

Governance in Financial Distress and Bankruptcy

Kenneth M. Ayotte

Northwestern University School of Law

357 E. Chicago Ave, Chicago IL 60611

k-ayotte@law.northwestern.edu

Edith S. Hotchkiss

Boston College

Fulton Hall Room 330, Chestnut Hill MA 02467

hotchkis@bc.edu

Karin S. Thorburn

Norwegian School of Economics

Helleveien 30, 5045 Bergen, Norway

karin.thorburn@nhh.no

Abstract

This chapter provides a survey of law, economics, and finance scholarship at the intersection of corporate governance and financial distress. In financial distress, both inside and outside of bankruptcy court, formal and informal control rights are paramount. Thus, we organize our review around the major constituencies that exercise control rights in distressed firms: shareholders, managers and boards; senior and junior creditors; and the law, courts and judges. Broadly, our review suggests that an understanding of the incentives of these constituencies is crucial to explaining outcomes. Our review also documents the paradigm shift in the bankruptcy literature, away from the “safe haven” view of Chapter 11 as a slow, manager and shareholder-controlled reorganization process. Chapter 11 case outcomes are increasingly steered by sophisticated activist investors, generating faster resolutions that are more creditor-controlled. We suggest some directions for future research in light of these developments.

Governance of a financially distressed firm is a complicated interplay of formal and informal control rights exercised by the firm's many stakeholders--its shareholders, managers, employees, and creditors, among others--subject to oversight and limits imposed by the law and courts. The relative influence of these groups shifts over time as a firm heads toward default. This leads to some striking stylized facts about distressed firms in the U.S.:

- Management and board turnover are extremely high, by some estimates reaching 90% for firms exiting Chapter 11.
- Conflicts between the interests of equity holders and creditors (or even among creditors of differing priority) become exaggerated, potentially distorting investment incentives.
- Banks and other creditors gain influence on firm decisions, as control rights are triggered by default.
- Assets of the firm are redeployed by new owners who have purchased assets or have gained control of the firm via a restructuring.

In this chapter, we describe the framework that determines when and how control rights are exercised, and the empirical evidence that gives us a description of how the governance of the distressed firm evolves. In the U.S., which is the primary focus of our analysis, Chapter 11 is the end game that influences the behavior of firms even prior to a default. As such, we first provide some brief background on the key provisions of Chapter 11 that are important to our understanding of the firm's governance. We then examine in turn the role of each of the firm's main constituencies who influence a potential restructuring.

I. Overview of the Legal Environment

From a governance perspective, one of the crucial features of a Chapter 11 filing is that the debtor remains in possession; in other words, the debtor's pre-bankruptcy managers can continue to manage the firm through the reorganization process. Allowing management to stay in control is thought to provide continuity and removes a disincentive to delay filing until the last minute.¹ The bankruptcy court can remove management in favor of a trustee, but such appointments are rare in practice and tend to occur only in cases of fraud or extreme mismanagement. Bankruptcy law does not, however, deprive the debtor's board of directors of the power to replace management, and managerial turnover in and around bankruptcy is commonplace.

The bankruptcy filing itself puts in place an "automatic stay" that limits creditor collection activities such as suing on debts and seizing collateral. Hence, the Bankruptcy Code provides substitute mechanisms to protect creditors that limit the debtor's control rights over firm assets. For example, courts must approve the terms of the debtor's post-bankruptcy credit facility (called debtor-in-possession, or DIP, financing). Courts must also approve sales of assets outside the ordinary course of business. Courts can limit the use of assets subject to a security interest as necessary to protect the creditor's interest in the collateral.

As is well-known, the traditional Chapter 11 reorganization requires a plan that determines the disposition of the firm's assets, places investors into classes, and allocates the proceeds of the assets across classes. Management has an exclusive right to propose a reorganization plan during the first 120 days of bankruptcy, and this exclusivity period can be extended by the court up to a maximum of 18 months. To confirm a plan consensually, a proponent must obtain a sufficient share of votes ($2/3$ in value and $1/2$ in number) in each class of impaired claims and interests. As the plan is a negotiated outcome, it can be approved by the

court even if it provides for distributions that violate the absolute priority of the claimants, i.e. junior claimants may receive some distribution even when more senior creditors have not been paid in full. Alternatively, the plan can be confirmed through a “cramdown”, which requires convincing a judge that the absolute priority rule is satisfied with respect to impaired classes that do not approve the plan.

The Code provides that committees may be appointed to represent certain classes, increasing their voice and influence on the restructuring. The U.S. Trustee’s office, which oversees the administration of bankruptcy cases, typically appoints an unsecured creditors committee. This committee has the power to investigate the debtor’s operations and finances, and to consult with the debtor on the plan of reorganization. Other committees must be approved by the court. For example, equity committees are much less frequently formed when it is clear to the court that equity has no remaining economic stake. Committee members, having access to non-public information regarding the development of the plan, are restricted from trading in the claims of the firm while serving in that role.

Overall, the process of developing the plan, distributing its details to the voting parties in a disclosure statement, soliciting votes, and obtaining court approval for the plan can lead to substantial cost and delay. The process has changed to some degree in recent years, however, as it has become increasingly common for firms to achieve a de-facto reorganization by selling the firm’s assets as a going concern to a new entity with a healthier capital structure. This can be done outside a plan of reorganization under Section 363 of the Bankruptcy Code. Because a creditor vote is not required in advance, the Section 363 sale provides a faster means of disposing of the firm’s assets. Section 363(f), moreover, allows for assets to be sold free and

clear of liens and other obligations, such as product liability claims, that might otherwise follow the assets to the buyer.

Given the many parties that exercise control rights in distress, we will proceed by analyzing theory and evidence regarding the influence of each of the major constituencies in turn. In Section II, we summarize the relevant literature on shareholders, managers, and boards. Sections III and IV discuss senior and junior creditors, respectively. Section V discusses the role of law, courts, and judges, and concludes with some brief suggestions for future research.

II. Shareholders, Managers and Boards

II.a. The role of shareholders

As the firm becomes financially distressed, shareholders are increasingly “out of the money,” raising two important governance concerns. First, to the extent that equity still has control rights, do equity holders (or management acting on their behalf) take actions to preserve their option-like value, perhaps at the expense of the ultimately recoverable firm value? Second, when does (or should) equity lose its control rights, and what role do equity holders have in a restructuring when that does occur?

Actions that benefit “out of the money” equity

A number of theoretical papers warn that the limited liability feature of equity provides incentives for excessive risk taking when the firm is distressed, particularly prior to a bankruptcy filing (these include Aghion, Hart and Moore (1992), White (1996), and Hart (2000)). Paying

dividends to the equity holders of an already highly levered firm could also be viewed as symptomatic of this conflict (Hotchkiss, Smith and Stromberg, 2012).

Empirical evidence of this behavior has been elusive, and it may be the case that there are other factors which mitigate these incentives. For example, Eckbo and Thorburn (2003) suggest that the potential for managers to be rehired when a firm exits bankruptcy could limit incentives for risk shifting. They examine a sample of 170 bankruptcies in Sweden (between 1988 and 1991) where, unlike the U.S., the CEO loses control of the firm upon filing, a trustee is appointed, and the firm is auctioned. Income losses to CEOs of bankrupt firms are very large, indicating the personally costly nature of the filing. However, by investing conservatively, the CEO increases the probability that he/she will be rehired by the restructured firm. Other researchers have noted that restrictive loan or bond covenants could also limit risk shifting behavior. Gormley and Matsa (2011) suggest that the agency problem between risk-averse managers and risk-seeking equity holders may explain the relative scarcity of risk-seeking in distress. Consistent with this idea, they find evidence that managers whose firms are exposed to carcinogen liability are more likely to acquire cash-rich firms in unrelated industries to reduce bankruptcy risk.

