law on future behavior will be minimal. While bankruptcy law overrides contractual restrictions on future borrowing,⁴³ this rejection of the firm's contractual obligations takes place only after the firm has filed for bankruptcy. Given this, it is hard to see how bankruptcy law affects the drafting of these contractual provisions in the first instance. For this reason, the remainder of this Article ignores this aspect of the agency cost of debt.

The remaining two agency costs of debt—asset substitution and underinvestment—are affected by bankruptcy law. Asset substitution occurs when a firm exchanges assets with a stable value for assets with a fluctuating value.⁴⁴ Shareholders stand to gain from such substitution because, as the residual claimants of the firm, they reap the gain if the new asset increases in value, whereas the debtholders will bear some of the loss if the asset decreases in value. In our example, Smith would have an incentive to convert Commodore's cash into a new asset that promises her a higher potential return. In the extreme case, she would go to Las Vegas and put the \$100 on black. Such action is in Smith's interest because it exchanges an asset that is worth \$20 to her for an asset that, because it will pay her either \$0 or \$120, with each outcome being equally likely (at least if we ignore the green numbers), is worth \$60 to her. In this example, Smith transfers wealth from the debtholders to herself by exchanging an asset with a low variance in payout for an asset with equal value but a higher variance in payout.

It is important to note, however, that while asset substitution may decrease the value of the outstanding debt, it does not necessarily decrease social welfare. Most, if not all, investments entail risk. Few endeavors in life are "sure things." Moreover, investors understand that the firms in which they invest are going to put their money at risk. From a societal

41. *Id.* See also Smith & Warner, *supra* note 34, at 136-37.

42. For various solutions to this problem, see Berkovitch & Kim, *supra* note 32; Clifford W. Smith, Jr. & L. Macdonald Wakeman, *Determinants of Corporate Leasing Policy*, 40 J. FIN. 895 (1990); René M. Stulz & Herb Johnson, *An Analysis of Secured Debt*, 14 J. FIN. ECON. 501 (1985).

43. 11 U.S.C. § 364 (1988).

44. See Smith & Warner, *supra* note 34, at 118-19.

point of view, problems arise only when asset substitution leads shareholders to invest in projects that have a negative net present value.

As an illustration of how such a situation might occur, consider what would happen in our example if Smith were presented with the following investment opportunity. For \$100 Smith can undertake a project that, in a year's time, will pay either \$180 or \$0, with both outcomes being equally likely. This project has a net present value of -\$10. Nevertheless, Smith has an incentive to undertake this project. By forgoing the project, Smith would receive \$20. By accepting the project, however, she has an expected payout of \$50. Thus, Smith would invest in the project even though, from a societal perspective, the project should not be undertaken.

The final agency cost of debt is underinvestment. Underinvestment occurs when a firm's capital structure causes it to bypass projects that have a positive net present value. To demonstrate this effect, assume that Commodore Corporation still has \$100 in assets, but that its liabilities have increased to \$120. Consider what would happen under these facts if Smith were presented with a project that costs \$100 and will pay either \$115 or \$95 in a year's time. This project has a net present value of \$5. Nevertheless, Smith has no incentive to undertake the project. Even if the project is successful, she will not benefit. She would rather wait for the opportunity to invest in some other project that has the potential to produce a profit in excess of \$20.

This underinvestment effect is magnified as the firm falls deeper into financial distress. When the firm's assets equal its liabilities, shareholders will focus simply on the payoffs that exceed the present value of the assets. All downside risks are borne by the debtholders. As financial distress deepens, shareholders require an even larger potential gain to induce them to undertake the project. Thus, the larger the insolvency of the firm, the more likely it is that the firm will forgo projects which have a positive net present value.

A note of caution is in order at this point. It is easy to overstate the underinvestment problem. While those in control of the firm may, at times, have an incentive to engage in asset substitution that decreases social welfare, they do not have an incentive to engage in underinvestment. Rather, they simply have no incentive to undertake certain projects that would increase social welfare. Thus, any increase in the incentive to undertake such projects will create an overall incentive for such action. For example, a firm may well undertake a project that brings it closer to solvency because it may then be able to invest in other projects which will subsequently make it solvent. In our example, Smith might undertake the

project hypothesized above if she expects to be able to invest in a similar project next year. This is because the second project will return Commodore to solvency. Thus, for underinvestment to occur, it must be that the entire range of projects that the firm has available are not enough to restore the firm to financial health.

Private contracts are insufficient to guard fully against the risks inherent in the issuance of debt. To be sure, debtholders certainly know the ways in which a firm, through its choice of investment projects, can transfer value from them to the shareholders. Consequently, they often include in their debt agreements covenants designed to provide some degree of protection. For example, security agreements often guard against some of the problems of asset substitution.⁴⁵ These contractual prohibitions, however, cannot eliminate the problems of asset substitution and underinvestment. The problem is one of information. In a world of perfect information and zero transaction costs, all socially efficient projects would be undertaken. Shareholders would be able to engage in asset substitution where it increases social welfare because they could offer debtholders sufficient payment to consent to the substitution under such circumstances, since the expected gain to the shareholders exceeds the expected loss to the debtholders. However, shareholders could not offer such payment in the case of socially inefficient projects. As to the underinvestment problem, the debtholders would be able to offer sufficient payment to the shareholders to invest in the project. These conclusions are, of course, straightforward applications of the Coase Theorem. In the real world, however, debtholders do not know what investment choices shareholders will be faced with in the future. Thus, it is unrealistic to expect that contracts can specify which projects should be undertaken and which ones should be rejected.

This problem cannot be solved by writing a contractual term that requires the shareholders to maximize firm value. When the shareholders (whom I am assuming are actually running the firm) receive information regarding future opportunities, this information may not be observable to the debtholders. Moreover, the firm's operating results are not a reliable indicator of whether the shareholders chose value-maximizing projects. Bad operating results simply are not conclusive proof of manager misbehavior. Most projects carry a risk that they will not be able to cover

45. See George G. Triantis, *Secured Debt Under Conditions of Imperfect Information*, 21 J. LEGAL STUD. 225, 247-48 (1992).

their costs. Thus, project failure may be the result of management's choice of bad projects, or the result of unfavorable external factors. Moreover, with regard to the underinvestment problem, debtholders do not observe the projects that managers choose to forgo. Thus, it is unrealistic to expect that vague contractual provisions coupled with debtholder monitoring will fully solve the asset substitution and underinvestment problems.

To the extent that debtholders cannot fully mitigate the risks inherent in issuing debt, they will price the risk by raising the interest rate on the debt. While managers thus have an incentive at the time of the initial loan to limit their opportunities to extract value from debtholders, it is impossible to write a fully contingent contract which ensures that no such behavior will occur. Any residual agency costs will raise the price of debt.

B. The Agency Costs of the Separation of Ownership and Control

To this point, only the agency costs associated with debt have been considered. In addition to these costs, the organizational structure of a firm may create an agency cost due to the separation of ownership and control. The preceding analysis simply looked at the incentive effects on shareholders, and assumed that shareholders controlled the investment decisions of the firm. Yet in many companies, certainly in most publicly held companies, shareholders employ managers to run the day-to-day operations of the firm. These managers may own shares of the firm, but they do not own a significant portion of the outstanding stock. While these managers are legally the agents of the shareholders, they do not necessarily act in the best interest of the shareholders.

In a widely held firm, shareholders want managers to pursue strategies that maximize the shareholders' wealth. In other words, they want managers to be perfect agents. Shareholders prefer such action even if it entails some risk of nonpayment, because they can diversify away such risk.⁴⁶ Managers, on the other hand, have no ability to diversify away firm-specific risk. To the extent that the payoffs to managers turn on their receipt of salary, managers have an incentive to entrench themselves. Financial distress often results in managers losing their jobs.⁴⁷ Managers thus prefer decisions that protect them from the consequences of such distress, even though such decisions may not increase the value of the firm.

46. See FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 29-30, 121-23 (1991).

47. See *supra* note 15.

When looking at investment choices, managers equate liquidation of the firm with personal financial ruin.⁴⁸ While shareholders are unconcerned with the value of the firm once the firm becomes insolvent, managers are unconcerned with firm value once the firm's condition deteriorates to the point at which it must be liquidated. The way in which this concern affects the investment choices that managers make depends on the way in which one conceptualizes their desire to avoid financial ruin.⁴⁹ If one views managers as solely concerned with avoiding liquidation, it follows that managers will choose less risky projects when the firm has little chance of being liquidated, but will invest in more risky projects when the firm is facing a high probability of liquidation.⁵⁰

Matters are less clear if one views managers as concerned with both minimizing the chance of firm liquidation and maximizing the value of the firm if it does survive. Under this view, managers of an insolvent firm will choose risky projects with high variances because this maximizes both the chance for firm continuation and the value of the firm if it is still in business. When the firm is solvent, however, managers face a tradeoff. Risky projects may maximize firm value if they succeed, but these projects also raise the chances of liquidation. Conversely, safe projects may ensure the continued viability of the firm, but fail to maximize the firm's value.⁵¹ The way in which managers assess these tradeoffs depends, to a great extent, on the relative weights that the managers assign to firm failure on one hand, and maximizing the value of the firm if it remains in business on the other.

Managers are ultimately responsible for the deployment of the firm's assets. Their deployment decision depends on the information that they possess, the extent to which their discretion is controlled through positive law and contractual covenants, and the alternatives that they have in terms of their own future prospects. These three factors often operate simultaneously. For example, few would dispute the notion that the firm's managers are the in best position to obtain information about the proper deployment of the firm's assets. Managers have information regarding these assets—such as their productivity and their ease of adaptability—that others probably lack. Yet, the managers may not have the appropriate incentives to obtain a sufficient amount of information regarding new uses

48. Rose-Ackerman, *supra* note 16, at 282-83.

49. *See id.* at 286-92.

50. *Id.* at 287-90.

51. *Id.* at 290.

for these assets. Managers do have some incentive to look for new projects—for example, where their wage is tied to some measure of firm performance. But managers will probably not look for projects that displace them. Few managers will voluntarily decide to liquidate the company, or seek to merge with another firm, if it entails losing their jobs. This reluctance exists even if such action would increase the value of the firm's assets. Finally, even if the managers do discover a new opportunity of which they wish to take advantage, loan covenants might prevent the action.

The solvent firm uses a number of mechanisms to police these problems. Perhaps most importantly, the takeover market constrains managers.⁵² Poor managerial performance can lead to a hostile tender offer. Relational investing also may limit managerial opportunism.⁵³ Such investing occurs where a single shareholder buys a large block of a firm's shares with the intent to be a long-term investor in the firm. By having such a stake, the relational investor overcomes many of the problems that tend to cause shareholders to be passive investors.⁵⁴ Debt contracts place limits on managerial risk taking,⁵⁵ and creditors often monitor the performance of the firm. Golden parachutes may induce managers to undertake firm-maximizing projects by insulating managers from ruin if the project turns out badly.⁵⁶

These checks on managerial behavior vary from firm to firm. For example, shareholders of a large firm want the firm to take risky investments. Thus, the shareholders may give the managers options tied to the extent to which the firm's growth exceeds some benchmark. In a small, closely held firm, where the shareholders are not so diversified, there is less desire on the part of shareholders for risk. In such a situation, the

52. See EASTERBROOK & FISCHER, *supra* note 46, at 171-74; Henry G. Manne, *Mergers and the Market for Corporate Control*, 73 J. POL. ECON. 110 (1965).

