

Hedge Funds in Chapter 11^{*}

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Abstract

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Keywords: Hedge funds; Chapter 11; Loan-to-own; APR violation; KERP
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Abstract

Using a comprehensive sample of 474 Chapter 11 filings from 1996 to 2007, this paper examines the roles of hedge funds in the Chapter 11 process and their effects on bankruptcy outcomes. We first show that the timing and the entry point in the capital structure reflect hedge funds' strategic choices that allow them to have a big impact in reorganization. Their presence as creditors is generally associated with a higher probability of emergence; and their presence as shareholders is associated with more violations of the absolute priority rule. Further, hedge fund involvement is positively associated with both more frequent adoptions of key employee retention plans and CEO turnover. Our research suggests that hedge funds are an emerging force underlying the changing nature of Chapter 11.

This paper examines the roles of hedge funds in Chapter 11 and how their presence changes the nature of the bankruptcy process. Hedge funds' participation in the process takes on a variety of forms, including investing in debt claims, buying equity stakes, serving on the unsecured creditors or equity committees, and the pursuit of the "loan-to-own" strategy, where a hedge fund acquires the debt of a distressed borrower with the intention of converting its debt position into a controlling equity stake upon the firm's emergence from Chapter 11.

The bankruptcy of Northwestern Corporation, a utility company, is illustrative of hedge fund involvement in the restructuring process. The company filed a voluntary petition under Chapter 11 on September 14, 2003. Hedge funds, including AG Capital Funding Partners, Avenue Capital Management, Magten Offshore Partners, and Oaktree Capital Management, owned debt claims against the company and sat on the unsecured creditors committee. Northwestern's Restated Plan of Reorganization was confirmed by the court on October 8, 2004. Under the plan, existing shareholders received no distribution. Senior unsecured notes and some general unsecured notes of the company would receive 92% of newly issued common stock. On its first day of trading, the stock price of the reorganized Northwestern was \$24.95, implying a recovery rate of 90% for the senior unsecured creditors. And those hedge funds emerged as major shareholders.

The example above highlights several features of hedge funds' distress investing strategies. First, unlike traditional creditors (such as banks and insurance companies) that strive to contain damages on their existing investment at the bankruptcy bargaining table, hedge funds seek out distressed claims to invest in order to make a profit. Second, hedge funds typically initiate their investment on the debt side, but with a strategic goal to influence the restructuring process, and in many cases, they end up with controlling stakes in the company upon emergence. Such a strategy challenges the conventional view of claimholders in bankruptcy where creditors and shareholders are perceived as totally different participants, with the former deemed to have a pro-liquidation bias. Finally, the presence of hedge funds specialized in distress investing could be behind some secular trends in the U.S. Chapter 11 processes, notably, the strengthening of creditors' rights (Bharath, Panchapegesan, and Werner (2007), and Ayotte and Morrison (2009)), and a more "management neutral" process (Harner (2008)).

Using a comprehensive sample of 474 Chapter 11 cases from 1996 to 2007 formed by merging a multitude of data sources, we first show that hedge fund presence in the Chapter 11 process has been prevalent—over 90% of the cases have publicly observable involvement by hedge funds. This is consistent with practitioners' observation that hedge funds have become the most active investors in the distressed debt market, generating approximately half of the annual trading volume in distressed debt, about one-third of the trading volume in leveraged loans and one-quarter in high-yield bonds during 2005-2006.⁵ Despite anecdotal evidence on hedge fund vultures in the media and case studies by law practitioners and scholars on the legal aspect of various strategies favored by hedge funds (most notably, "loan-to-own"), there has been no systematic study on hedge fund involvement in Chapter 11 in the past decade or so. This paper aims to fill the void.

⁵ See Aaron Siegel, "Hedge Funds Turn Up the Volume," *Investment News*, September 14, 2006: <http://www.investmentnews.com/apps/pbcs.dll/article?AID=/20060914/REG/609140707/1094/INDaily03&ht=>.

In addition to updating earlier studies on bankruptcy,⁶ our paper provides new insights about hedge funds as an emerging force in the Chapter 11 process. First and foremost, we find that hedge funds, rather than being simply “anti-management,”⁷ are behind the transformation of the traditional “management-driven” restructuring process to a more “management neutral” one. Hedge fund presence on the debt side is overall associated with a higher probability of emergence. Though there is higher CEO turnover in cases involving hedge funds, so is the implementation of key employee retention plans (KERPs). The combination reflects hedge funds’ desire to replace failed leaders while in the meantime to ensure continuity of management and operation after the firm emerges. Our findings offer both support and an explanation for the trend of management neutrality in the Chapter 11 process purported by recent legal studies (for example, Skeel (2003) and Harner (2008)).