The incentives of equity holders to increase risky investment should similarly provide incentives to delay default or filing, to the extent those events trigger a loss of equity's control rights. Within the asset pricing literature, much of the existing theory of defaultable corporate debt focuses on equity holders' optimal default policy. Using a contingent-claims framework, Black and Cox (1976) and Geske (1977) value coupon-paying debt and solve for the equity holders' optimal default policy when asset sales are restricted. Fischer, Heinkel, and Zechner (1989), Leland (1994), Leland and Toft (1996), Leland (1998), and Goldstein, Ju, and Leland

(2000) examine default policy in the problem of optimal capital structure. In practice, since the optimal filing point is unobservable, we cannot readily determine whether filings are in fact delayed to the benefit of equity holders. In their empirical study of failures subsequent to highly leveraged transactions (HLTs), Andrade and Kaplan (1998) examine qualitative description of actions taken by 31 distressed firms, and find that 14 firms took actions that delayed the resolution of distress, and that the delay appears to have been costly for at least 9 firms. Adler, Capkun and Weiss (2006) suggest that the firm will be in worse financial condition at the time of filing if it has delayed (see Section III.b. below).

Once in bankruptcy, the change in legal environment may make it more difficult to increase risky investment on behalf of equity. As explained above, the incumbent management remains in control of the firm's operations in bankruptcy, but management is not free to act in the interests of shareholders alone. Most important actions require court approval and provide the opportunity for interested parties to object. Nevertheless, it may still be possible for management to take actions benefiting shareholders. For example, constituencies may disagree as to the best operating strategy for the firm, or whether certain asset sales, and the timing of these sales, are in the best interest of the overall bankruptcy estate.²

While direct evidence of risk shifting is sparse, continued investment in the existing assets of a failing company could be considered as risky investment, since immediate liquidation might provide a greater recovery value. An extreme illustration of the potential magnitude of creditor/shareholder conflicts in this setting is given by Weiss and Wruck (1998), who describe at length the 1989 bankruptcy of Eastern Airlines. Ex-post, it is clear that creditor recoveries would have been substantially greater had Eastern been liquidated at the time of its Chapter 11 filing. However, under the supervision of the bankruptcy court, Eastern continued to fly and to

generate large operating losses, ultimately ending in its liquidation 22 months later. Weiss and Wruck estimate that Eastern's value declined by over \$2 billion while in bankruptcy, and that the company was insolvent well prior to the liquidation.

More generally, larger sample evidence on this type of behavior is difficult to produce. In their same study of 31 distressed HLTs, Andrade and Kaplan (1998) find no evidence of risk shifting or asset substitution, which they define as large investments in unusually risky capital expenditures, projects, or acquisitions. Overall, it remains somewhat debatable whether management engages in riskier investment on behalf of equity holders, or whether they act more conservatively as the firm becomes distressed.

Equity control rights

Outside Chapter 11, shareholder control is subject to two limitations. The first stems from the shifting fiduciary obligations of the board of directors, since those fiduciary responsibilities expand to include the creditors of the company once the firm is near insolvency (Branch, 2000). The second limitation stems from the rights of creditors if the firm either violates covenants in its debt agreements or defaults on a contractual payment. We discuss each of these in turn in Section II.c. and Section III below.

Shareholders can retain some influence over outcomes in distress through several mechanisms. First, shareholders retain their formal rights to replace the board and management inside and outside bankruptcy. Second, shareholders can represent their interests in bankruptcy through official committees, and they retain the rights to vote on a reorganization plan. The equity class must approve any consensual plan of reorganization, and cramdown is generally regarded as a more costly, time-consuming alternative because the firm must be valued to

determine entitlements. The delay inherent in confirming a cramdown plan can give shareholders bargaining power.

Evidence for shareholder bargaining power can be found in the prevalence of deviations from priority toward equity, especially in the early days of the Bankruptcy Code. For example, Eberhart, Moore and Roenfeldt (1990), Franks and Torous (1989), and Betker (1995) find that these deviations are common. Most recently, though, for a sample of 626 bankruptcy reorganizations between 1980 and 2005, Bharath, Panchapegesan and Werner (2010) document a substantial decline in the frequency of deviations from the absolute priority rule (APR). Indeed, in 2000-2005, absolute priority is violated in only 22% of their sample cases, in contrast to 75% of cases in the 1980s. They also find that deviations from priority in favor of equity are more likely when management has greater shareholdings, providing greater incentive to act in equity's interest. Each of these empirical studies examines firms that were publicly registered companies prior to their bankruptcy; in private companies where management has a greater or even 100% stake, management has more incentive to act in behalf of equity interests. At the other extreme, even when management has no economic ties to equity, deviations from absolute priority may reflect the desire to reach a consensual plan outcome more quickly by paying equity holders their "nuisance" value.

II.b. The role of managers

Since management has the ability to stay in control even as a debtor in possession in Chapter 11, it is important to understand how their incentives, and therefore actions, are likely to be affected by financial distress. Early discussion of the merits of the Chapter 11 system included criticism that the process was too protective of incumbent management, allowing them to retain

too much control and failing to punish managers for poor performance (Bradley and Rosenzweig, 1992).

The idea that bankruptcy provides a safe haven for management has been refuted in subsequent empirical research. Managers frequently lose their jobs in financial distress. Altman & Hotchkiss (p. 222, Table 10.1) summarize research showing that management turnover is extremely high; top management turnover by the time firms exit Chapter 11 ranges from 70% to 91%, depending on the sample studied. For out of court restructurings, turnover estimates range from 36% to 60%. Gilson (1989) is one of the earliest researchers to document management turnover conditional on financial distress. Studying 73 managers who depart from financially-distressed firms between 1979 and 1984, he finds that none of the departing executives in his sample are employed by another exchange-listed firm in the subsequent three years. Gilson and Vetsuypens (1993) study 77 financially distressed public firms restructuring in 1981-1987. They show that managers who remain on average take cuts to their compensation, and that CEO replacements from within the firm earn 35% less than their predecessor. This evidence suggests strongly the costly nature of distress for firms' managers.

More recently, Eckbo, Thorburn and Wang (2012) quantify the personal cost to top managers of Chapter 11 firms. Their study covers CEOs of 342 U.S. public companies filing for Chapter 11 between 1996 and 2007. More than half of incumbent CEOs regain full-time employment, the majority of which become top executives at another firm. The change in compensation of those maintaining full-time executive employment is close to zero. The other half of CEOs who do not maintain full-time employment experience an income loss with a median present value of \$4 million (discounted until retirement age). Overall, their estimates imply an ex ante expected median personal bankruptcy cost of \$2.7 million (in constant 2009

dollars), or three times the typical annual compensation. To the extent that financial distress is a costly event, it will have a strong impact on managers' behavior prior to distress, providing incentives to choose lower leverage or less risky investments.

Given the complicated interplay of formal and informal control rights in bankruptcy, it remains an open empirical question: whose interests does management actually represent when a firm is distressed? There are reasons to expect management to be aligned with different constituencies depending on the circumstances of the case. When management has a large equity ownership stake prior to default, it has an incentive to preserve that value by pursuing equity's interests in a restructuring. On the other hand, management's loyalties may shift to the group that will control the company subsequent to the reorganization. For example, Gilson, Hotchkiss, and Ruback (2000) argue that sometimes management will form a coalition with senior creditors when it is likely that this group will control the company subsequent to a restructuring. At the other end of the capital structure, new owners that contribute equity to an emerging firm may choose to keep the incumbent management in place (Gilson, Hotchkiss and Ruback, 2000), similar to the behavior documented by Eckbo and Thorburn (2003).

II.c. The role of the board

In non-distressed settings, much of the discussion of the role of the board in our post-Sarbanes Oxley environment involves whether boards are effective monitors, and how best to populate the board with insider vs. independent members. Much of that discussion becomes to some degree of secondary importance when the firm is distressed. Key questions involving the board become: where do their fiduciary duties lie if the firm is insolvent (and how is insolvency

identified)? What happens when existing board members need to be replaced, and what interests do new board members typically represent?

The fiduciary duties of managers and directors to shareholders expand to the corporation, specifically including creditors, when the firm is in the “zone of insolvency.”³ Though the firm is generally insolvent upon filing a bankruptcy petition, there is an obvious measurement problem in determining the point in time prior to filing where insolvency occurs. Further, from the *Credit Lyonnais* case, the duty to creditors applies when the company is *near* insolvency, perhaps applying to the firm with serious operating problems.