53. See Ian Ayres & Peter Cramton, *Relational Investing and Agency Theory*, 15 CARDOZO L. REV. 1033 (1994). For the potential risks that relational investing poses, see Edward B. Rock, *Controlling the Dark Side of Relational Investing*, 15 CARDOZO L. REV. 987 (1994).

54. Ayres & Cramton, *supra* note 53, at 1035-36. For an argument that shareholder passivity is beneficial, see Peter V. Letsou, *Shareholder Voice and the Market for Corporate Control*, 70 WASH. U. L.Q. 755 (1992).

55. See Smith & Warner, *supra* note 34 (explaining that debt covenants may place restrictions on the firm's investment policy by explicitly noting what projects the firm may undertake); Kalay, *supra* note 37 (noting that debt contracts may set constraints on shareholders' abilities to set dividend payments).

56. See Ellie G. Harris, *Antitakeover Measures, Golden Parachutes, and Target Firm Shareholder Welfare*, 21 RAND J. ECON. 614 (1990).

shareholders may closely monitor the activity of the managers to ensure the safety of their investment.

The optimal level of constraints on managerial behavior differs from firm to firm. The agency problems associated with a large, publicly held firm are different from those which exist in a small, closely held company. As a general matter, the optimal level of constraints is an amalgam of mandatory and supplementary law. As with the agency costs of debt, it is impossible to write a fully contingent contract that completely eliminates agency costs. The shareholders again encounter problems, both in identifying in advance the course of action that they want the managers to take and in observing the actual decisions made by the managers. These problems ensure that the managers will not act as perfect agents of the shareholders.

II. THE EX ANTE EFFECT OF CURRENT BANKRUPTCY LAW

Bankruptcy law undoubtedly affects the agency costs associated both with debt and with the division of ownership and control. Regarding the costs associated with debt, current law affects the incentives regarding asset substitution and underinvestment; in relation to the costs associated with the separation of ownership and control, it affects the managers' preference for risk. These effects stem from the fact that bankruptcy law determines the payoffs to the various claimants of the firm upon insolvency. These payoffs include the cash that the creditors may receive at the end of the bankruptcy proceeding or their newly acquired interest in the reorganized firm. Bankruptcy law is thus a mandatory term of every contract between a debtor and its creditors.⁵⁷ It states that under certain conditions, the shortfall in the debtor's assets will be distributed under a set scheme, and that this distribution will be made according to a certain procedure. Given this fact, the various investors in the firm will structure their behavior in anticipation of these events. Indeed, the agency costs of asset substitution, underinvestment, and managerial entrenchment all stem from the payouts which the various parties receive when a given project fails.

To assess these effects, however, a baseline is needed. The above discussion of the agency costs of debt is premised on the assumption that debt enjoys full priority over equity. Stated differently, the traditional analysis of the agency costs of debt and of the separation of ownership and control assumes a bankruptcy regime under which contractual priority is

57. Rasmussen, *supra* note 3, at 55-68.

respected. This priority means that when a firm is insolvent, the shareholders take nothing. The Bankruptcy Code as written shares this assumption. According to the Code, if the firm is liquidated, the shareholders can recover only if all creditors are paid in full, including interest.⁵⁸ If the firm is reorganized, existing shareholders can participate in the reorganization only if all other parties are either paid in full, with interest, or consent to less than full payment.⁵⁹

The Code's mandate of respecting contractual priority, however, is not borne out in practice. As an empirical matter, it is often the case that, both in and outside of bankruptcy, debtholders are not paid in full even though equity retains an interest in the firm.⁶⁰ The failure of equity to lose its entire investment when the business fails results from procedural protections that equity receives under the Code.⁶¹ Because the losses of financial distress are shared in this fashion, contractual priorities, which seem absolute on paper, are not absolute in practice.

It is one thing to say that loss sharing in bankruptcy occurs; it is another to determine whether it is normatively desirable. Such a determination depends, in part, on the relative costs of regimes based on full priority and those based on some notions of loss sharing. This Part of the Article explores how a legal regime that incorporates loss sharing changes the ex ante behavior of the firm as compared to a regime that respects contractual priority. This undertaking is necessary because it describes the effect that existing bankruptcy law has on ex ante behavior. It thus provides a baseline for assessing the effects that would occur were Congress to adopt one of the various proposed reforms of the Bankruptcy Code. Moreover, the comparison between allowing for loss sharing and respecting contractual priority is enlightening because many of the proposed reforms that have been suggested—e.g., elimination of Chapter 11 and institution of a mandatory auction—are designed to ensure that contractual priority remains intact.

A. Loss Sharing's Effect on Investment

Existing bankruptcy law affects the incentives of the shareholders to either engage in asset substitution or to forgo investments with a positive

58. See 11 U.S.C. § 726 (1988).

59. 11 U.S.C. § 1129 (1988).

60. See sources cited *supra* note 7.

61. For a list of the forces in the Bankruptcy Code that contribute to loss sharing, see Barry E. Adler, *Bankruptcy and Risk Allocation*, 77 CORNELL L. REV. 439, 446-55 (1992).

net present value. As to asset substitution, extant law sometimes increases and sometimes decreases the incentive for such substitution. This effect occurs because current bankruptcy law tends to ensure that shareholders receive an interest in the firm's assets even when the debtholders are not paid in full. Repeated empirical studies have found that equityholders often receive part of the reorganized firm even though creditors do not receive full payment on their debts. Thus, by protecting shareholders' interests in the firm from being totally eliminated in the event of insolvency, bankruptcy law at times increases the value of asset substitution to shareholders.⁶²

To see this effect, recall our earlier situation in which Commodore Corporation has \$100 in assets, all of which are cash, and unsecured debt of \$80. Smith, the sole shareholder and manager of Commodore, is presented with a project costing \$100, which eventually will pay either \$115 or \$75, with both prospects being equally likely. From the perspective of social welfare, the project should not be undertaken because it has a net present value of -\$5. Stated differently, if Commodore had no outstanding debt, Smith would not undertake the project. The same result obtains when Commodore has \$80 in debt, and contractual priority is respected. In this situation, Smith's equity interest absent investment in the project is \$20. If she invests in the project, and the law adheres to contractual priority, the value of her equity interest would fall to \$17.50. Accordingly, she would decline to pursue the project.

This result changes, however, once there is a sufficient level of redistribution in bankruptcy. If bankruptcy law gave Smith more than \$5 due to her equity interest in Commodore, she would undertake the project. Absent investment, her equity interest is still worth \$20. If she undertakes the investment and it succeeds, her payoff would be \$35; if the investment fails, she would receive the share allocated to her by bankruptcy law. Once this share exceeds \$5, Smith's equity interest is increased by undertaking this investment even though it has a negative net present value. Thus, redistribution in bankruptcy creates additional incentives for asset substitution.

The effect of bankruptcy redistribution is not entirely negative, however. In some situations loss sharing in bankruptcy may militate against the incentives to invest in net negative value projects. Consider the following scenario. Commodore Corporation once again has assets of \$100, but now

62. *Id.* at 473-74.

has debt of \$120. Smith, Commodore's sole shareholder and manager, is presented with a project that costs \$100. The payoffs from the project are either \$140 or \$0, with both being equally likely to occur. Thus, the project has a net present value of -\$30 and, from society's standpoint, should not go forward. Absent redistribution in bankruptcy, however, Smith would undertake the project. The value of her equity interest before the investment is zero; after the investment, the net present value of her equity interest is \$10.

Bankruptcy loss sharing can alter Smith's incentives so that she does not invest in the project. Smith's incentive to undertake the project stems from the fact that, absent investment, her equity interest is worthless. Bankruptcy redistribution changes this scenario. From Smith's point of view, each dollar that bankruptcy redistribution gives her when the firm is insolvent increases the value of her equity interest absent investment by one dollar. This redistribution, however, does not produce a similar increase if Smith undertakes the project at issue. The project succeeds fifty percent of the time and, in the solvent company, contractual priority is respected. Thus, in the case under consideration, for each dollar which bankruptcy law redistributes, Smith's equity interest if she undertakes the project increases only fifty cents. Stated differently, if the project succeeds, Smith loses the benefit of bankruptcy redistribution. Absent bankruptcy redistribution, Smith's equity interest is worth \$10 if she undertakes the project and \$0 if she declines the investment. Thus, once the level of redistribution in bankruptcy rises to more than \$20, Smith would not invest in the project. At that point her equity interest is worth more if she forgoes investment in the negative net present value project.

These countervailing effects of loss sharing on the problem of asset substitution turn on whether the firm is solvent at the time the investment decision is made. If the firm is solvent—i.e., the equity interest would have a positive value if the firm were liquidated today—loss sharing tends to promote asset substitution. This effect occurs because loss sharing has no effect on the current value of the equity interest. However, loss sharing does increase the value of the equity interest if the project is undertaken, because it reduces the loss to the shareholders if the project turns out poorly without diminishing the return to shareholders if the project succeeds. In contrast, when the firm is insolvent, loss sharing in effect gives value to the shareholders for what would be, absent investment, their otherwise worthless claim on the firm. Shareholders have to risk this value if they engage in asset substitution.

While these two effects point in opposite directions, they are not of equal

magnitude. This is because when the firm is solvent, loss sharing only affects the shareholders' return if they take the investment. When the firm is insolvent, on the other hand, loss sharing affects both the value of the equity interest absent investment and the value of that interest if the investment is made. To assess the relative magnitude of these competing effects, it is useful to quantify them. To do so, assume that we have a firm with assets worth A , and debt worth D . The firm is presented with an opportunity to invest in a project at cost C . This project will pay either v_H or v_L , with the probability of v_H occurring being p and the probability of v_L occurring being $(1-p)$. Assume further that $0 \leq v_L < D - A + C$. This last assumption implies that the firm is insolvent if v_L occurs, and that the ex post value of the project, not considering its costs, will never be negative.

Were bankruptcy law to respect contractual priority, the firm would invest in the project when

$$p(v_H - C - D + A) > \max(0, A - D) \quad (1)$$

The left side of the inequality is the expected value of the shareholders' interest if the project is undertaken,⁶³ while the right side is the value of their interest without the investment. In other words, Inequality (1) simply states that the firm will undertake a project when the shareholders' expected payoff under the project exceeds the current value of their equity interest.

As noted above, asset substitution is neither inherently beneficial nor costly from society's point of view. To determine whether bankruptcy law's effect on the incentives to engage in asset substitution are beneficial or not, we have to specify which investments should be undertaken from a societal perspective. From this point of view, an investment is socially efficient if the overall expected return from the project exceeds its costs. Such projects have a positive net present value. This situation exists where

$$pv_H + (1-p)v_L - C > 0 \quad (2)$$

To compare a bankruptcy system which respects contractual priority to the present system, we need to specify when investment occurs under the latter regime. We know that loss sharing exists under current law as it is applied. Because this sharing is not explicitly endorsed in the Code, it is not uniform across all cases.⁶⁴ This disparity, which has little to com-

63. Because contractual priority is respected, there is no payoff to the shareholders if the project yields v_L .

64. For the extent of variation in loss sharing in large, publicly held companies, see LoPucki & Whitford, *supra* note 7, at 142 (reporting that equity received between 0 and 57.7% of total value given

mend it, may arise because of differing judicial attitudes toward the amount of control the shareholders should have during a bankruptcy proceeding, or because the various claimants to the firm have differing levels of patience in the negotiating process.⁶⁵ No one advocates that the existence and degree of loss sharing attributable to bankruptcy law should turn on such factors. Nevertheless, those in control of the firm will estimate what they would receive in a bankruptcy proceeding. They might do so in one of three ways.