Second, hedge funds’ strategic entry point to the distressed firm’s capital structure facilitates their goal of having a big impact in the reorganization process, and their involvement seems to be effective in achieving the intended goals for the part of capital structure they choose. Unsecured debt is the most common choice for hedge funds to approach distressed companies. As mentioned above, hedge fund presence increases the likelihood of successful reorganization, so does the likelihood of hedge fund converting their debt claims into new equity and thus enjoying the upside potential upon case resolution. Importantly, we find that the stock market responds positively to revealed hedge fund presence among the largest unsecured creditors at the time of a bankruptcy filing, suggesting a positive effect of hedge fund creditors on the total value of the firm. On the other hand, when hedge funds are large shareholders of bankrupt firms, they choose firms with relatively strong fundamentals (as measured by asset liquidity and operating performance) and facilitate distributions that are more favorable to shareholders, i.e., more frequent and larger absolute priority rule violations.

⁶ An incomplete list includes: Eberhart, Moore, and Roenfeldt (1990), Weiss (1990), Hotchkiss (1995), Betker (1995), Tashjian, Lease, and McConnell (1996), Hotchkiss and Mooradian (1997), Dahiya, John, Puri, and Ramirez (2003), Dawkins, Bhattacharya, and Bamber (2007), and Bharath, Panchapegesan, and Werner (2007).

⁷ Anecdotal stories abound about hedge funds’ ruthless confrontation with management in distressed firms. For example, Daniel Loeb (Founder of Third Point LLC) called the CEO of Intercept, John Collins, “CVD” (an abbreviation or “Chief Value Destroyer”) in a public letter in 2004.

Third, we show that hedge funds participating in bankruptcy do not have a short horizon as commonly perceived. They benefit more from companies' emergence which takes a longer time to materialize than straight liquidation, especially when they pursue a loan-to-own strategy. This phenomenon indicates that hedge funds pursuing a more activist agenda have considerably longer investment horizons than their counterparts who prefer trading to intervention.

This paper adds to our understanding of the major forces underlying the patterns and changes in the Chapter 11 processes in the U.S. over the past decade. By analyzing the same hedge fund holding different types of stakes (e.g., senior and junior claims; debt and equity) of a distressed firm over the course of Chapter 11 restructuring, our work may stimulate new theoretical research on bankruptcy that allows complex and dynamic interactions among various stakeholders. Our study also contributes to the burgeoning research on the active roles that hedge funds play in corporate decisions.⁸

The most related prior work to our study is Hotchkiss and Mooradian (1997). Using a sample of 288 firms that defaulted on their public debt during 1980-1993, they examine the role of vulture investors (predecessors to hedge funds specialized in distress investing) in the market for control of distressed firms. They measure vulture investors' involvement primarily in terms of their governance roles, such as joining the board, becoming the CEO/chairman, or gaining a majority of the voting stock of the reorganized firm, and conclude that the active involvement by vultures help improve firm performance.

We update the Hotchkiss and Mooradian (1997) analysis of distressed companies with some new development from the past decade. An exponential growth in the hedge fund sector, a more liquid debt market, and an increasing activist stance among some hedge funds all contributed to the changing nature of the Chapter 11 process in our more recent sample period.⁹ We also expand the scope of analysis by investigating the different roles that hedge funds take on either the debt or equity side or both (as in the

⁸ A partial list of this literature includes Brav, Jiang, Partnoy, and Thomas (2008) and Klein and Zur (2009) on hedge fund activism in U.S. corporations; Becht, Franks, Mayer, and Rossi (2009) on hedge fund activism in Europe; Greenwood and Schor (2009) on hedge funds in merger and acquisitions; Huang (2009) on hedge funds in leveraged buyouts; and Massoud, Nandy, Saunders, and Song (2009) on hedge funds in syndicated lending.

⁹ See Rosenberg (2000) (especially Chapter 1) and Harner (2008) for a discussion of the history of distress investing, and how the distress firm-prone hedge funds in the past decade have evolved beyond their vulture predecessors.

case of loan-to-own), the timing of their entry into the bankrupt firms, and the effects of their involvement on bankruptcy outcomes.

The outline of the paper is as follows. Section I describes our data collection process and presents an overview of hedge funds' participation in the Chapter 11 process. Section II examines the determinants of hedge funds' participation on the debt and equity sides. Section III analyzes the effects of hedge funds' involvement in Chapter 11 on the final outcomes. Finally, Section IV summarizes the findings and concludes.