Becker and Stromberg (2012) examine the impact of the Delaware court’s ruling in the 1991 *Credit Lyonnais v Pathe Communications* case, which argued the fiduciary duties extend to creditors not when the firm is insolvent, but rather when it is in the “zone” of insolvency. They compare Delaware corporations to firms incorporated elsewhere before and after this ruling; in this way, they can show that the ruling increased the likelihood of equity issues, increased investment, and reduced firm risk for firms that were relatively closer to default. Thus, the ruling limited manager’s incentives to take actions favoring equity over debt for firms near financial distress.

Determining at a given time whether a firm is at the point (or zone) of insolvency requires a valuation of the firm as a going concern, and therefore depends on the expected future performance of the company. Different constituencies may have different outlooks on the subsequent prospects of the firm, i.e. whether a decline is permanent or temporary (see figure 1, p. 423, Wruck (1989)). For example, Hotchkiss (1995) studies the cash flow forecasts issued by management (in disclosure statements) for firms in Chapter 11, and shows that firms’ incumbent

management is on average overly optimistic in projecting future cash flows for a reorganized company.

The difficulties in determining in whose interest the board should be acting are exacerbated when the constituencies have conflicting interests. More senior claimants will tend to favor a liquidation of assets, particularly if it would lead to a full recovery of their claims at that point in time. Shareholders and possibly junior creditors, who potentially gain from a rebound in the value of the firm's assets, are more biased toward continuation of the firm's operations. Thus, if representing only shareholders, management and the board would be likely to support the actions described above which benefit shareholders such as delayed filing, asset substitution, increased risk taking, or simply failure to liquidate poorly performing assets. When fiduciary duties expand to creditors, however, the board theoretically may support actions which help creditors but impair equity value. This conflict can be particularly problematic when management is also a large shareholder of the firm.

A significant number of incumbent board members resign when firms become distressed. Gilson (1990) is the first to study the composition of the board for distressed firms. Among 111 publicly traded firms that file for bankruptcy or restructure out of court between 1979 and 1985, only 46% of pre-distress directors remain post-restructuring. Attracting new board members can be difficult given the time and expertise required to work with the firm during the restructuring process. Liability concerns may be heightened. To the extent new board members represent different constituencies such as employees, lenders, or other investors, new members may represent conflicting interests. Investors may avoid membership on the board (or on bankruptcy committees) as it restricts their ability to continue trading claims in the firm. While it may make sense to have representatives of banks and other creditors on board once the fiduciary duties

have shifted, populating the board while the firm is in the midst of a restructuring represents a challenge.

One source of new board members is investors who aim to have a longer term stake in the restructured company, often gaining control of the restructured firm. This type of active “vulture” investor is studied by Hotchkiss and Mooradian (1997). While some distressed investors aim to passively gain from increases in value of the claims they hold, many become active in governance on the firm’s board (while some ultimately gain control of the firm and/or assume management positions). They find that vultures join boards of 27% of the firms in their sample of 288 firms defaulting on public debt between 1980 and 1993, and retain these positions for at least one year post-restructuring for more than half of their sample.

III. Senior secured creditors

While equity holder value maximization is consistent with maximizing the total value of the non-distressed firm, senior creditors may prefer a less risky strategy that preserves the value of their claims. Thus, if senior lenders are in control, they may induce the firm to implement a suboptimal investment and financial policy. On the other hand, if the firm is deeply insolvent, senior creditors may in fact be the residual claimants, and as such promote firm value maximization. Chapter 11 determines the relative bargaining power of the different claimholders. Since voluntary out-of-court workouts are negotiated under the threat of bankruptcy filing, the outcome is substantially influenced by the allocation of control rights in Chapter 11. In this section, we survey studies of senior lender control over the firm in financial distress and bankruptcy.

III.a. Senior lender control in financial distress

As discussed above, managerial turnover rates increase when the firm performs poorly. Interestingly, a large fraction of these management changes are initiated by senior lenders. In Gilson's (1989) study of 381 public firms that experience large stock price declines in 1979-1984, one-fifth of the management departures are initiated by bank lenders. While creditors do not own equity, they are able to force management changes by threatening shareholders with bankruptcy or to petition to the court to have a trustee appointed.

Bank lenders also try to align managerial incentives by tying the compensation of the firm's top executives to creditor wealth. Gilson and Vetsuypens (1993) report that over ten percent of their sample firms enact plans that explicitly tie CEO compensation or wealth to the value of creditors' claims. This may or may not maximize the value of the firm. If banks are the residual claimants, such a compensation policy is consistent with firm value maximization. However, if a junior claim is the "fulcrum" security, it risks implementing a strategy that preserves the value of senior claims at the expense of junior creditors.⁴

Banks further influence the selection of directors in distressed firms. Gilson (1990) shows that banks affect the outcome of board elections and sometimes influence board membership directly, for example, by letting bank executives join the board while the firm is restructuring its debt. Such a strategy is not without problems, however. In particular, banks must balance a direct control over the firm with an increased risk of becoming a target of lender liability law-suits.

Several studies emphasize the role of covenants as an important governance mechanism for bank lenders. In particular, these covenants become stricter after a distressed restructuring. Gilson (1990) reports that a large fraction of amended bank loan covenants grant banks veto power over the firm's dividend and payout policies, capital expenditures, divestitures, mergers,

new financing, and senior management hiring and firing decisions. A similarly large percentage of restructurings enact more general restrictions on firms' investment and financing policies, often capping activities such as capital expenditures, asset dispositions, divestitures, payouts and total borrowing. Following a default, creditors seem to acquire direct control over many corporate investment and payout policies.

When a financial covenant is violated (a technical default), creditors obtain the same contractual rights as in a payment default. This includes a right to immediate repayment of the principal and a termination of the loan commitment. Secured lenders typically use these rights to influence the firm's investment and financial policies while renegotiating the credit agreement.

Nini, Smith and Sufi (2011) examine 3,500 financial covenant violations by US nonfinancial public firms from 1997 to 2008. They document a decline in capital expenditures and acquisitions following a covenant violation. Moreover, violating firms decrease their leverage as well as payouts to shareholders. The amended credit agreements exhibit tighter terms, including reduced funding, shorter maturity, a higher frequency of collateral requirement and more restrictive financial covenants. There is also an increased likelihood of forced CEO turnover in the quarter that a firm violates its covenants. Importantly, the firm's operating performance and stock returns both improve following a technical default, suggesting that the increased creditor governance create value for shareholders.

Banks also play a role in the firm's decision to restructure out-of-court versus under Chapter 11. Gilson, John and Lang (1990) examine this choice for 169 public companies that became severely financially distressed in 1978-1987. They find that a distressed firm is more likely to recontract out-of-court when it has a larger fraction of bank debt in its capital structure, there are fewer lenders, and it has a relatively large fraction of intangible assets.

As the financially distressed firm is restructured, senior creditors frequently end up as major stockholders. While banks and other financial institutions typically are prohibited to own stock in nonfinancial firms, there are exceptions for equity obtained in a debt restructuring or bankruptcy reorganization plan.⁵ Gilson (1990) documents that banks and insurance companies receive significant ownership—on average 37 percent of the common stock—in almost half of the restructured firms. Similarly, James (1995) finds that banks take equity in 31 percent of the restructured firms and receive on average 43 percent of the common stock. He studies a sample of 102 voluntary debt restructurings in 1981-1990. The equity is awarded primarily in return for forgiveness of principal on the bank's loans (on average 41 percent of the loan amount). Banks continue to hold substantial amounts of common stock two years after the debt restructuring.

James (1995) further explores the role of banks in debt restructurings. He shows that, if the firm has public debt, banks rarely make concessions unless public debtholders also exchange their claims for equity (Asquith, Gertner and Scharfstein (1994) make a similar point). In half of the restructurings where banks take equity, the firm has public debt outstanding. However, banks will not take equity without a restructuring of the public debt. The likelihood that the bank takes equity decreases with the proportion of public debt and increases with the firm's growth opportunities (market-to-book ratio). Firms in which banks take equity are more cash-flow constrained and have poorer operating performance prior to the restructuring. However, these firms have better cash-flow performance after the restructuring than firms with no bank ownership.

Not only is a restructuring of the public debt critical to the participation of banks, but bank concessions are also important for the success of the public debt exchange. Using a sample of 68 distressed debt exchange offers in the 1980s, James (1996) shows that exchange offers

accompanied by bank concessions are associated with a greater reduction of the public debt outstanding and are more likely to succeed than restructurings where banks do not participate. He suggests that banks help reduce information asymmetries and thus holdout problems among the public debt holders.