First, they might attempt to anticipate which judge would handle the case if the firm files for bankruptcy and the relative impatience of all the potential claimants. Such a process seems unlikely. The costs of learning which judges might be assigned to their case, and the predilections of these judges, seem high. Moreover, it may be difficult to anticipate who will be claimants in the event of insolvency and to estimate the relevant level of impatience. Such costly fine-tuning does not seem like a sensible approach.

The two other ways in which the managers of the firm may anticipate bankruptcy redistribution seem more realistic. On one hand, they might imagine that they would receive a set amount upon insolvency regardless of the value of the firm. Alternatively, they might anticipate that they would receive a percentage of the firm's remaining assets. Both rules of thumb have the benefit of being relatively easy to administer. For this paper, I assume that the latter regime is in place. The latter conception better comports with existing practice because the distributions to shareholders seem to turn on the size of the firm.

Thus, under a loss sharing regime, the equityholders of the firm receive a percentage, S , of the value of the firm's assets, A . The firm will now invest in the project if

$$\max[p(v_H - C + A - D), Sp(v_H - C + A)] + (1-p)S(v_L + A - C) > \max(SA, A - D) \quad (3)$$

The left side of the inequality is the payoff to the shareholders if the investment is undertaken. It differs from Inequality (1) in one respect; the shareholders receive a payoff if the firm is insolvent. While insolvency is guaranteed if the project performs poorly, success does not necessarily

to unsecured creditors and equity).

65. On this latter point, see Douglas G. Baird & Randal C. Picker, *A Simple Noncooperative Bargaining Model of Corporate Reorganizations*, 20 J. LEGAL STUD. 311, 337-38 (1991).

imply that the firm will be solvent. In the case of success, whether or not the firm ends up solvent turns on the payoff that success brings and the extent to which the firm was insolvent prior to the investment. The right side of the inequality is the payoff to the shareholders if the firm does not undertake the project. It differs from Inequality (1) in that it provides that the shareholders receive a positive payoff even when the firm is insolvent.

As discussed above, the effects of risk sharing turn on whether the firm is insolvent when it is deciding whether to undertake a project. Consider first the situation where the firm is solvent—i.e. absent investment, the shareholders receive the payoff $A - D$. In this situation, bankruptcy sharing will result in asset substitution that otherwise would not have occurred when Inequality (3) holds but Inequality (1) does not. In terms of the model, additional asset substitution occurs where

$$p(v_H - C - D + A) < A - D$$

and

$$p(v_H - C - D + A) + (1-p)S(v_L + A - C) > A - D$$

These two inequalities can be combined to yield:

$$p(v_H - C - D + A) + (1-p)S(v_L + A - C) > A - D > p(v_H - C - D + A)$$

Subtracting $p(v_H - C - D + A)$ from this inequality, we get

$$(1-p)S(v_L + A - C) > A - D - p(v_H - C - D + A) > 0 \quad (4)$$

In other words, bankruptcy sharing leads to additional asset substitution when, with sharing, the expected payoff of investment failure to the shareholders exceeds the current equity cushion minus the expected payoff of success. This latter part of the inequality must be greater than zero. If it is not—in other words, if the expected payoff to the shareholders for project success exceeds the equity cushion—then investment would occur in both regimes. Thus, additional asset substitution is more likely to occur in a solvent firm under a bankruptcy sharing regime as the percentage of the firm that the shareholders retain increases, the value of the remaining assets when the project turns out poorly increases, and the payoff to the shareholders if the project is a success increases. Additional asset substitution decreases, however, as the equity cushion increases.

This additional asset substitution is socially inefficient. The additional substitution would only be efficient to the extent that there is an underinvestment problem in the solvent firm. If the solvent firm invests in all projects that have a positive net present value, any additional investment

must be in projects that have a negative net present value. Consider first the situation in which the solvent firm, if its assets remain in the present configuration, has no possibility of becoming insolvent. This would occur when the firm has enough cash on hand to pay all of its outstanding debt. It is clear in this case that the firm would invest in all positive net present value projects.⁶⁶ It stands to reap all of the gain from such projects while, to the extent that there is any debt in the firm, suffering only part of the loss. Since the expected value of the potential gains exceeds that of the potential losses, the firm will not pass up a project that has a positive net present value. Thus, to the extent that loss sharing increases the firm's incentive to undertake projects by lessening the loss to the shareholders if the project fails, loss sharing increases investment in socially inefficient projects.

The same result occurs when the firm is solvent but has a possibility of becoming insolvent if its assets remain in their present configuration. We can express this situation by envisioning two states of the world: one where the firm ends up solvent, and the other where the firm ends up insolvent. In the former situation, the shareholders would receive all of the gains from any positive net present value project in which they have invested. In other words, investing in a positive net present value project increases the value of the shareholders' interest should the firm end up solvent. Such an investment might or might not increase the value of the shareholders' interest in the event of insolvency; whether it does or does not depends on the extent of the firm's potential insolvency and the payoffs of the project.

But even when the new investment adds nothing to the shareholders' interest in the event of insolvency, the shareholders would still undertake the investment. While they gain nothing should insolvency occur, they also do not lose anything. By investing in the positive net present value project, the value of the shareholders' interest increases if the firm remains solvent, and remains the same (zero) in the event of insolvency. Thus, the shareholders of the solvent firm would always undertake investments with a positive net present value even though there is no loss sharing if the firm ends up insolvent. Thus, any additional investments that loss sharing induces a solvent firm to make must be in projects which have a negative net present value.

66. As Alan Schwartz correctly notes, this assumes that the firm has sufficient funds to finance the project itself. See Alan Schwartz, *The Absolute Priority Rule and the Firm's Investment Policy*, 72 WASH. U. L.Q. 1213 (1994). If the firm has to seek outside financing, however, it may not be able to invest in all positive net present value projects. See *id.* at 1215.

To demonstrate this in terms of the model, return to Inequality (1), which specifies when a firm invests in a project absent loss sharing in bankruptcy. When the firm is solvent, we have investment when

$$p(v_H - C + A - D) > A - D$$

Subtracting $A-D$ from this, we get

$$p(v_H - C - D + A) - A + D > 0$$

Rearranging the left side of the inequality, we get:

$$p(v_H - C) + (1-p)(D - A) > 0 \quad (5)$$

Recall that investment is efficient when

$$pv_H + (1-p)v_L - C > 0 \quad (6)$$

For the solvent firm to engage in a socially inefficient investment, Inequality (5) would have to hold but Inequality (6) would not. In terms of the model, the following would have to be true:

$$p(v_H - C) + (1-p)(D - A) > pv_H + (1-p)v_L - C$$

This inequality can be reduced to

$$-v_L > A - D - C$$

But this inequality cannot hold since we already know that $v_L < A - D - C$, and $v_L \geq 0$. Thus, the additional investments attributable to loss sharing in bankruptcy must be in socially inefficient projects. Consequently, from an ex ante perspective, loss sharing in bankruptcy has a deleterious effect on the behavior of the solvent firm.

Of course, not all firms outside of bankruptcy are solvent. Insolvency does not lead to the immediate filing of a bankruptcy petition. Thus, to assess the ex ante effect of current bankruptcy law, it is necessary to consider the effects that the law has on an insolvent firm. In a world without bankruptcy sharing, the investment condition for the insolvent firm is

$$p(v_H - C + A - D) > 0$$

In other words, so long as there is any chance for the project to return an insolvent firm to solvency, it is in the interest of the shareholders to invest in it. Shareholders of the insolvent firm thus ignore the costs of project failure. Therefore, it is readily apparent that strict contractual priority encourages investments in projects that are socially inefficient.

This problem of asset substitution by the insolvent firm is ameliorated by a bankruptcy regime that incorporates loss sharing. When such a system is in place, recall from Inequality (3) that the insolvent firm will invest in a project only when

$$\max[p(v_H - C + A - D), Sp(v_H - C + A)] + (1-p)S(v_L + A - C) > SA$$

The left side of the inequality is the shareholders' payoff if the firm makes the investment. The first term is the shareholders' payoff if the project takes on the high value; the second is the shareholders' payoff if it takes on the low value. The right side of the inequality is the shareholders' payoff if the firm does not make the investment.

When the last two inequalities are combined, we find that a loss sharing regime reduces asset substitution when⁶⁷

$$p(v_H - C + A - D) > 0 > p(v_H - C + A - D) + (1-p)S(v_L + A - C) - SA$$

By subtracting $p(v_H - C + A - D)$ from the inequality, and multiplying through by -1, we get

$$0 < p(v_H - C + A - D) < SA - (1-p)S(v_L + A - C)$$

Thus, bankruptcy sharing decreases asset substitution in the insolvent firm when the payoff to the shareholders if the project succeeds is less than the payoff the shareholders receive without investment, less what they would receive if they undertake the investment and it fails. The higher the amount that the shareholders receive in bankruptcy, the greater the damping effect on the shareholders' incentive to engage in asset substitution.

It is clear that bankruptcy sharing has the ability to cause the firm to forgo investing in projects that decrease social welfare. As the cost of failure increases (i.e., as v_L approaches zero), the shareholders have less incentive to undertake the investment. Thus, bankruptcy sharing can prevent a marginally insolvent firm from investing in a project with a large downside risk and a modest upside risk.

While bankruptcy sharing can decrease asset substitution, at other times it encourages investment. Because the shareholders receive a percentage

67. In determining the extent to which a bankruptcy sharing regime decreases asset substitution by an insolvent firm, I want to ignore for the moment those projects that, when they succeed, fail to return the firm to solvency. I do so because such a situation creates the potential that bankruptcy sharing will create additional investment rather than decrease the problem of asset substitution. I will return to this problem when the underinvestment problem is examined. See *infra* note 68 and accompanying text.

of the reorganized firm, they have an incentive to maximize firm value even when the firm remains insolvent. In other words, the other agency cost associated with debt that can be affected by bankruptcy law, underinvestment, is decreased by redistribution in bankruptcy. Underinvestment occurs because the equityholders fail to reap any of the benefits when the project succeeds. If bankruptcy redistribution is tied to the value of the firm, shareholders would have an incentive to invest in projects with a positive net present value.⁶⁸ In terms of the model, the firm will not invest in a regime which respects contractual priority when

$$p(v_H - C + A - D) < 0$$

This failure to invest is inefficient when

$$pv_H + (1-p)v_L - C > 0$$

In a world where the losses of a failed enterprise are shared under bankruptcy law, the shareholders would want the firm to undertake this investment. Under Inequality (3), the shareholders will invest if

$$Sp(v_H - C + A) + (1-p)S(v_L + A - C) > SA$$

Dividing both sides of the inequality by S and subtracting A , we get

$$p(v_H - C) + (1-p)(v_L - C) > 0$$

This inequality implies that shareholders of an insolvent firm will undertake all investments that have a positive net present value. Thus, bankruptcy sharing solves the underinvestment problem.