I. Data and Overview

A. Data Collection

We compile from a variety of data sources including some intensive manual data collection, the most comprehensive dataset on U.S. bankruptcies so far that has been used in empirical research. Our sample spans all major Chapter 11 filings over the period 1996-2007, and the status of firms is updated to the end of 2008.

A1. The sample of U.S. Chapter 11 firms

The Lynn M. LoPucki's Bankruptcy Research Database is our starting point to form a sample of large U.S. firms that filed for Chapter 11 during the period 1996-2007. For inclusion in our sample, we require that the firm have assets worth at least \$100 million at the time of a bankruptcy filing, measured in 1980 constant dollars using the CPI deflator, and be required to file 10Ks with the SEC. We end up with 500 such cases for the sample period, and we cross check with the New Generation Research's BankruptcyData.com to verify their Chapter 11 status and to obtain information on the final outcomes. Through this process, three cases are dropped because one case was in fact a Chapter 7 filing, and two cases were duplicates of or affiliated with other cases. Another 23 cases are dropped out of our sample because they were pending or dismissed by court as of December 31, 2008. Our final sample consists of 474 unique cases of Chapter 11 filings.

The Bankruptcy Research Database provides basic information about the cases including: the date of filing, major operational information (such as industry, sales, and assets), the type of filing (such as prepackaged, and pre-negotiated), and the outcomes and duration of the Chapter 11 process. Such information is cross-checked with BankruptcyData.com whenever possible. In case of an inconsistency, we resort to firms' 10K filings prior to their Chapter 11 filings to resolve the difference. All SEC filings are retrieved from the EDGAR website.

A2. Details about the bankruptcy process, outcomes, and key stakeholders

Before the final outcomes such as emergence, acquisition, or liquidation, a Chapter 11 case may reach certain milestones and have intermediate outcomes, such as the debtor-in-possession (DIP) financing, approval of KERPs, management turnover, asset sales, and claim transfers. We obtain such information mainly from BankruptcyData.com, supplemented by the New Generation Research's Bankruptcy DataSource database and the Public Access to Court Electronic Records (PACER). BankruptcyData.com keeps bankruptcy reorganization and liquidation plans and provides summaries for most of the cases including: classes of claims, dollar amount of allowed claims, recovery, and whether cash or security distribution is made to each class of claimants. For four cases where the plans were not available, we directly purchased their reorganization plans from the U.S. bankruptcy courts. Combining all the above sources with firms' 8K filings, we are able to code, for all of our 474 cases, the key aspects of their Chapter 11 processes from the time of a Chapter 11 filing all the way up to the time of case resolution.

BankruptcyData.com also provides names of the major stakeholders that are listed on the bankruptcy petition forms. These stakeholders include the largest shareholders, the largest holders of unsecured debt claims, members of the unsecured creditors committee, members of the equity committee, providers of DIP financing, and buyers of debt claims during the restructuring process. We supplement and complete the above information using the Bankruptcy DataSource database, 8K filings, proxy statements, and news search in NexisLexis and Factiva.

A3. Identifying hedge funds among stakeholders

In order to track the various roles that hedge funds play at different stages of the bankruptcy and in different parts of the bankrupt firm's capital structure, we first compile a master list of all key stakeholders collected from the sources described in Section I.A2. Then we try to identify hedge funds from this list. Due to the nature of bankruptcy (which is usually triggered by a firm's failure to fulfill its obligations to its creditors), this list provides more detailed participant information on the creditor side than on the equity side. To supplement information on the latter, we compile a list of institutions that make significant equity investments in the distressed firms both before and during the Chapter 11 process using two different SEC filings on equity ownership.

The first source is the Schedule 13D filings, which is the mandatory filing under Section 13(d) of the 1934 Exchange Act that requires investors to disclose within 10 days of acquiring or conversion of more than 5% of any class of securities of a publicly traded company if they have an interest in influencing the management of the company (including the reorganization of the company). The second source is the Form 13F filings (from the Thomson Reuters Ownership Database), required for all institutions that have investment discretion over \$100 million or more in Section 13(f) securities (mostly publicly traded equity; but also include convertible bonds, and some options) to disclose their quarter-end holdings in these securities. The window to collect equity ownership information from both sources spans from one year before a Chapter 11 filing to one year after the confirmation of the final plan. For ownership information collected from the Form 13F, we impose a threshold of 2% of all the shares outstanding for "significant" equity ownership, as smaller stakes are unlikely to be effective in influencing the reorganization process.