Gilson (1997) examines leverage changes for 108 firms that file for Chapter 11 or restructure their debt out of court in 1979-1989. He documents that leverage ratios remain relatively high after financially distressed firms recontract with their creditors and particularly high for firms that restructure in a workout. He suggests that transaction costs limit the extent to which creditors are willing to reduce their debt when distressed firms restructure out of court. Such transactions costs include various regulations that discourage lenders from writing down their principal and exchanging debt for equity, tax disadvantages, and holdout problems.⁶ Consistently, he finds that debt reductions in out-of-court restructurings are lower the higher the number of long-term debt contracts and the higher fraction of institutional debt. Asset sales are associated with debt reductions in workouts and even greater debt reductions in formal bankruptcy reorganizations, perhaps because Chapter 11 reduces the cost of selling assets as discussed further below. The new capital structure of firms restructuring their debt in Chapter 11 involves fewer long-term debt contracts, a higher debt ownership concentration, and greater flexibility in debt repayment.

Overall, the evidence indicates that senior creditors play an active role in corporate governance and the restructuring of distressed firms outside of bankruptcy

III.b. Senior lender control rights in bankruptcy

Once a firm files for Chapter 11, pre-bankruptcy secured lenders can no longer enforce the rights triggered by loan covenant violations, due to bankruptcy's automatic stay. Nevertheless, banks and other secured lenders have become more adept in controlling a firm's activity before and during the bankruptcy. Pre-bankruptcy lines of credit can limit the borrower's access to cash to fund operations, putting the lender in control of the timing of a filing. Lenders can take a security interest in a debtor's entire asset base, leaving less free assets available for other potential lenders and hence, limiting a borrower's liquidity. Once in bankruptcy, debtor-in-possession loans also increasingly dictate the outcomes of bankruptcy cases in direct and indirect ways. These important trends were first brought to light in the law literature (Skeel 2003, 2004; Baird and Rasmussen 2002, 2006; Warren and Westbrook 2003). The evidence in this early literature is largely anecdotal, documenting these trends through a small number of high-profile examples.

Ayotte and Morrison (2009) provide more comprehensive evidence of this creditor control trend. In particular, they document the pre- and post-petition financing activities of 153 large private and public US firms filing for Chapter 11 in 2001. In the sample of pre-petition credit facilities, 97 percent were secured by a lien on all, or nearly all, of the firm's assets. Interestingly, most of these credit facilities are originated in the year prior to bankruptcy filing. Through the security interest in the firm's assets, senior lenders effectively get control over the company's access to cash and thus the timing of its bankruptcy filing. Moreover, the firm cannot raise additional funds in bankruptcy without the permission of, or offering adequate protection to, the pre-petition secured lenders. As a result, these loans help senior lenders to obtain control rights inside and outside bankruptcy.

An important way for senior creditors to gain control over the bankrupt firm's day-to-day decisions is to provide additional financing in bankruptcy through a debtor-in-possession (DIP) loan. Dahiya, John, Puri and Ramirez (2003) examine 538 firms that file for Chapter 11 in the period 1988-1997. One third of the firms in their sample obtain a DIP loan, a majority (58%) of which are provided by a pre-petition lender. There is an increasing trend in the use of DIP financing, with a higher fraction of firms obtaining DIP loans in the second half of the sample period. Larger firms, retail firms, and firms with more current assets are more likely to get DIP financing in bankruptcy.⁷

Ayotte and Morrison (2009) show that senior creditors exercise substantial control over the bankrupt firms through these DIP loan covenants. Three-quarters of the firms in their sample obtain post-petition financing either through a DIP facility (50 percent) or through a cash collateral order (26 percent), allowing the debtor to use cash in which a pre-existing creditor has a security interest. Cash collateral motions frequently contain the same terms as those found in DIP loans.

Importantly, the vast majority of the post-petition financing contain detailed covenants restricting the firm's use of cash while operating in bankruptcy. Three-quarters of the loans impose specific line-item budgets on the firm, requiring the firm to submit detailed evidence of cash receipts and expenditures. A deviation from the budget of a specified margin (usually 5-15 percent) is considered a default. Other stringent covenants include limits on capital expenditures, operating profitability targets, and deadlines for submitting a plan of reorganization or selling assets. Ninety-two percent of the DIP loans in Ayotte and Morrison (2009) are secured by all of the firm's assets. This is imperative because if the bankrupt company violates any of the loan covenants, the DIP lender can cut off credit and force liquidation. Overall, senior secured lenders

appear to exert significant control over the bankruptcy process through provisions attached to post-petition loans.

The control rights associated with new post-petition financing of bankrupt firms is also examined by McGlaun (2007). His sample is 90 US firms filing for Chapter 11 filings in 1997-2004. Similar to Ayotte and Morrison (2009), he documents that covenants give the lender control over the debtor's cash, and impose approval of line item budgets, restrictions on the reorganization plans, and requirements to employ restructuring specialists. Consistent with the latter, Eckbo, Thorburn and Wang (2012) find a higher forced CEO turnover rate when the firm's pre-petition lenders provide DIP financing to the bankrupt firm. McGlaun (2007) further shows that firms with a senior secured pre-petition lender are more likely to negotiate new financing in bankruptcy, providing the lender with continued control rights. It is possible that rights are more valuable to a senior secured lender that also serves as DIP lender, since the lender now is able to exercise control rights protecting the new DIP loan as well as the existing prepetition loan.

Bharath, Panchapegesan and Werner (2010) suggest that Chapter 11 has become more creditor friendly in recent years, in that deviations from absolute priority in favor of equity have declined. This is consistent with the conjecture by Skeel (2003), who argues that increasing creditor control through DIP financing combined with bonuses to key executives that are explicitly tied to the reorganization process deter deviations from APR.

The increased creditor control over the firm in Chapter 11 reorganization may affect managers' incentives to promptly file for bankruptcy. Adler, Capkun and Weiss (2006) propose that debtors filing for Chapter 11 after 2001, when a change in the Uniform Commercial Code allowed creditors to take a security interest in the firm's bank accounts and thus gain greater

control over the firm's liquidity, are in significantly worse financial condition than firms filing prior to 2000. Their sample is 443 large US firms filing for Chapter 11 between 1993 and 2004. They suggest that this is consistent with managers intentionally delaying bankruptcy filing in an attempt to entirely avoid the bankruptcy process, possibly with the support of secured creditors who primarily care about their own claim.

It appears that bank lenders also could play an important role when firms are auctioned. Eckbo and Thorburn (2009) examine mandatory auctions of distressed firms under the Swedish bankruptcy code. They find that the bank of the distressed firm often provides financing to a bidder in the auction. This increases liquidity and competition in the auction. However, consistent with a strategy to maximize expected recovery, the bank-financed bidder tends to bid more aggressively when the bank's claim is impaired, possibly resulting in an ex-post inefficient allocation of the firm. Their evidence on firm post-bankruptcy operating performance, however, fails to support such allocation inefficiencies.

Woo (2011) argues that banks recently are driven by financial regulations and regulatory policy to push their bankrupt borrowers to sell assets rather than reorganize under Chapter 11. Specifically, rules related to concentration risk and capital adequacy make it costly for banks to take new debt and equity claims in the restructured firm. For a sample of 285 US construction and development loans in 11/2007-12/2008, Woo finds that banks with a higher loan concentration are more likely to obtain relief from the automatic stay to pursue foreclosure. To the extent the assets are sold at fire-sales prices, this could lead to a suboptimal allocation of corporate assets.

IV. Junior creditors

Junior and senior creditors may have conflicting interests in bankruptcy. Since the distribution of claims under the reorganization plan is closely tied to the value of the firm, this conflict primarily involves the valuation of the firm. Junior unsecured claims are generally widely held and therefore often suffer from a coordination problem. However, these claims as well as senior debt claims are commonly acquired and consolidated by hedge funds and other distressed investors, who become major players in the restructuring of the distressed firm.