Bankruptcy law, to the extent that it does not respect contractual priority, increases asset substitution by the owners of the solvent firm, while at the same time reducing asset substitution and underinvestment by the shareholders in the insolvent firm. While the model in this Part provides some explanation of how these opposing forces work, it does not allow one to make a conclusion as to which effect dominates the other. Indeed, it is probably the case that for some capital structures and choices of investment opportunities, loss sharing increases the ex ante cost of financial distress, while for other configurations it decreases such costs.

68. See Rasmussen, *supra* note 3, at 113-14.

B. The Effect of Bankruptcy Law on the Costs Associated with the Separation of Ownership and Control

Bankruptcy law also affects the agency costs associated with the division of ownership and control. Under current law, a firm's managers control the decision whether to file a bankruptcy petition. To assess the ex ante effects of bankruptcy law on managerial behavior, we have to have some sense of how the managers decide when a petition should be filed. It has been well documented that managers are often replaced during a bankruptcy proceeding.⁶⁹ This does not necessarily mean that managers would be better off were there no bankruptcy law. Bankruptcy law does not create financial distress. When a firm encounters financial distress, it may be inevitable that the managers will lose their jobs—the only question is when. Thus, the question whether managers prefer the current law as opposed to some other bankruptcy regime turns on when the managers lose their jobs under the current system as opposed to when they would be ousted under a competing regime.

Once the examination is expanded to include the timing of managerial removal, bankruptcy may not be as unattractive an option as the high rate of management turnover would otherwise suggest. Managers are not automatically relieved of their duties immediately following the filing of a bankruptcy petition. This fact gives managers an incentive to delay the filing for bankruptcy until the last possible moment when they are in danger of losing control of the firm outside of bankruptcy. Filing for bankruptcy at this time would extend their tenure beyond what it otherwise would have been. Thus, managers may view the option of filing a bankruptcy petition as a unilateral right to extend their employment contracts with the firm.

This ability to extend their employment contracts affects the managers' investment decisions in at least two ways. First, the extra time that managers stay in control of the firm may reduce the possibility of a liquidation. It is conceivable that the firm's fortunes may change after the bankruptcy petition is filed. Thus, if managers weigh both the possibility of liquidation and the value of the firm if it survives when making investment decisions, the existence of a bankruptcy proceeding increases the incentive to undertake a risky investment because bankruptcy lowers the probability of liquidation. This incentive is limited because it is probably

69. See Gilson, *supra* note 15, at 247; LoPucki & Whitford, *supra* note 15, at 723-37.

unlikely that the extra time bought with a bankruptcy petition will, in and of itself, return the firm to viability.

The second way in which bankruptcy law affects managerial investment decisions is through the possibility of reorganization under Chapter 11. While managers are ordinarily dismissed in a Chapter 11 proceeding, some managers do in fact retain their positions. Thus, whereas liquidation ensures that managers end their careers with the distressed firm, reorganization creates the possibility that managers will remain with the firm. Accordingly, managers have an incentive to select projects to which they are essential in order to avoid removal if the firm encounters financial difficulty.⁷⁰ If such investments are not available, if managers have a positive probability of being retained if the firm files for Chapter 11, and if the managers' compensation in bankruptcy turns on firm performance, then managers have an incentive to select projects which maximize firm value.⁷¹

The existence of bankruptcy law thus affects the investment choices that managers make by giving them an option other than liquidating the firm under state law. This option affects the magnitude of the agency costs caused by the existence of debt and the separation of ownership and control. Both shareholders and managers have an incentive to cause an insolvent firm to undertake risky projects, some of which will have a negative net present value. The longer that a firm operates with a capital structure under which it is insolvent, the larger the cost, through the undertaking of projects with negative net present values, to social welfare. Bankruptcy reorganization offers an opportunity to revamp the firm's capital structure, and thus to reduce the incentive to undertake projects that are undesirable from a societal perspective. The efficacy of such a restructuring turns in large part on the time at which a bankruptcy petition is filed. The sooner the petition is filed after the firm becomes insolvent, the smaller the expected loss to social welfare.

Managers, however, have little incentive to file for bankruptcy as soon as the firm becomes insolvent. Prior to filing for bankruptcy, managers have almost total control over the investment decisions that the firm makes. Bankruptcy law shifts the locus of the decisionmaking process. Managers no longer have sole control over the firm's investment decisions. Section 363 of the Bankruptcy Code requires that the debtor obtain court approval

70. See Bebchuk & Picker, *supra* note 16.

71. See Rose-Ackerman, *supra* note 16, at 300-03.

before engaging in any transactions outside of the ordinary course of business.⁷² Even for transactions within the ordinary course of business, the debtor's creditors can seek a court order limiting the managers' ability to conduct the affairs of the firm.⁷³ To the extent that the investment decisions made under the auspices of a bankruptcy judge do not mirror the decisions that managers would otherwise make, the managers have an incentive to keep the firm operating outside of bankruptcy.

There are some other incentives for managers to file for bankruptcy in addition to simply extending the term of their employment contracts. In the case of a closely held firm, it may be that the firm needs to stay the collection efforts of small creditors while it renegotiates its loan from its financier.⁷⁴ In the case of a publicly held firm, the managers may have to file bankruptcy in order to force a plan of reorganization on dissenting bondholders.⁷⁵ Finally, the managers of a firm may file for bankruptcy in order to obtain new financing. Bankruptcy law allows the firm to borrow on a priority basis despite covenants in existing loan agreements that would prevent such borrowing.⁷⁶ Absent these situations, however, the managers have little incentive to initiate a bankruptcy proceeding.

Managers thus have little incentive to file for bankruptcy when they can continue to control the firm outside of bankruptcy. This incentive to delay filing for bankruptcy often comports with the preferences of the firm's shareholders. Certainly, if bankruptcy respected contractual priority, shareholders would want the firm to stay out of bankruptcy as long as possible because filing for bankruptcy would extinguish their interest. Even in a world with loss sharing, shareholders may view the opportunity to engage in risky investments as more valuable than simply taking a bankruptcy share of the existing assets. This is especially true if the shareholders believe that the firm still has net present value projects available. As shown above, the shareholders want the firm to exploit such projects, even if the projects do not return the firm to solvency, because such projects increase the expected return to the shareholders once the firm

72. 11 U.S.C. § 363(b)(1) (1988) ("The trustee, after notice and hearing, may use, sell, or lease, other than in the ordinary course of business, property of the estate.").

73. 11 U.S.C. § 363(e) (1988).

74. Baird & Picker, *supra* note 65, at 311-12.

75. See John C. Coffee, Jr. & William A. Klein, *Bondholder Coercion: The Problem of Constrained Choice in Debt Tender Offers and Recapitalization*, 58 U. CHI. L. REV. 1207, 1242-51 (1991); Gertner & Scharfstein, *supra* note 16, at 1211-12.

76. See 11 U.S.C. § 364 (1988). For a criticism of this provision, see George G. Triantis, *A Theory of the Regulation of Debtor-In-Possession Financing*, 46 VAND. L. REV. 901 (1993).

files for bankruptcy.

Finally, the firm's creditors have little incentive to initiate a bankruptcy proceeding. Once creditors discover that the firm is in financial distress, they have an incentive to seek payment in full. Bankruptcy law imposes a pro rata sharing rule, and provides no penalty for those creditors who have secured repayment prior to the filing of the petition. Moreover, to file an involuntary bankruptcy petition, a creditor must seek out at least two other creditors of the firm and convince them to join the petition.⁷⁷ Since creditors can often do better—and rarely do worse—by pursuing their nonbankruptcy law remedies against the debtor, they have little incentive to force the firm into an involuntary bankruptcy proceeding.⁷⁸

For these reasons, bankruptcy filings tend to come too late. The cost of this delay is the increased possibility that the firm will undertake projects which have a negative net present value, and thus lead to a decrease in social welfare.

III. THE EX ANTE EFFECTS OF PROPOSED BANKRUPTCY REFORMS

Bankruptcy reformers have touted a number of replacements for current law. I have argued that firms should be allowed, at the time of formation, to select which bankruptcy regime should govern if the firm encounters financial distress. Others have offered various proposals which specify the actual type of rule to govern in the case of financial distress. This section evaluates the ex ante effect of three proposals of this latter type. These are: the "automatic cancellation" regime proposed by Bradley and Rosenzweig and Adler, the auction system suggested by Baird, and the selective stay offered by Baird and Picker.

A. *Automatic Cancellation of Outstanding Equity*

The most radical proposal for reforming current bankruptcy law is to eliminate it. Bradley and Rosenzweig and Adler recommend that Chapter 11 be eliminated and replaced by a system that Bradley and Rosenzweig term "contingent equity" and Adler calls "chameleon equity."⁷⁹ Rather than endorse either of the competing terms, I will refer to their proposals collectively as "automatic cancellation." This term is appropriate because

77. 11 U.S.C. § 303 (1988).

78. See Douglas G. Baird, *The Initiation Problem in Bankruptcy*, 11 INT'L REV. L. & ECON. 223 (1991) (noting that because all creditors share bankruptcy recovery on a pro rata basis, it is unlikely that any particular creditor will find it in its best interest to initiate bankruptcy proceedings).

79. See Adler, *supra* note 2; Bradley & Rosenzweig, *supra* note 2.

both systems provide that when a firm defaults on any of its debts, the firm's equityholders lose their interest in the firm immediately, and the lowest-priority debtholders become the new equityholders. If after this conversion the firm is still in default on more senior debt, the new equityholders have the option of curing this default. If they fail to do so, their interest is extinguished and the holders of the next most junior debt become the shareholders. This process is repeated until the firm is no longer in default on any of its debt.⁸⁰

The primary justification for this regime is that it would reduce the cost of bankruptcy proceedings.⁸¹ Rather than having long bankruptcy proceedings that often take years to complete, a regime of automatic cancellation would transfer ownership immediately upon default. Much has been written about the relative costs of automatic cancellation and current law.⁸² The defenders of Chapter 11 have attacked the faith in the market on which the automatic cancellation proposal is based.⁸³ What has received less attention is the ex ante effects of automatic cancellation.⁸⁴

Bradley and Rosenzweig acknowledge the traditional agency costs associated with debt in a world of contractual priority.⁸⁵ They assert that these costs would be eliminated by a regime of automatic cancellation.⁸⁶ While they do not analyze the effects of bankruptcy redistribution on the agency costs of debt, Bradley and Rosenzweig do assert that their proposal is better than current law because it respects contractual priority.⁸⁷ Adler

80. There are differences between the two proposals. Most notably, Bradley and Rosenzweig, *supra* note 2, at 1085 n.98, would not eliminate traditional methods of debt collection whereas Adler *supra* note 2, at 332-33, would. Despite this difference, the basic animating thrust of the two proposals—that default entails the elimination of the current class of residual owners—remains the same.