Hotchkiss and Mooradian (1997) were the first to systematically show that such vulture investors play an important role in the governance of distressed firm, finding evidence of vulture investor activity for 60 percent of the firms they study. These investors typically acquire more than one-third of the face value of the debt claims in which they invest, a position which gives them a blocking position in that class for voting on a bankruptcy plan. The vulture investors join the board of directors for 28 percent of the sample firms and become CEO or chairman for 9 percent of the firms. Moreover, the distressed investors gain a controlling position, defined as obtaining a majority of the voting stock in the restructured firm or holding the CEO or chairman position, in 16 percent of the firms, often through the purchase of bank loans. Importantly, Hotchkiss and Mooradian (1997) show that the improvement in the post-restructuring operating performance is greater when vulture investors gain control of the restructured firm or sit on the board, suggesting that these investors bring valuable governance to the target.

Much has happened with the trading of distressed claims since the 1980s. Jiang, Li and Wang (2012) examine vulture activity for a sample of 474 Chapter 11 cases from 1996 to 2007. Hedge fund presence has become a defining characteristic of the process, with hedge funds taking positions in 90 percent of the bankrupt sample firms. Hedge funds primarily invest in unsecured debt because it often is the fulcrum security, i.e. the debt class that gets converted into

equity in the restructured firm. When hedge funds purchase junior debt claims, there is a higher likelihood of competing reorganization plans, CEO turnover and adoption of key employee retention plans (KERP). Moreover, hedge fund presence increases the probability that the distressed firm successfully restructures, which is typically associated with higher total recovery rates and higher payoffs to junior creditors, often in the form of equity. The evidence is consistent with hedge funds bringing efficiency gains when they invest in distressed debt.

The role of hedge funds is also studied by Lim (2010) for a relatively recent sample of 184 financially distressed firms from the period 1998-2009. He finds that hedge funds invest in two-thirds of the sample firms and on average ends up owning 35 percent of the equity in the reorganized firm. Interestingly, hedge funds tend to target the fulcrum security of economically healthier firms in order to participate in the reorganization of the distressed firm. Hedge funds' presence as creditors increases the likelihood of prepackaged bankruptcy filing (where the reorganization plan is negotiated prior to filing) and debt-for-equity swaps. When hedge funds contribute new equity, the duration of the restructuring is reduced.

Ivashina, Iverson, and Smith (2011) confirm the importance of active investors by examining detailed data on the capital structure for 136 firms filing for US Chapter 11 between 1998 and 2009. Using a unique dataset obtained from claims agents in Chapter 11 cases, they observe the evolution of ownership of these claims during the Chapter 11 case. They find that the trading of claims in bankruptcy leads to higher concentration of ownership, and in particular for debt claims that are eligible to vote on the reorganization plan. Active investors, such as hedge funds, are the largest net buyers and increase their ownership from 10 percent (at filing) to 15 percent of the bankrupt firm's claims at the time the votes are tabulated. This consolidation of claims is associated with a faster restructuring and a higher probability of a going-concern sale,

but lower total recovery rates. Overall, vulture investors appear to fill an important governance role in the restructuring of distressed firms.

The valuation of the bankrupt firm plays an integral role for the distribution of value under the reorganization plan. Underestimating the firm's value increases the proportion of the value that goes to senior creditors, while overestimating the value allows junior creditors to get a free option on the reorganized firm. Gilson, Hotchkiss and Ruback (2000) study the relation between the market value of 63 firms emerging from Chapter 11 in 1979-1993 and the value implied by cash flow forecasts in their reorganization plans. They find that estimated firm values are systematically lower when a senior creditor gains control of the equity of the restructured firm and higher when creditors use junior debt to gain control. Estimated values are also lower when management receives stock or options in the restructured firm and when the distressed firm sells new equity to a third party under the reorganization plan, suggesting that valuations are used strategically in bankruptcy to promote desired outcomes.

Lemmon, Ma and Tashjian (2009) examine the impact of labor unions on the restructuring of the distressed firm. For a sample of 505 firms filing for Chapter 11 in 1991-2004, they show that Chapter 11 is effective in reorganizing the capital structure of financially distressed firms, allowing them to emerge, while redeploying the assets of economically distressed firms into other uses. Among the firms that successfully reorganize, firms that are unionized reduce their work force by 9 percent less than nonunionized firms, controlling for other factors. With an average employment reduction of 25 percent in their sample, this difference is meaningful, suggesting that labor unions maintain substantial bargaining power in Chapter 11 and influence the restructuring outcome.

V. Law, Courts, and Judges

Though the various economic stakeholders analyzed above (shareholders, managers, and creditors) largely control the firm in distress, these control rights are limited in important ways by formal law and courts. The empirical evidence documented above suggests that the bankruptcy process has become faster and more creditor-controlled. Instead of the traditional reorganization—a restructuring of the claims of the going-concern within its existing corporate shell—a majority of Chapter 11 cases are going-concern sales or piece-meal liquidation sales (Ayotte and Morrison 2009). Some have suggested that in this new environment, bankruptcy judges have become no more than de-facto auctioneers (Buccola and Keller 2010), while others have proclaimed these developments as the end of bankruptcy (Baird and Rasmussen 2002).

Notwithstanding these important developments that would seem to de-emphasize the role of the law and courts, empirical research to date has found important differences in bankruptcy outcomes created by variation across jurisdictions, individual judges, and Bankruptcy Code chapters. Some research has also investigated the impact of important court decisions and statutory changes on firm and investor behavior.

The financial crisis brought about a new set of questions from a policy perspective involving the interaction of governance and financial distress. The Chapter 11 filing of Lehman Brothers in September 2008 raised important questions about the suitability of bankruptcy law for resolving distress in a systemically important financial firm. The Chrysler and General Motors cases have raised issues of government control and priority in “managed” bankruptcies, and exposed controversies regarding the “363 sale” as a substitute for traditional reorganization.

V.a. Venue and Chapter Choice

A debtor filing for bankruptcy in the U.S. typically has a choice of several venues in which to file its bankruptcy petition, which include the district of the debtor's principal place of business, and the district that includes the company's state of incorporation.⁸ This menu of options has led to patterns whereby one venue becomes the preferred "forum of choice" for debtors that seek to file outside their home district. In the 1980's, the Southern District of New York (SDNY) was the preferred forum of choice, but Delaware became the dominant forum in the 1990s. In the last decade, Delaware and SDNY have shared prominence. Scholars have tried to determine the reasons why companies choose certain venues and the consequences of these choices; i.e. whether venue choice produces a "race to the top" or a "race to the bottom".

The "race to the bottom" view is most associated with a series of papers by Lynn LoPucki and co-authors (Eisenberg and LoPucki 1999, LoPucki and Kalin 2001, LoPucki and Doherty 2002, LoPucki 2005). Under this view, courts compete for cases that offer more favorable outcomes to the constituencies that drive the venue decision—debtors, their managers, and their attorneys in particular—at the expense of overall value. The main evidence supporting this view is that Delaware and SDNY reorganizations were observed as more likely than reorganizations in other courts to re-file for Chapter 11 a second time (informally known as a "Chapter 22"), and exhibit weaker financial performance following emergence. LoPucki (2005) argues that this evidence is consistent with an inefficient, laissez-faire approach to scrutinizing reorganization plans. In effect, this perspective leads to a normative argument for greater court control over plans of reorganization.

Much of the literature on venue choice disputes these conclusions on both theoretical and empirical grounds. Theoretically, the main criticism of these studies is the reliance on refiling rates as a measure of bankruptcy court effectiveness (Rasmussen and Thomas 2001). For

example, Kahl (2002) suggests that firms emerging from bankruptcy might be optimally kept on a “short leash” through higher leverage, so as to limit agency costs of inefficient continuation. This implies that higher refiling rates in a particular court can be consistent with a more efficient bankruptcy process.

Empirically, scholars have noted the potential selection biases that might lead firms with higher unobserved refiling propensities to file in Delaware or New York, leading to a mistaken inference that venue choice causes failure (Skeel 2001). In addition, subsequent studies have found a countervailing advantage of speed in Delaware cases, and evidence that a Delaware filing is more likely when the company’s home court has handled less Chapter 11 cases, suggesting a preference for experience (Ayotte and Skeel 2004, 2006).

The vibrant debate on the costs and benefits of venue choice in the bankruptcy literature has cooled in the last decade, but the underlying issues remain important. Proposals to restrict venue choice in bankruptcy have reappeared in Congress recently. The creditor control trend, moreover, intensifies the importance of judicial decision-making early in the bankruptcy case. Anecdotally, courts differ in their practices with respect to approval of DIP loan terms, and motions to pay “critical vendors”.⁹ These decisions can be cast as a real option to keep the firm running (Baird 2010): a denial of the motion may result in immediate liquidation, while approval keeps the liquidation/continuation option alive for another day. The extent to which these differences have affected venue choice and bankruptcy outcomes in the post-2000 period, to our knowledge, has not yet been addressed in empirical bankruptcy scholarship.

In addition to choosing venue, debtors (and sometimes, creditors) choose the chapter under which the case is filed. There has been very little empirical literature examining differences across bankruptcy chapters, perhaps because of the very different circumstances

under which Chapter 7, Chapter 11, and Chapter 13 filings might occur. Bris, Welch and Zhu (2006) take on these challenges and present evidence against the notion that Chapter 11 is a slower, more costly means of reallocating assets than Chapter 7. Controlling for non-random selection into a chapter, they find that asset value is preserved less in Chapter 7, and time spent in bankruptcy is not significantly shorter in Chapter 7 once self-selection into a chapter is taken into account.

V.b. Judges

Framing the bankruptcy judge's decision problem as a real option/optimal stopping problem has proven fruitful in the small business bankruptcy context as well. Morrison (2007) analyzes a sample of 95 Chapter 11 filings in the Northern District of Illinois in 1998. The study finds, contrary to received wisdom, that judges generally make quick shutdown decisions of non-viable firms by dismissing cases or converting them to Chapter 7. Over 70 percent of shutdowns occurred within six months of the bankruptcy petition. The time to shutdown, moreover, is positively correlated with proxies for uncertainty about going-concern value, consistent with judicial maximization of the real option.

As noted above in the venue choice literature, establishing causal effects of courts and judges has proven difficult. Chang and Schoar (2007) provide a notable exception, by exploiting random assignment of cases to judges within a judicial district. The random assignment allows for identification of differential tendencies across judges to approve "pro-debtor" and "pro-creditor" motions.¹⁰ Chang and Schoar find significant effects of judicial bias on bankruptcy outcomes and post-bankruptcy performance. Surprisingly, they find that pro-debtor judges

increase the probability of shutdown and weaken post-bankruptcy performance of reorganized firms.

V.c. The Rise of Section 363 and the Fire Sale Problem

As noted above, while the substance of the Bankruptcy Code itself has changed little since its inception in 1978, corporate reorganization practice has changed dramatically. The rise of the 363 sale as an alternative to a traditional reorganization, and the willingness of bankruptcy courts to approve them, has been the subject of criticism. LoPucki and Doherty (2007) analyze a sample of 363 sales and traditional reorganizations of the largest public companies in bankruptcy, and find that recovery rates in reorganization cases are substantially higher. They suggest that this is indication of a fire sale bias in 363 sales, and conclude that permissive treatment of 363 sales is driven by the desire of courts to attract bankruptcy cases. LoPucki and Doherty (2007) do not address the endogeneity of the sale/reorganization decision, however, except through pre-bankruptcy controls for performance, such as EBITDA/Assets.

The general notion that assets sold by financially distressed firms are sold at a discount relative to similar sales by healthy sellers is supported by the evidence in Pulvino (1998, 1999) on distressed and non-distressed sales of aircraft. In a different auction setting, Eckbo and Thorburn (2008) document a greater discount in piecemeal sales of assets in Swedish mandatory bankruptcy auctions when the firm's industry peers are financially distressed. However, they find no evidence of a fire-sale discount when the bankrupt firms are sold as going concerns.

The literature highlights several reasons why fire sale problems may arise. Shleifer and Vishny (1992) suggests that industry insiders are liquidity constrained and therefore cannot participate in an auction, while industry outsiders are unable to operate the assets at their first-

best use. LoPucki and Doherty (2007) find examples of buyers in 363 sales hiring pre-bankruptcy managers, and suggest this reflects a conflict of interest.¹¹ Ayotte and Skeel (2006) raise the concern that DIP lenders are sometimes asset purchasers in 363 sales.¹² Ayotte and Morrison (2009) find evidence that quick sales can be driven by secured creditor control, even when lenders are disconnected from buyers. They show that sales are most likely relative to reorganizations when secured creditors are over-secured. Over-secured creditors should have the strongest preference for an immediate sale over a longer reorganization: delay poses a downside risk if firm value declines, and little to no upside since the creditor's recovery is capped at the value of its claim. Finally, as noted above, Woo (2011) provides theory and evidence that regulatory capital requirements based on portfolio concentration risk give secured lenders incentive to prefer liquidation over reorganization, even when the value of the secured creditor's claim is higher under reorganization.

The Auto Bankruptcies

The controversy over 363 sales reached new heights in the wake of the Chrysler and GM bankruptcies in 2009. Both companies used the 363 sale mechanism to reorganize their capital structures. The Chrysler 363 sale generated the most discussion in the academic literature due to the distribution of value: secured creditors received \$2 billion in cash in exchange for their secured claims, for a recovery of only 29 cents on the dollar. Chrysler (unsecured) employee benefit claimants received debt and stock in the new Chrysler. In this sense, the outcome can be seen as a deviation from priority: some unsecured claims received value, while secured claims were not paid in full.

The legal literature following the case debated whether the Chrysler outcome was a severe departure from existing, and ideal, bankruptcy law practice. Under one view (Roe and Skeel 2010), the Chrysler 363 sale dictated both the terms of the sale and the allocation of proceeds (sometimes called a *sub rosa* plan of reorganization). In these settings courts should, and often do, impose conditions on 363 sales that mimic creditor protections in a traditional reorganization. Morrison (2010), by contrast, argues that Chrysler is typical of modern bankruptcy practice in 363 sales, in which the DIP lender (in Chrysler, the government) controls the timing and terms of the sale. The decision to use taxpayer money to buy Chrysler and allocate a share to retirees can be seen as a question of bailout policy—one that is separate from the bankruptcy law question about whether the auction of Chrysler’s assets yielded full value. In this regard, though, the most consistent criticism of the Chrysler bankruptcy in the literature is that the bankruptcy auction was not set up to yield the highest price for the assets. The bidding procedures approved by the court effectively prevented bids that would liquidate Chrysler (Adler 2010, Baird 2011).

Though the Chrysler case generated important questions about the proper use of 363 sales, the long-run impact of the case is probably limited. The Supreme Court vacated the Second Circuit’s opinion authorizing the sale, which limits its impact on legal precedent. Empirical evidence on the short-run economic impact is mixed. Anginer and Warburton (2010) find that bond markets did not respond significantly to any news about the Chrysler bankruptcy, but bonds of unionized firms outperformed bonds of non-unionized firms in response to news about the bailout loans that preceded the bankruptcy. Blaylock, Edwards and Stanfield (2011), on the other hand, find that more unionized firms perform relatively worse on several Chrysler-

related event days up to and including the date of the bankruptcy filing. But they do not find any relative differences in bond price reactions to any legal events after the filing.

Suggestions for future research

These recent bankruptcy developments provide many open avenues for future research. The most interesting questions, moreover, can benefit from theory and empirical evidence combined with detailed institutional and legal knowledge. For example, the increasing use of Chapter 11 as an auction mechanism presents interesting theoretical questions. When should courts approve of auctions in lieu of traditional reorganizations, given the prevalence of creditor control and the potential fire sale problem?¹³ What incentive effects are created by protections afforded to pre-arranged bidders in the auction, so called “stalking horse” bidders? Empirically, how much variation is observed in auction procedures across cases, and what effects do these variations have on outcomes? Critical vendor payments, credit bidding, and claims trading are all important issues in bankruptcy that give rise to similar questions. Research on these questions can benefit from the expertise of both economists and legal scholars.

References

Adler, Barry .E., 2010, “A Reassessment Of Bankruptcy Reorganization After Chrysler and General Motors” American Bankruptcy Institute Law Review, 18, 305.