81. Adler, *supra* note 2, at 315-18; Bradley & Rosenzweig, *supra* note 2, at 1078-79.

82. For attacks on this proposal, see Donald R. Korobkin, *The Unwarranted Case Against Corporate Reorganization: A Reply to Bradley and Rosenzweig*, 78 IOWA L. REV. 669, 673 (1993) (challenging Bradley and Rosenzweig's empirical data, arguing that the proposal would actually cause efficiency losses, and claiming that they "do not construct a normative case in support of their proposal that would justify its adoption"); LoPucki, *supra* note 13; Warren, *supra* note 4. For a reply to these attacks, see James W. Bowers, *The Fantastic Wisconsin Zero-Bureaucratic-Cost School of Bankruptcy Theory: A Comment*, 91 MICH. L. REV. 1773 (1993) (arguing that the high costs involved in a bureaucratic solution justify resort to a market-based bankruptcy regime).

83. See Korobkin, *supra* note 82, at 726-27; LoPucki, *supra* note 13, at 97-110; Warren, *supra* note 13, at 379-82; Warren, *supra* note 4, at 474-77.

84. An exception to this is Skeel, *supra* note 1, at 483-91, who identifies some of the ex ante costs of an automatic elimination regime.

85. Bradley & Rosenzweig, *supra* note 2, at 1052-53.

86. *Id.* at 1085-88.

87. *Id.* at 1085.

is more sanguine about the effects of automatic cancellation. He notes that the agency cost of debt cannot be eliminated through such a regime.⁸⁸ Rather, he makes the more modest claim that such costs are not exacerbated by his proposal.⁸⁹ Adler has argued elsewhere, however, that bankruptcy law as a general matter should not engage in loss sharing.⁹⁰

An automatic cancellation regime does indeed reduce the current costs of bankruptcy law. The magnitude of the costs of socially inefficient asset substitution and underinvestment turn on the length of time that bankruptcy law allows a firm to operate in a condition of financial distress. The longer a firm can avoid a bankruptcy, the longer those in control of the firm will have to engage in socially inefficient actions. Moreover, it is probably true that many insolvent firms will sink deeper into insolvency if they are allowed to continue with their current capital structure in place. The more insolvent a firm becomes, the more incentive it has to seek out extremely risky projects, thus increasing the incentives of those in control of the firm to engage in asset substitution. Furthermore, the underinvestment problem is also exacerbated by the growing gap between assets and debt.

Automatic cancellation promises to restructure the firm's capital structure at an earlier point in time than does current law. Default on any debt payment leads to a change in capital structure; the existing residual claimants see their interests extinguished. It is certainly reasonable to suppose that default would occur under an automatic cancellation regime earlier than a bankruptcy filing would take place under current law. However, for reasons discussed below, one cannot assume that a firm would default in a world of automatic cancellation at the same time that the firm would default with current bankruptcy law in place. Nevertheless, default under the former regime would almost certainly occur before default under the latter. Thus, by shortening the time that the firm operates in a condition of financial distress, automatic cancellation represents a gain over current law.

Automatic cancellation also respects contractual priority.⁹¹ To the extent that a firm views bankruptcy sharing as beneficial on the whole, the firm would have to provide for such sharing by contract. This would reduce the costs associated with the current law's uncertain and varied

88. Adler, *supra* note 2, at 331.

89. *Id.*

90. See Adler, *supra* note 61, at 473-75.

91. Bradley & Rosenzweig, *supra* note 2, at 1085.

treatment of the shareholders' interests in bankruptcy.⁹² This gain in certainty is a benefit of the automatic cancellation regime.

Despite these gains, the move to an automatic cancellation system would not be unambiguously beneficial. Automatic cancellation would have significant ex ante costs. Consider first the problems associated with investment decisions in a firm in which the managers are the equityholders—i.e., a firm in which there is no agency cost due to the separation of ownership and control. Implementing an automatic cancellation system in this situation would increase the shareholders' focus on cash flow, a variable which is of little relevance to social welfare. Under the current legal landscape, managers are basically concerned with the ultimate payoff of a project. Managers do have to worry about cash flow either, because a prolonged period of not paying the firm's debts will ultimately destroy the firm. Nevertheless, they may not be overly concerned with the prospects of an interrupted cash flow. A lucrative investment may have an uncertain cash flow. While the shareholders may be confident that eventually the project will be a success, there may be some probability that during the course of the project they will not have sufficient revenues to cover their expenses. If they believe that such problems will be short-term, they will undertake the project. While they may technically default on some debt during the course of the project, they nevertheless expect to come out ahead in the long run.

This calculation changes once we place the shareholders in a world of automatic cancellation. In such a world, default leads to the elimination of the shareholders' equity interest. Consequently, shareholders would be leery of undertaking projects with variable cash flows. As an illustration of this effect, consider the following situation: our venerable firm Commodore Corporation once again finds itself with \$100 in assets and \$80 in debt. This debt is payable in monthly installments. Recall that Commodore is still owned and operated by Smith. Smith is presented with the following project. For \$100, Commodore will receive either \$150 in one year or \$110, with each outcome being equally likely. Under extant law, Smith would undertake this project. Smith is faced with trading her \$20 equity stake for a project that will give her interest an expected value of \$50. Moreover, the investment has a positive net present value and thus

92. Of course, one could solve this problem without embracing a regime of automatic cancellation. See Rasmussen, *supra* note 3, at 110-11 (arguing that in choosing a set of insolvency rules from a set of "standard form" contracts, firms should be allowed to select a regime that explicitly incorporates loss sharing).

would increase social welfare.

If Commodore were operating under automatic cancellation, however, Smith might not make the investment. It may be the case that the cash flow from the project will not be sufficient to ensure that Commodore could make its monthly payments to its existing creditors. Because this risk would result in the elimination of her interest, Smith may not be willing to undertake the project. Interruptions in cash flow, which do not necessarily mean that the firm is insolvent, lead to a change in ownership under a regime of automatic cancellation. Thus, shareholders will shy away from projects with high variance in cash flow, regardless of the ultimate payoff from the project.

Of course, the threat of default due to low cash flow exists under extant law. The difference lies in the consequences that flow from default. Declaring a default under existing law imposes a large cost on the creditor. A default may trigger a bankruptcy proceeding. The creditor who declares a default will not receive payments during the bankruptcy proceeding, and, if the creditor is unsecured, she will share pro rata with other unsecured creditors once the proceedings are complete. While default under existing law may lead the creditor to increase its monitoring of the firm, it does not necessarily lead to bankruptcy. Shareholders know that declaring default is costly for a creditor. Thus, they anticipate that their creditors will not initiate bankruptcy proceedings based on a temporary cash flow problem.

This problem of fluctuating cash flow may not loom large for all firms. Some firms in stable industries might not be affected by the problem of interim default because their investments produce sufficiently predictable returns. These firms may be good candidates for operating under a rule of automatic cancellation. Yet for other firms, especially firms in cyclical or high-risk industries, automatic cancellation may exacerbate the underinvestment problem. Indeed, it may create a significant underinvestment problem even where the firm is solvent.

Proponents of automatic cancellation might suggest that the problem of variable cash flows could be reduced either through the issuance of new equity or the taking on of new debt that matures only after the project realizes its final value. Neither of these alternatives solves the cash flow problem. Regarding the issuance of new equity, if the market believes that there is significant private information about the firm, then it will view the issuance of new equity as a signal that the firm's current equity is

overvalued.⁹³ Thus, the firm's shareholders have an incentive not to seek financing through the equity market. While at times the gain from the new project may seem sufficient to overcome the negative effect on stock price, at other times this negative effect will cause firms to forgo financing of positive net present value projects through the equity market.⁹⁴

The firm is left with the possibility of taking on new debt with a maturity timed so that the debt matures only after the project realizes its value.⁹⁵ This financing, however, may not be easy to obtain, because the firm may not be able to look to the most logical source of funding, a current lender. Such a lender has a disincentive to lend additional funds. Default under a rule of automatic cancellation may result in the lender becoming the owner of the firm, depending on the lender's place in the firm's capital structure. The lender would thus desire that the firm default when the lender thinks that it can capture more of the future revenue of the firm by holding the firm's equity rather than its debt. This incentive would be greatest in the situation where the firm actually undertook a project and only then discovered that it faced a cash flow problem which put the shareholders' interests in jeopardy. Rather than aiding the firm, the existing lender may attempt to capture the residual ownership for itself by allowing the firm to default on existing debt.

Thus, in a world of automatic cancellation, a firm seeking to avoid the problems posed by a project with a variable cash flow may be forced to seek a new source of funding. Resort to an outside lender, however, raises problems of its own. First, the transaction costs of seeking a new lender are probably greater than the costs of going to an existing lender. The existing lender already has information about the firm that the new lender would have to acquire. If these transaction costs exceed the expected profit from the project, the firm will forgo this investment opportunity even though social welfare would have benefitted from the project.

Forcing the firm to new financing sources decreases social welfare even if the firm is successful in procuring such financing. Given the fact that outside lenders have little private information when they make initial loans,

93. See Stewart C. Myers & Nicholas S. Majluf, *Corporate Financing and Investment Decisions When Firms Have Information Investors Do Not Have*, 13 J. FIN. ECON. 187 (1984).

94. As David Skeel points out, many smaller firms do not even have access to the equity markets. See Skeel, *supra* note 1, at 484.

95. See Mark J. Flannery, *Asymmetric Information and Risky Debt Maturity Choice*, 41 J. FIN. 19 (1986) (arguing that firm will choose short-term debt which matures after favorable information about the project is expected to become public); Douglas W. Diamond, *Debt Maturity Structure and Liquidity Risk*, 106 Q.J. ECON 709 (1991) (same).

other investors glean little information from an initial extension of credit. By the time of refinancing, however, the lender, through its monitoring of the firm, may have acquired private information about the firm's future prospects. A refinancing thus tells the market that the lender, holding this information, has faith in the firm's future prospects. Conversely, a failure to refinance sends a strong negative signal.⁹⁶ To the extent that automatic cancellation creates incentives for firms to seek outside funding because of a fear of strategic behavior on the part of its existing lender, the valuable information communicated by the refinancing decision is lost.⁹⁷

In sum, neither the issuance of new equity nor the securing of a new loan completely eliminates the problems raised by the emphasis that automatic cancellation places on a firm's cash flow. These two sources of funding do place upper limits on the cost of such emphasis because a firm will incur the cost of procuring funds through one of these methods if the available project promises a gain that exceeds such cost. Nevertheless, for those projects that do not generate profits greater than the costs of such funding, automatic cancellation will force firms to forgo positive net present value projects.

Another cost of the automatic cancellation proposal is that it may exacerbate the asset substitution problem. Most bankruptcy theorists agree that much of bankruptcy law is designed to combat a common pool problem.⁹⁸ Automatic cancellation increases the magnitude of this problem. To understand this phenomenon, consider a firm that has little cash on hand. It faces the prospect of defaulting on its debt, which would result in the shareholders losing their interest. The firm will thus sell its most liquid assets while it attempts to turn around the fortunes of the business. By focusing on the cash flow rather than the ultimate payoff of

96. See Gur Huberman & Charles Kahn, *Limited Contract Enforcement and Strategic Renegotiation*, 78 AM. ECON. REV. 471 (1988). Empirical support for this proposition can be found in Myron B. Slovin et al., *Firm Size and the Information Content of Bank Loan Announcements*, 16 J. BANKING & FIN. 1057 (1992) (reporting a positive share price effect for loan renewals in small firms); Scott L. Lummer & John J. McConnell, *Further Evidence on the Bank Lending Process and the Capital Market Response to Bank Loan Agreements*, 25 J. FIN. ECON. 99 (1989) (similar).

97. For other costs associated with a firm obtaining financing from more than one bank, see David S. Bizer & Peter M. DeMarzo, *Sequential Banking*, 100 J. POL. ECON. 41 (1992); and Mitchell A. Petersen & Raghuram G. Rajan, *The Benefits of Lending Relationships: Evidence From Small Business Data*, 49 J. FIN. 3 (1994).

98. Douglas Baird and Thomas Jackson are the leading proponents of this view. See DOUGLAS G. BAIRD & THOMAS H. JACKSON, CASES, PROBLEMS, AND MATERIALS ON BANKRUPTCY 39-55 (2d ed. 1990); JACKSON, *supra* note 10, at 7-19; Douglas G. Baird, *A World Without Bankruptcy*, LAW & CONTEMP. PROBS., Spring 1987, at 173.

their investment, firms under an automatic cancellation regime have a greater incentive to engage in piecemeal liquidation than they do under present law.

Adler's assertion that the elimination of coercive collection rights eliminates the common pool problem⁹⁹ does not withstand scrutiny. Elimination of collection rights does prevent the *involuntary* liquidation of the firm through coercive collection measures. Automatic cancellation, however, increases the incentive to engage in *voluntary* liquidation. When default equals a loss of the shareholders' residual claims, the shareholders will engage in any course of action to prevent such default, including the piecemeal liquidation of the firm.¹⁰⁰

It is no answer to this objection that the common pool problem in an automatic cancellation world can be eliminated by contract. As discussed earlier, contracts cannot fully eliminate the risk of asset substitution.¹⁰¹ Given the realities of limited information regarding future investment choices, it is impossible to write an ex ante contract specifying the permissible investment decisions. Nor can this problem be handled by requiring the lender to approve future transactions. Automatic cancellation, by promising the lender the residual claim upon default, would give the lender a strategic incentive to withhold its consent from a proposed transaction if the lender thought that it would receive a greater return by holding a residual as opposed to a fixed claim.¹⁰² Thus, automatic cancellation increases the risk of asset substitution.

Another ex ante cost increased by changing to a world of automatic cancellation is the cost associated with drafting contracts. Under current law, a firm's failure to meet the covenants in its loan agreement simply gives the lender the opportunity to declare a default. Declaring a default, however, is costly to the lender. If the debtor cannot pay its debt in full, the declaration of default may lead either to liquidation of the business or to reorganization under Chapter 11. Neither prospect seems attractive to the lender. A liquidation may not maximize the firm's value, and the lender may receive less than it would otherwise. A reorganization under

99. See Adler, *supra* note 20, at 817.

100. This would not be a concern if one were to endorse Professor Bowers' argument that debtors should liquidate their assets when the firm is insolvent. See Bowers, *Bankruptcy Theory*, *supra* note 2; Bowers, *Loss Distribution*, *supra* note 2.

101. See discussion *supra* pp. 1172-73.

102. Cf. Skeel, *supra* note 1, at 485-86 (noting the general incentive for strategic behavior caused by automatic cancellation).

Chapter 11 stays payments on past due obligations,¹⁰³ and, if the lender is not oversecured, stops interest from accruing on the debt.¹⁰⁴ Moreover, by declaring default, the lender, like all creditors of the firm, might incur significant legal expenses in a bankruptcy proceeding. Given these costs of declaring a default under current law, the lender has to balance the benefits of future payments from the firm if it does not declare default against the benefits from default. Thus, it is not surprising that many lenders do not call defaults even when their debt contracts give them the option to do so.

This does not imply that the covenants in a debt instrument serve no purpose—they do. Indeed, covenants give the lender the opportunity to influence the future decisions of firm. Lenders must decide how closely they will monitor their debtors. Even if the lender has sufficient leverage to influence the managers' decisionmaking process, the lender does not want to be involved in every decision. The lender only wants to use its influence when the managers are faced with decisions that could affect the repayment to the lender. These decisions are more likely to occur the closer the firm comes to insolvency. Covenants alert the lender to the approach of such a situation and signal to the lender that it has to increase its monitoring of the firm. Covenants, therefore, operate as a tripwire to inform the lender that it has to be on guard.¹⁰⁵

All of this changes in a world of automatic cancellation. In such a world, default equals a change in ownership. This suggests that borrowers will insist that covenants be narrowly drawn to ensure that default does not occur at a time when change of ownership is unwarranted. There are three costs to this change in legal regimes. The first is that more time will be spent on drafting contracts. Rather than the current situation where there is little cost associated with having overly broad covenants, a regime of automatic cancellation would force the contracting parties to write finely-tuned covenants. Such a drafting process would be more expensive than the one currently in place. While one can conjure up widely different estimates as to the magnitude of these costs,¹⁰⁶ the fact that such costs

103. 11 U.S.C. § 362 (1988 & Supp. II 1990).

104. 11 U.S.C. § 506 (1988).

105. See Ronald J. Daniels & George G. Triantis, *The Role of Debt in American Corporate Governance* (draft).

106. Compare Adler, *supra* note 12, at 29 (describing cost of contracting as "trivial") with Korobkin, *supra* note 82, at 720 ("[T]he administrative and disruption costs of coordinating the negotiation of a full network of default-contingent contracts are sure to be substantial.").

exist cannot be denied.

The second cost of automatic cancellation is that the tripwire function of existing covenants would be lost. New loan contracts could require the borrower to report information to the lender which would inform the lender that its repayment may be at risk. Telling this to the lender, however, does little good unless the lender can then use this information to influence the behavior of the firm. Current law, by making the declaration of a default costly, ensures that the lender will threaten to declare a default, even though it may not actually do so. In the world of automatic cancellation, there is no cost to the lender associated with declaring default. The lender either has the right to declare a default (and will do so if it views such action as increasing its expected return) or it does not. It is difficult to see how the lender's rights could be calibrated in an automatic cancellation regime in order to give the lender influence over the decisions of the firm, and yet protect the shareholders against opportunistic declarations of default.

The final cost of automatic cancellation regarding the drafting of covenants is that, given the uncertainties of life, there will be situations where there is default but the elimination of the firm's outstanding shares nevertheless is unwarranted. Additionally, there will be situations where there is not a default even though such elimination should occur. Stated differently, there will be false positives and false negatives. The problem of false positives implies that it will be difficult for relational contracting to continue in a world of automatic cancellation. In a relational contract, the full obligations of the parties may not be specified at the time of contracting; the relationship develops over time.¹⁰⁷ Investors will, at times, take this approach as well.¹⁰⁸ Exit options determine whether both parties stay in the relationship. To the extent that these options are more attractive, the relationship is less likely to proceed. In a world of automatic cancellation, the exit option for the lender is very attractive—ownership of the firm. Consequently, the lender is more likely to declare a default. Therefore, firms may not wish to enter into relational contracts in the first

107. See Charles J. Geertz & Robert E. Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089 (1981); Stewart Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55 (1963); Ian R. Macneil, *Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law*, 72 NW. U. L. REV. 854 (1978); Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233 (1979).

108. See Ayres & Cramton, *supra* note 53, at 1034-35.

instance. To the extent that relational contracts are efficient, this constitutes a decrease in social welfare.

The lender always has the option not to declare default, but it is hard to see why the lender would not. Even if it needs the current managers, it can always negotiate a deal to retain their services.¹⁰⁹ The lender will exercise this option when its expected payoff from bargaining with the managers exceeds its expected payoff if it were not to declare default.

The final ex ante cost associated with a move to a regime of automatic cancellation is an increase in the agency costs stemming from the separation of ownership and control. Concern for job security already gives managers incentives to choose safer investments, even if shareholders would prefer other, more risky investments. Automatic cancellation would increase these concerns. Automatic cancellation results in a change in the party holding the residual claim to the firm. Such a change would probably lead to an evaluation of the managers' performance. The new owners of the firm would have to make a decision as to whether the current managers should stay in place. Accordingly, poor managers would have a great incentive to avoid default. Changing the ownership requires an active determination of whether to keep current management. If the new owners of the firm can distinguish between good and bad management, we would expect to see bad management avoiding default at any cost. Thus, they would forgo many worthwhile projects. Managers might shy away from any project which entails a substantial risk for fear that the new owners of the firm would not conclude that the managers made the correct ex ante decision.

A change to a rule of automatic cancellation would thus bring a change in the ex ante effects of bankruptcy law. It is not clear whether the overall effect of such changes increases or decreases efficiency. By providing a trigger which ensures that a firm will not experience an extended period of financial distress, automatic cancellation reduces the costs of improper asset substitution and underinvestment. But this quick trigger itself causes problems. One must be careful in designing nuclear weapons. This added care and the managers' desire to avoid detonation create ex ante costs. I find it impossible (or at least imprudent) to assert that I can weigh these opposing effects in the comfort of my office and declare conclusively whether automatic cancellation would on balance enhance or lessen the ex ante cost of financial distress.

109. For the bargaining outcome between a lender who, in effect, owns the firm, and its current managers, see Baird & Picker, *supra* note 65, at 341-44.

B. Auction Regimes

Another prominent suggested reform is to replace Chapter 11 with a mandatory auction.¹¹⁰ First suggested by Douglas Baird, an auction regime requires that the firm be sold to the highest bidder when it encounters financial distress. The old owners of the firm—its debtholders and its equityholders—would then divide the proceeds of the sale amongst themselves according to the priorities set forth in their contracts.¹¹¹

The motivation behind the auction regime is to reduce the ex post cost of financial distress. It would do so in three ways. First, auctions would provide a market value of the firm by soliciting actual bids for the firm.¹¹² Such bids could be on a cash or noncash basis.¹¹³ Current reorganization law lacks such a valuation mechanism. Rather, it provides that if the claimants cannot agree on the value of the firm, the value is determined by a bankruptcy judge.¹¹⁴ To the extent that a true market sale of the firm provides better information about the firm's value than does a value set by a nonmarket participant, the auction regime would reduce the cost of financial distress by providing more accurate information concerning the value of the firm's assets.

Second, the proponents of auction regimes hope that resort to the market can lead to a savings in the cost of the bankruptcy proceedings.¹¹⁵

110. See JACKSON, *supra* note 10, at 218-24; Philippe Aghion et al., *The Economics of Bankruptcy Reform*, 8 J.L. ECON. & ORGANIZATION 523 (1992); Baird, *supra* note 9; Hansen & Thomas, *supra* note 10.