Adler, Barry E., Vedran Capkun, and Lawrence A. Weiss, 2006, “Destruction of value in the new era of Chapter 11,” New York University, working paper.

Aghion, Philippe, Oliver Hart and John Moore, 1992, “The Economics of Bankruptcy Reform,” Journal of Law, Economics and Organization, 8, 523–546.

Altman, Edward I. and Edith s. Hotchkiss, 2005, Corporate Financial Distress and Bankruptcy, Wiley Finance.

Andrade, Gregor, and Steven N. Kaplan, 1998, “How costly is Financial (not Economic) Distress? Evidence from Highly Leveraged Transactions that Became Distressed,” Journal of Finance 53, 1443-1493.

Anginer, D. and A.J. Warburton 2010. “The Chrysler Effect: The Impact of the Chrysler Bailout on Borrowing Costs” World Bank Policy Research Working Paper 5462.

Asquith, Paul, Robert Gertner and David Scharfstein, 1994, “Anatomy of Financial Distress: An Examination of Junk-Bond Issuers,” Quarterly Journal of Economics, 109, 625-658.

Ayotte, Kenneth and David Skeel 2004, “Why Do Distressed Firms Choose Delaware? An Empirical Analysis of Venue Choice in Bankruptcy,” working paper, Northwestern University School of Law.

___ 2006, “An Efficiency-Based Explanation for Current Corporate Reorganization Practice,” University of Chicago Law Review, 73, 425-468.

Ayotte, Kenneth M. and Edward R. Morrison, 2009, "Creditor control and conflict in Chapter 11," *Journal of Legal Analysis*, 1(2), 511-551.

Baird, Douglas G., 2010, "Bankruptcy From Olympus," *University of Chicago Law Review*, 77, 959-975.

_____, 2011, "Car Trouble," *University of Chicago, Working Paper*.

Baird, Douglas G., and Robert K Rasmussen, 2002, "The End of Bankruptcy," *Stanford Law Review* 55, 751-789.

_____, 2006, "Private Debt and the Missing Lever of Corporate Governance," *University of Pennsylvania Law Review*, 154, 1209-1251.

Baylock, Bradley, Alexander Edwards and Jared Stanfield, 2011, "The Market-Wide Consequences of Government Intervention," *University of New South Wales, working paper*.

Becker, Bo and Per Stromberg, 2012, "Fiduciary Duties and Equity-Debtholder Conflicts", *Harvard Business School, working paper*.

Betker, Brian L., 1995, "Management's Incentives, Equity's Bargaining Power, and Deviations from Absolute Priority in Chapter 11 Bankruptcies," *Journal of Business*, 68, 161.

Bharath, Sreedhar T., Venky Panchapegesan, and Ingrid M. Werner, 2010, "The Changing Nature of Chapter 11," *Ohio State University, working paper*.

Black, Fischer and John Cox, 1976, "Valuing Corporate Securities: Some Effects of Bond Indenture Provisions," *Journal of Finance*, 31, 351-367.

Bradley, Michael, and Michael Rosenzweig, 1992, "The Untenable Case for Chapter 11," *Yale Law Journal* 101, p. 1043.

Branch, Ben, 2000, "Fiduciary Duty: Shareholders Versus Creditors," *Financial Practice and Education*," p. 339.

Buccola, V.S.J and A. C. Keller, 2010, "Credit Bidding and the Design of Bankruptcy Auctions," *George Mason Law Review*, 18, 99-124.

Carapeto, Maria, 1999, "Does debtor-in-possession financing add value?" London Business School, working paper.

Casey, A., 2011, "The Creditors' Bargain and Option-Preservation Priority in Chapter 11," *Chicago Law Review*, 78, 759-807.

Chang, T. and A. Schoar, 2007, "Judge Specific Differences in Chapter 11 and Firm Outcomes," MIT, working paper.

Chatterjee, Sris, Upinder Dhillon and Gabriel Ramiez, 2004, "Debtor-in-Possession Finance", *Journal of Banking and Finance*, 28, 3097-3111.

Dahiya, Sandeep, Kose John, Manju Puri and Gabriel Ramirez, 2003, "Debtor-in-Possession Financing and Bankruptcy Resolution: Empirical Evidence," *Journal of Financial Economics*, 69, 259–280.

Dhillon, Upinder S., Thomas Noe, Gabriel G. Ramírez, 2007, "Debtor-in-possession financing and the resolution of uncertainty in Chapter 11 reorganizations," *Journal of Financial Stability*, 3, 238-260.

Eberhart Allan C., William T. Moore and Rodney L. Roenfeldt, 1990, "Security Pricing and Deviations from the Absolute Priority Rule in Bankruptcy Proceedings," *Journal of Finance*, 45, 1457–1469.

Eckbo, B. Espen, and Karin S. Thorburn, 2003, "Control Benefits and CEO Discipline in Automatic Bankruptcy Auctions," *Journal of Financial Economics* 69, 227-258.

_____, 2008, "Automatic Bankruptcy Auctions and Fire-Sales," *Journal of Financial Economics*, 89, 404-422.

_____, 2009, "Creditor Financing and Overbidding in Bankruptcy Auctions: Theory and Tests," *Journal of Corporate Finance* 15, 10-29.

Eckbo, B. Espen, Karin S. Thorburn and Wei Wang, 2012, "How costly is corporate bankruptcy for top executives?" Dartmouth College, working paper.

Eisenberg, Theodore and Lynn M. LoPucki, 1999, "Shopping for Judges: An Empirical Analysis of Venue Choice in Large Chapter 11 Reorganization," *Cornell Law Review*, 84, 967–1003.

Fischer, Edwin O., Robert Heinkel and Josef Zechner, 1989, "Dynamic Capital Structure Choice: Theory and Tests," *The Journal of Finance*, 44, 19-40.

Franks, Julian R. and Walter N. Torous, 1989, "An Empirical Investigation of U.S. Firms in Reorganization," *Journal of Finance*, 44, 747–769.

Geske, Robert, 1977, "The Valuation of Corporate Liabilities as Compound Options," *Journal of Financial and Quantitative Analysis*, 12, 541–552.

_____, 1989, "Management Turnover and Financial Distress," *Journal of Financial Economics*, 25, 241-262.

_____, Stuart, 1990, "Bankruptcy, boards, banks and blockholders," *Journal of Financial Economics*, 26, 355-187.

_____, Stuart C., 1997, "Transactions costs and capital structure choice: Evidence from financially distressed firms," *Journal of Finance*, 52, 161-196.

Gilson, Stuart, Edith Hotchkiss, and Richard Ruback, 2000, "Valuation of Bankrupt Firms," *Review of Financial Studies*, 13, p. 43-74.

Gilson, Stuart C., Kose John and Larry H.P. Lang, 1990, "Troubled debt restructurings," *Journal of Financial Economics*, 27, 315-353.

Gilson, Stuart, and Michael Vetsuypens, 1993, "CEO Compensation in Financially Distressed Firms: An Empirical Analysis," *Journal of Finance*, 43, p. 425.

Goldstein, R., N. Ju, and Hayne Leland, 2001, "An EBIT-Based Model of Dynamic Capital Structure," *Journal of Business*, 74, 483–512.

Gormley, Todd and D. Matsa, 2011, "Growing Out of Trouble? Legal Liability and Corporate Responses to Adversity," *Review of Financial Studies*, 24, 2781–2821.

Hart, Oliver, 2000. "Different Approaches to Bankruptcy," Harvard Institute of Economic Research Working Papers 1903, Harvard — Institute of Economic Research.

Hotchkiss, Edith S., 1995, "Postbankruptcy Performance and Management Turnover," *Journal of Finance* 50, p. 3-21.

Hotchkiss, Edith S., and Robert M. Mooradian, 1997, "Vulture Investors and the Market for Control of Distressed Firms," *Journal of Financial Economics*, 32, 401-432.

Hotchkiss, Edith S., David C. Smith and Per Stromberg, 2012, "Private Equity and the Resolution of Financial Distress," Boston College, working paper.

Ivashina, Victoria, Benjamin Iverson, and David C. Smith, 2011, "The Ownership and Trading of Debt Claims in Chapter 11 Restructurings," Harvard University, working paper.

James, Christopher, 1995, "When Do Banks Take Equity? An Analysis of Bank Loan Restructurings and the Role of Public Debt," *Review of Financial Studies*, 8, 1209.