111. Of course, some claimants to the firm's assets do not have contracts. These nonconsensual claimants currently are treated as unsecured creditors who cannot pursue the firm's individual shareholders. For arguments that they should receive more preferential treatment, see Henry Hansmann & Reinier Kraakman, *Toward Unlimited Shareholder Liability for Corporate Torts*, 100 YALE L.J. 1879 (1991); David W. Leeborn, *Limited Liability, Tort Victims, and Creditors*, 91 COLUM. L. REV. 1565 (1991); Lynn M. LoPucki, *The Unsecured Creditors' Bargain*, 80 VA. L. REV. (forthcoming 1994); Christopher M.E. Painter, Note, *Tort Creditor Priority in the Secured Credit System: Asbestos Times, the Worst of Times*, 36 STAN. L. REV. 1045 (1984); Rasmussen, *supra* note 5; Alan Schwartz, *Products Liability, Corporate Structure, and Bankruptcy: Toxic Substances and the Remote Risk Relationship*, 14 J. LEGAL STUD. 689 (1985).

112. See Baird, *supra* note 9, at 136-37; JACKSON, *supra* note 10, at 215-16.

113. The addition of noncash bids has been suggested by Aghion, Hart, and Moore as a way to solve the financing and lack-of-competition problems that may arise where bids are required to be in cash only. See Aghion et al., *supra* note 110, at 527-28, 536-37. The addition of such bids requires the current owners of the firm to vote on which proposal is worth the most. For a discussion of how this vote would be conducted, see *id.* at 534-36.

114. 11 U.S.C. § 1129(a)(7), (b) (1988) (requiring the court to make various determinations regarding the value of creditors' interests under proposed plans of reorganization).

115. See Baird, *supra* note 9, at 140-41; Hansen & Thomas, *supra* note 10.

Bankruptcy proceedings are expensive undertakings. The professional fees in a large bankruptcy case can run into the tens of millions of dollars.¹¹⁶ Of course, these fees would not be eliminated entirely in an auction regime. Some of the disputes that are currently resolved in the bankruptcy forum, such as priority issues and preference issues, must be decided regardless of the way in which the firm's assets are distributed. Nevertheless, much time and expense in bankruptcy is spent formulating a plan of reorganization that puts both a value on the firm and establishes a new capital structure for the reorganized entity. The proponents of auctions assert that their system will reduce these costs. In short, a market sale should be cheaper to arrange than a negotiated plan of reorganization.

The third and final savings attributed to an auction regime relates to the future deployment of the firm's assets.¹¹⁷ After the firm is sold, the buyer has the appropriate incentive to decide the future course of the firm. As the sole owner of the firm, it can assess whether the firm should be liquidated, kept intact as a going concern, or partially liquidated. Current bankruptcy law, on the other hand, is biased towards reorganization.¹¹⁸ The end result is that most firms which attempt to reorganize fail.¹¹⁹ This high failure rate indicates that the bankruptcy process is not making efficient allocation decisions and those backing an auction system hope that the buyer of the firm at an auction could do better.

The effect of an auction regime on firm investment policy is in one way similar to the effect of automatic cancellation. Both regimes replace current law, which tends to result in a sharing of the losses of the firm, with a rule that respects contractual priority. To the extent that this change improves efficiency, it is a benefit of both proposals.

An auction regime also differs from current law in its effect on managerial behavior. Managers play a significant role in Chapter 11.¹²⁰ Although many managers are ultimately replaced, the ouster often occurs

116. Steve H. Nickles & Edward S. Adams, *Tracing Proceeds to Attorney's Pockets (and the Dilemma of Paying for Bankruptcy)*, 78 MINN. L. REV. 1079, 1081 (1994). Nickles and Adams report that Federated Department Stores, Inc. recently spent \$121.2 million on professional fees during its bankruptcy. Johns-Manville also incurred over \$100 million in professional costs in its Chapter 11 proceedings. *Id.*

117. Douglas G. Baird, *Revisiting Auctions in Chapter 11*, 36 J.L. & ECON. 633, 638-47 (1993).

118. Rasmussen, *supra* note 3, at 100.

119. Warren, *supra* note 13, at 373 ("Most observers estimate that about four out of five Chapter 11 bankruptcy cases fail before a plan of reorganization can be confirmed."); Robert K. Rasmussen, *The Efficiency of Chapter 11*, 8 BANKR. DEV. L.J. 319, 322 (1991) (reporting similar results).

120. David A. Skeel, Jr., *Rethinking the Line Between Corporate Law and Corporate Bankruptcy*, 72 TEX. L. REV. 471, 535 (1994).

relatively late in the reorganization process.¹²¹ Assuming that an auction process is quicker than a reorganization under Chapter 11,¹²² an auction regime would accelerate the decision regarding the retention of management. This possibility of quicker scrutiny of managerial behavior is a potential ex ante benefit of a mandatory auction. The extent of this benefit, however, depends on when an auction would be initiated compared to when a bankruptcy proceeding would be initiated under current law. As discussed below, the proponents of mandatory auctions have yet to specify the way in which the duty to auction off the firm arises. Thus, it is difficult to conclude how much sooner, if any, review of managerial performance would occur under an auction regime as compared to current law.

The auction regime does have another effect on managerial behavior. It gives managers an incentive to invest in projects which will give them private information. Managers know that if the firm encounters financial distress, an auction may result. The managers undoubtedly want to take steps to ensure that they remain with the firm after the auction. If they have private information, they can align themselves with one of the groups bidding for the firm. This alignment would discourage all other bidders.¹²³ Indeed, it was common wisdom on Wall Street that an outside bidder should not enter a bidding war against a management-led buyout.¹²⁴ Thus, an auction regime would give managers an incentive to invest in projects about which they have more private information. This incentive might cause them to pass up projects that have a higher positive net present value but do not give managers information that they could use to insinuate themselves with a bidder at auction.

Beyond the respect for contractual priority and the effect on the incentives for managerial entrenchment, it is difficult to delineate fully the ex ante effects that an auction regime would have. This is because the

121. See LoPucki & Whitford, *supra* note 15, at 726.

122. Lawrence Weiss' study of 51 bankruptcy filings revealed that the average time from the filing of the bankruptcy petition to resolution was 2.5 years. Weiss, *supra* note 6, at 288. On a similar scale, Julian R. Franks and Walter N. Torous' study of 30 firms in Chapter 11 reveals that the average period of time spent by a firm in Chapter 11 is four years. Franks & Torous, *supra* note 7, at 750. These times greatly exceed the six months suggested by Hansen and Thomas, *see supra* note 10, or the four months suggested by Aghion, Hart and Moore for conducting an auction, *see* Aghion et al., *supra* note 110, at 532-36.

123. See Rasmussen, *supra* note 3, at 92 n.177.

124. See J. Robert Brown, *In Defense of Management Buyouts*, 65 TUL. L. REV. 57, 93 n.105 (1990).

proponents of auction regimes have not articulated the mechanism that would trigger the sale of the company.¹²⁵ As in the case of automatic cancellation, the timing of the insolvency procedure in large measure dictates the effects that the insolvency will have on firm behavior. The longer an insolvency regime allows a firm to operate while in financial distress, the greater the incentives it produces to engage in inefficient asset substitution and underinvestment. Therefore, before adopting an auction regime, the crafter of insolvency rules must select a triggering mechanism for the auction and then assess its ex ante effects.¹²⁶

C. *Selective Stay*

Less radical changes to current bankruptcy law have been proposed as well. One alternative, proposed by Baird and Picker, would operate in the case of a closely held corporation run by its shareholders and would stay the actions of most creditors, with the notable exception of the major financing creditor.¹²⁷ Under this legal regime, the decision whether to continue the business with current management depends on the outcome of the negotiations between the financing creditor and the managers. If the creditor believes that the liquidation value of the firm exceeds its going-concern value, it can foreclose without the consent of the managers or the bankruptcy court. If the financing creditor believes that the firm should remain intact, it must reach an agreement with the current managers. Such an agreement would give the managers a share of the reorganized firm.¹²⁸

One ex ante benefit of this proposal is that it may lead to more efficient monitoring of the firm's behavior outside of bankruptcy. The financing creditor is assured that if its monitoring leads it to conclude that the firm should be liquidated, it can act on its conclusion immediately. Under current law, the managers of the firm can stop a creditor from liquidating the firm by filing a bankruptcy petition.¹²⁹ Thus, the creditor knows that even if it concludes that a firm should be liquidated, it cannot readily turn this belief into action. At most, it can precipitate the filing of a bankruptcy petition. Thus, under existing law there is less incentive to monitor the

125. See generally Aghion et al., *supra* note 110; Baird, *supra* note 9.

126. For a discussion of who should craft a firm's insolvency rules, see *infra* Part IV.

127. See generally Baird & Picker, *supra* note 65.

128. The agreement that the parties would reach is analyzed in Baird & Picker, *supra* note 65, at 329-40.

129. 11 U.S.C. § 362 (1988 & Supp. II 1990) (providing that the commencement of a bankruptcy case stays all actions to collect debts).

firm than there would be under the selective stay.¹³⁰

Baird and Picker have shown that if the value of the firm with its current managers is greater than the value of the firm without such managers, and if the liquidation value of the firm is substantial, the parties under the selective stay will reach an agreement to continue the business under which the creditor receives the liquidation value of the assets and the managers received all of the going-concern surplus.¹³¹ On the other hand, if the liquidation value of the assets is relatively small, the creditor and the managers will split the going-concern value of the firm in a way which depends on the relative discount rates of each party.¹³²

This division of the value of the firm will decrease the underinvestment problem. If a firm is insolvent—which is a necessary condition for the traditional underinvestment problem—and still has substantial assets, the firm's managers would have an incentive to undertake all investments that have a positive net present value. Since the creditor's share depends upon the liquidation value of the firm's assets, to the extent that the investment requires use of these assets, the creditor in effect pays for the investment. So long as part of the payoff from the investment increases the overall value of firm without increasing the liquidation value of the firm's assets to an equal extent, the managers will capture this difference.

Indeed, there is a broader point. Under the selective stay model, the managers in certain firms—those firms that have substantial liquidation value—have an incentive to invest in projects which depend heavily on their skills. To the extent that firm value exceeds liquidation value, the managers get to keep this surplus. Thus, while the selective stay regime may alleviate the underinvestment problem, it probably would increase the problem of asset substitution. The managers have an incentive to turn assets with a high liquidation value into assets with values more dependent on the managers' skills. Stated differently, the managers would have an incentive to turn non-firm-specific assets into firm-specific assets. This incentive does not depend on whether the new assets have a greater net present value than the old assets. Thus, the problem of inefficient asset substitution arises. Whether the costs associated with increased asset substitution exceed the gains attributable to the elimination of the underinvestment problem is a determination that cannot be made in the

130. This cost is capped by the cost that would result if the firm had an all-equity capital structure. See Baird, *supra* note 18.

131. Baird & Picker, *supra* note 65, at 340-42.

132. *Id.*

abstract.

More socially efficient results obtain where the current liquidation value of the assets is low. In this situation, the parties will each retain shares of the reorganized firm based on the bargain that they reach. Assuming that both the creditor and the managers have the same discount rate, they will split the value of the firm equally. This being the case, the managers now have the incentive to invest in all positive net present value projects and to avoid most negative net present value projects. The managers will invest in all positive net present value projects because they will capture a large portion of the increase in firm value. They will, as a general matter, avoid negative net present value projects because such projects decrease their expected share of the reorganized company. This suggests that the selective stay may be most desirable in firms with low liquidation values and high human capital assets.

None of the touted replacements thus represent a clear efficiency gain over Chapter 11 in terms of ex ante effects for all firms. The proposals for both automatic cancellation and mandatory auctions respect contractual priority, but it is unclear whether this respect creates better investment incentives than a regime that incorporates loss sharing. Automatic cancellation has the potential to reduce the time during which the firm experiences financial distress, but the threat of this quick change in the firm's capital structure creates new ex ante costs. Much of the ex ante effect of mandatory auctions cannot be assessed without knowledge of what event triggers the auction. The selective stay holds out great hope for reducing the incentives for inefficient investment in some small firms, but is clearly not an appropriate insolvency regime for all firms. Thus, while the various proposals for bankruptcy reform have differing ex ante effects, none can be said to be clearly superior to current law in all respects.

IV. CHOOSING THE OPTIMAL SET OF INSOLVENCY RULES

What are we to do with this mess? The ex ante effects generated by Chapter 11 and its proposed replacements do not lend themselves to easy characterization. There is no clear efficiency gain, at least from an ex ante perspective, of shifting from current law to any of the proposed major reforms. One cannot in the abstract come up with a rank ordering of the various competing regimes based on the way in which they will affect firm investment prior to the bankruptcy filing. Given that the various proposed reforms are not clearly superior to current law, the defenders of the status quo might assert that such law is entitled to a presumption of remaining in

place, and that the proposed reforms have failed to overcome that presumption.

This argument should be rejected. It fails to ask the crucial question of which institution should select the legal rules that govern the firm when it encounters financial distress.¹³³ Before deciding what to do with the information regarding the ex ante effects of various bankruptcy proposals, we have to decide which institution is best able to process this information in a useful fashion. The goal is to pick the institution which can best minimize the sum of the deadweight cost to society arising from the substantive rule itself and the transaction costs of implementing the rule. There are three possible candidates for the role of selecting the governing insolvency rules: the bankruptcy court, Congress, or the shareholders of the firm itself.¹³⁴

The bankruptcy court is the institution least suited to the role of selecting insolvency rules. One could imagine a world where, after a firm filed for bankruptcy, the bankruptcy court would decide which set of insolvency rules would apply. It is easy to see why no one has suggested such a bankruptcy regime. First, it deprives the parties of certainty—prior to bankruptcy they are unsure as to what will happen if the firm encounters financial distress. This uncertainty would discourage lending to firms that have a significant chance of encountering financial distress. Second, bankruptcy judges only see those cases which actually end up before them. They do not see firms that do not encounter financial distress or firms that do have financial problems but are able to conclude a workout outside of bankruptcy. Bankruptcy judges cannot assess the effect that their decisions have on firms that they never see.¹³⁵ This lack of certainty and inability to assess the results of their decisions disqualify bankruptcy courts from being the institution that should select insolvency rules.

The unstated premise of those who assert that Chapter 11 should be

133. On the general question of institutional choice, see Neil Komesar, *In Search of a General Approach to Legal Analysis: A Comparative Institutional Alternative*, 79 MICH. L. REV. 1350 (1981). See also ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE THEIR DISPUTES* 242-43 (1991).

134. David Skeel has argued that state legislatures should select the governing insolvency rules for corporate bankruptcies. See Skeel, *supra* note 120, at 475. He asserts that states have better incentives to adopt efficient laws than does Congress. *Id.* at 517-20. To the extent that one accepts Skeel's argument, one would have state legislatures, as opposed to Congress, select the governing bankruptcy regime. The broader question, which is addressed in the text, is whether bankruptcy rules should be selected by a court, a legislature, or private parties. Which legislature would do the selecting does not affect the argument offered in the text.

135. See Rasmussen, *supra* note 5.

retained or only modestly amended is that Congress is best positioned to select insolvency rules. Legislative determinations of insolvency rules probably do minimize the transaction costs associated with the selection procedure. Once Congress identifies the governing rules, the parties affected by these rules do not have to spend any resources drafting their own rules to govern financial distress and disseminating these rules to all those who do business with the firm. Mandatory rules have the virtue of removing the subject at issue from the bargaining table, and thus, reducing the amount of societal resources devoted to bargaining.

What congressionally mandated insolvency rules gain in reduction of transaction costs, however, they lose in terms of the efficiency of the rules themselves. Congress, by its nature, acts without regard to any specific firm. Under current law, Congress has adopted a single bankruptcy regime for all firms that wish to reorganize. Given the diversity in the nature of firms, it is highly unlikely that one bankruptcy regime will meet the needs of all firms.¹³⁶ Certainly, Congress could enact a number of different bankruptcy regimes, each one designed for a different type of firm. Indeed, the 1898 Bankruptcy Act, which the current Bankruptcy Code replaced, had two separate procedures for dealing with reorganizations.¹³⁷ Similarly, Congress recently considered, but did not enact, a proposal to add a new chapter designed to handle the reorganization of small businesses.¹³⁸ The problem with these proposals is that Congress still must decide which firms should be relegated to which type of insolvency proceeding. Even assuming that Congress attempted to promote efficiency in making such selections,¹³⁹ it is unlikely, given the diversity of firms, that it could craft a set of rules which correctly assign each firm to the most efficient set of bankruptcy procedures for that firm. The analysis in the prior two Parts of this Article shows that there are important ex ante effects of both current bankruptcy law and the various reform proposals. Yet, it would be impossible to craft a set of rules to sort all firms so that each firm resided in the most efficient bankruptcy system.

136. *Id.* at 63.

137. See Bankruptcy Act of 1898, 30 Stat. 544 (1898), amended by Ch. X, 52 Stat. 840 (1938) (repealed 1978).

138. For a description and analysis of the proposed "Chapter 10," see Dan J. Schulman, *Business Reorganizations Under Proposed Senate Bill 540*, 3 J. BANKR. L. & PRAC. 265 (1994). This proposal was not included in the final bankruptcy bill enacted by Congress this year. H.R. 5112, 103d Cong., 2d Sess. (1994).

139. As to the forces that suggest that Congress does not act efficiently in the bankruptcy area, see Adler, *supra* note 2, at 341-46; Rasmussen, *supra* note 3, at 88-89; Skeel, *supra* note 1, at 494-509.

This leaves the third institution which could craft insolvency rules—the market, represented in this case by the shareholders of the firm. Allowing private parties to select the appropriate set of bankruptcy rules provides a higher probability that each firm is governed by the set of rules that best fits the needs of that firm. The firm's shareholders bear the cost of inefficient insolvency rules.¹⁴⁰ Thus, they have the incentive to select the insolvency rules that best fit the needs of their firm. Moreover, shareholders have better information about their firm and their taste for risk than any other party. Consequently, they are more likely to select the appropriate rules for their firm than is either a legislature or a bankruptcy court.

Unfortunately, having the best incentives does not imply that mistakes will not be made; they will. But it does ensure that there will be fewer mistakes than there would be if another institution were to make the decision. Indeed, contract scholars long ago recognized this very point. The debate over whether courts, through the unconscionability doctrine, or the federal and state governments, through their regulatory powers, should intervene to protect one party to a contract was in large part a debate over institutional competence. While most recognize that private parties sometimes make mistakes, the consensus is that a well-functioning market protects parties more effectively than either legislatures or courts. There is little reason to expect that the lessons learned from that debate would not extend to the bankruptcy context.¹⁴¹

Private contracting, however, is no panacea. While it holds out the best possibility for choosing bankruptcy rules that best suit the needs of individual firms, it also creates greater transaction costs than would exist under a system of legislatively determined bankruptcy rules. If bankruptcy law were relegated purely to private contracting, private parties would face two sources of transaction costs. The first would be the cost of designing the set of insolvency rules that would govern the firm's financial distress. The second would be the cost of communicating the rules that are drafted to the relevant parties. If the parties view the costs of financial distress, discounted to present value, as relatively low (not an implausible assump-

140. See Rasmussen, *supra* note 3, at 57-65.

141. If anything, the case for allowing shareholders to select their own set of insolvency rules is stronger than the case for allowing consumers to make their own choices. Shareholders are more likely to receive legal advice when incorporating the firm than are consumers entering into a simple contract. Moreover, there is little reason to fear that a lender will have monopoly power over potential borrowers. Thus, the concerns that gave rise to the consumer protection movement do not appear to be present when a firm seeks financing.

tion given that not all firms fail, and those that will fail may not do so for many years), then it may be that the shareholders of any single firm would not have the incentives to craft an optimal set of bankruptcy rules. In such a situation, the shareholders may be content to live with whatever default rule the law provides.

It is possible, however, to combine the legislature's ability to economize on transaction costs with the private parties' ability to determine which set of rules best serves their needs. Congress could craft a number of varied bankruptcy regimes but allow the shareholders to select which regime would govern their firm.¹⁴² While the shareholders would be free to decline the options offered by Congress and craft their own set of insolvency rules, many firms would prefer not to invest the resources in drafting and publicizing their own set of insolvency rules. They would instead prefer to rely on what are, in essence, standard form contracts. Firms would thus garner the benefits of choosing the rule that best suits their needs while taking advantage of the legislature's ability to economize on transaction costs.

V. CONCLUSION

Bankruptcy law affects the behavior of firms well before they file a bankruptcy petition. These effects, and the way they would be changed by various proposed reforms of bankruptcy law, are an important part of the debate over the desirability of Chapter 11. Examination reveals, however,

142. See Rasmussen, *supra* note 3. One interesting issue is whether Chapter 11 should be included on the menu. One might be tempted to say that there is little cost to such inclusion. After all, if a firm does not like Chapter 11, it can simply choose another rule. But matters may not be that simple. One could argue that Chapter 11 can be analogized to an industry-wide standard because it is the set of insolvency rules under which everyone currently operates. The other choices on the menu may then be viewed as competing standards. Given that there is in some sense an "installed base" of Chapter 11, the cost of being the first to switch to a new standard may impede such switching even if the new standard better promotes overall welfare. A sampling of the literature on the problems associated with "network externalities" includes Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985); Brian Arthur, *Competing Technologies and Lock-in by Historical Events*, 99 ECON. J. 116 (1989); Stanley M. Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, J. ECON. PERSP., Spring, 1994, at 117 (1994); and Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70 (1985). For an application of the network externality literature to the corporate law context, see Michael Klausner, *Corporations, Corporate Law and Networks of Contracts* (draft).

If there are welfare gains from the switch to a new standard, however, it may be that law firms would be willing to invest the cost to learn the options on the menu in order to increase the market for their services. Thus, while the matter is not free from doubt, the better choice as things now stand is to include Chapter 11.

that none of the suggested bankruptcy laws, including the current system, lowers the agency costs attributable to debt and the separation of ownership and control for all firms. For some firms, one set of insolvency rules may lessen these costs, yet for other firms, a different set may be optimal.

This heterogeneity among firms suggests that Congress should repeal existing law and replace it with a menu of bankruptcy options. The dazzling array of different effects suggests that what is right for one firm may not be right for another. Moreover, the cost of inefficient bankruptcy rules is borne by the shareholders. Thus, shareholders have the appropriate incentives to select a bankruptcy regime that minimizes the potential future cost to their firm of financial distress. Allowing the parties to sort themselves creates a gain over both current law and any attempt by a legislature to do such sorting on its own.