James, Christopher, 1996, "Bank debt restructuring and the composition of exchange offers in financial distress," *Journal of Finance*, 51,711-727.

Jiang, Wei, Kai li and Wei Wang, 2012, "Hedge funds and Chapter 11," *Journal of Finance*, forthcoming.

Kahl, Matthias, 2002, “Economic Distress, Financial Distress, and Dynamic Liquidation,” *Journal of Finance*, 57, 135-168.

Leland, Hayne E., 1994, “Corporate Debt Value, Bond Covenants, and Optimal Capital Structure,” *Journal of Finance*, 49, 1213–1252.

_____, 1998, “Agency Costs, Risk Management, and Capital Structure,” *Journal of Finance*, 53, 1213–1242.

Leland, Hayne E. and K. Toft, 1996, “Optimal Capital Structure, Endogenous Bankruptcy, and the Term Structure of Credit Spreads,” *Journal of Finance*, 51, 987–1019.

Lemmon, Michael, Yung-You Ma, and Elizabeth Tashjian, 2009, “Survival of the fittest? Financial and Economic Distress and Restructuring Outcomes in Chapter 11,” University of Utah, working paper.

Lim, Jongha, 2010, “The role of activist hedge funds in distressed firms,” Ohio State University, working paper.

LoPucki, Lynn M., 2005, “Courting Failure: How Competition for Big Cases Is Corrupting the Bankruptcy Courts,” University of Michigan Press.

LoPucki, Lynn M. and Joseph W. Doherty, 2002, “Why are Delaware and New York Bankruptcy Reorganizations Failing?” *Vanderbilt Law Review*, 55, 1933-86.

_____, 2007, “Bankruptcy Fire Sales”, *Michigan Law Review* Vol. 106, pp. 1-60.

LoPucki, L. and S. Kalin, 2001, “The Failure of Public Company Bankruptcies in Delaware and New York: Empirical Evidence of a 'Race to the Bottom',” *Vanderbilt Law Review*, 54, 231-82.

McGlaun, Greg, 2007, “Lender Control in Chapter 11: Empirical Evidence,” University of Rochester, working paper.

Morrison, Edward, 2007, "Bankruptcy Decision Making: An Empirical Study of Continuation Bias in Small Business Bankruptcies," *J. L. Economics*, 50, 381.

_____, 2010, "Chrysler, GM, and the Future of Chapter 11," Columbia Law School, working paper.

Nini, Greg, Amir Sufi, and David C. Smith, 2011, "Creditor Control Rights, Corporate Governance, and Firm Value", University of Pennsylvania, working paper.

Povel, P. and R. Singh, 2007, "Sale-Backs in Bankruptcy," *Journal of Law, Economics, and Organization*, 23, 710-730.

_____, 1998, "Do Asset Fire Sales Exist? An Empirical Investigation of Commercial Aircraft Transactions," *Journal of Finance*, 53, 939-978.

Pulvino, Todd C., 1999, "Effects of Bankruptcy Court Protection on Asset Sales," *Journal of Financial Economics*, 52, 151-186.

Rasmussen, R. and R.S. Thomas, 2001, "Whither the Race: A Comment on the Effects of the Delawarization of Corporate Reorganizations," *Vanderbilt Law Review*, 54, 283-307.

Roe, Mark and David Skeel, 2010, "Assessing the Chrysler Bankruptcy," *Michigan Law Review* ,108, 727-72.

Shleifer, Andrei and Robert W. Vishny, 1992, "Liquidation Values and Debt Capacity: A Market Equilibrium Approach," *Journal of Finance*, 47, 1343-1366.

Skeel, David A., 2001 "What's So Bad About Delaware?," *Vanderbilt Law Review*, 54, 309-329.

_____, 2003, "Creditors' ball: The "new" new corporate governance in Chapter 11," *University of Pennsylvania Law Review*, 152, 917-951.

_____, 2004, "The Past, Present and Future of Debtor-in-Possession Financing,"

Cardozo Law Review, 25, 1905-1934.

Warren, Elizabeth and J. Westbrook, 2003, "Secured Party in Possession," American Bankruptcy Institute Journal, 22, 52–53.

Weiss, Lawrence A. and Karen H. Wruck, 1998, "Information Problems, Conflicts of Interest, and Asset Stripping: Chapter 11's Failure in the Case of Eastern Airlines," Journal of Financial Economics, 48, p. 55.

White, Michelle J., 1996, "The Costs of Corporate Bankruptcy: A US-European Comparison," in J. Bhandari and L. Weiss (Eds.), Corporate Bankruptcy: Economic and Legal Perspectives, Cambridge University Press, Cambridge, UK.

Woo, Sara Pei, 2011, "Regulatory bankruptcy: How bank regulation causes fire sales," Georgetown Law Journal, 99, 1615-1669.

Wruck, Karen Hopper, 1989, "Equity Ownership Concentration and Firm Value: Evidence From Private Equity Financings," Journal of Financial Economics, 23, 3-28.

¹ In a Chapter 7 liquidation, by contrast, management is automatically displaced in favor of a court-appointed trustee.

² During its 1984 bankruptcy, StorageTek invested in a new technology for tape storage devices. The successful investment increased firm value enough to bring equity "in the money," and the pre-bankruptcy holders retained their stake when the firm emerged from bankruptcy as the dominant player in their market.

³ See *Credit Lyonnais v. Pathe Communications*, available at <http://blogs.law.harvard.edu/corpgov/files/2007/06/20070202%20Credit%20Lyonnais.pdf>.

⁴ The most senior class of claims which would be impaired if value were to be distributed according to absolute priority is referred to as the “fulcrum” security.

⁵ Commercial banks are prohibited from owning significant amounts of stock in nonfinancial firms under Section 16 of the Glass-Steagall Act, the Financial Services Modernization Act of 1999, the Bank holding Company Act, and the Federal Reserve Board’s Regulation Y.

⁶ Such regulations restrict how much equity lenders can hold in nonfinancial firms and require banks to increase their risk-based regulatory capital when holding riskier assets such as stock.

⁷ See also Dhillon, Noe, and Ramirez (2007), Carapeto (1999), and Chatterjee, Dhillon and Ramirez (2004) for evidence on DIP financing in Chapter 11.

⁸ A debtor can choose to file for bankruptcy in any of four locations: the district where the corporation is domiciled, the district where the debtor has its principal place of business, the district where its principal assets are located, or any district where an affiliate of the debtor has already filed for bankruptcy.

⁹ “Critical vendors” are typically unsecured trade creditors that demand payment on their pre-petition claims as a precondition to continue supplying the debtor in bankruptcy. The practice of allowing these payments is controversial, because it elevates the priority of these “critical” vendors above other unsecured creditors. Denying these payments, however, may jeopardize the debtor’s survival. The Seventh Circuit’s disapproval of a bankruptcy judge’s authorization of critical vendor payments in the Kmart bankruptcy may have affected the status of the Northern District of Illinois as a bankruptcy venue (Baird 2010).

¹⁰ As Chang and Schoar acknowledge, the “pro-debtor/pro-creditor” categorization may not be clear-cut. For example, a lifting of the automatic stay might benefit a secured creditor at the expense of unsecured creditors. A sale of assets may benefit the debtor’s management (who might be rehired by the purchaser in a going-concern sale) or it may be driven by secured creditor control over the debtor.

¹¹ As noted above, Eckbo and Thorburn (2003) also find that a high fraction of incumbent managers are rehired by firms restructured through Swedish auction bankruptcy. Contrary to LoPucki and Doherty (2007), they suggest that these managers have firm specific skills, which make them the best candidates to continue run the reorganized firms. Eckbo and Thorburn (2003) find no difference in the post-bankruptcy operating performance between firms rehiring old management and firms hiring new outside management, indicating that there are no systematic differences in their management skills.

¹² One high-profile example is the TWA bankruptcy, in which American Airlines was the buyer and DIP financier.

¹³ For an alternative bankruptcy mechanism that is designed to resolve the fire sale bias problem and induce the efficient sale/reorganization decision, see Casey (2011). For an analysis of optimal auctions when inside bidders have superior information to outside bidders, see Povel and Singh (2007).