In the appendix, we describe the steps and criteria that we used in manually classifying hedge funds from the combined list of key stakeholders, and we end up with 619 unique hedge funds in our sample. Due to our "top-down" approach, our list includes all hedge funds that are publicly observed to be involved in bankruptcy during our sample period. With such information we are able to code hedge funds' involvement along both the time dimension (before or during the Chapter 11 process) and the capital structure dimension (secured/unsecured debt, or equity).

A4. Firm-level financial information and securities pricing

We merge our sample of Chapter 11 filers with CRSP/Compustat (available through WRDS) and Capital IQ to retrieve additional firm-level financial information. While Compustat provides standard information from firms' income statements and balance sheets, Capital IQ provides more detailed information about capital structure, in particular, the ratio of secured debt to total assets. When such information is missing from Capital IQ, we use data from BankruptcyData.com.

We primarily rely on CRSP to retrieve stock price information for our sample firms. Whenever CRSP stops covering the daily stock prices of a bankrupt firm (because it often gets delisted from public exchanges), we turn to Bloomberg and Datastream for additional information on stock prices. The two data sources allow us to extend the coverage of security pricing information beyond exchange-traded companies, thus minimizing the delisting bias in our analysis (Shumway (1997)).

Finally, we code one of the key outcome variables in our analysis, absolute priority rule (APR) violations, using a combination of information sources. Specifically, the following inputs are necessary to quantify APR violations: (i) the list of classes of claims from the summaries of bankruptcy plans (either the reorganization plan or the liquidation plan), available through BankruptcyData.com. Most of the plans provide the estimated dollar amount of claims. When this amount is missing, we turn to the actual bankruptcy plans and Datastream to manually match debt claims and obtain their face value; (ii) the type of distribution includes cash, newly issued debt, preferred equity, common equity, and warrants from the bankruptcy plans; and (iii) the first day trading price for newly issued stocks and warrants from CRSP, Bloomberg, Datastream, and the Bankruptcy DataSource database.

With all inputs in place, we compute APR violations following Eberhart, Moore, and Roenfeldt (1990), and Betker (1995). An APR violation is deemed to occur when equity holders receive a payment before other senior classes of claims are paid in full. We construct two variables to capture APR violations. The first is an indicator variable, *APR*, that takes the value of one if there is any APR violation. The second is a continuous measure, *APR%*, calculated as the value of cash and new securities received by common equity holders divided by the value of cash and new securities received by all debt

and common equity holders in the reorganization. The variable is measured in percentage terms and bounded between 0 and 100%.

B. Overview of Chapter 11 Firms and Hedge Fund Involvement

B1. Patterns of the Chapter 11 process

Table 1 provides variable definitions and key descriptive statistics of the sample. Panel A lists the variables, their definitions, and their data sources. Panel B presents a summary of Chapter 11 characteristics, and Panel C reports the outcomes, by year, for all 474 cases in our sample.

[Insert Table 1 here.]

Several time trends emerge from Panels B and C of Table 1. First, bankruptcy filings are highly cyclical. The burst of the Dotcom bubble in 2000 and subsequent recession is associated with a large number of Chapter 11 filings, while the boom that lasted prior to the 2008 financial crisis is associated with much fewer filings. Second, the adoption of KERPs has been on the rise over the sample period. While only about a quarter of the filings in 1996 had KERPs in place (whereby top executives and key employees are given incentives to stay and to help reach various milestones such as the filing of a reorganization plan or the confirmation of the plan), the proportion rose to about half towards the end of our sample period in 2007. This trend is also noted by Bharath, Panchapegesan, and Werner (2007).

Third, CEO turnover appears to decline over time. The average CEO turnover rate is about 27% for our sample, a number that is lower than the 33% to 75% range reported in earlier studies (see Gilson (1989), Gilson and Vetsuypens (1993), Betker (1995), and Hotchkiss (1995)).¹⁰ The lower top management turnover in recent years cannot simply be explained by the rise of KERPs, though, because CEO turnover and the implementation of KERPs are actually positively correlated (the correlation coefficient is 0.15) in our sample. This intriguing relation will be analyzed in more detail in a later section. Finally, the average duration of bankruptcy has been substantially shortened, from 21 months at

¹⁰ The average turnover rate of other top executives in the senior management team such as CFOs and COOs is about 35%, showing no time trend over the past decade.

the beginning of our sample period to 8 months at the end of our sample period. In contrast, the average duration in Franks and Torous' (1994) sample over the period 1983-1988 is close to 30 months; and the average is 18 months in Bharath, Panchapegesan, and Werner's (2007) sample over the period 1979-2005.

Other statistics in Panels B and C, though exhibiting no obvious time trend within our sample period, display some distinct patterns from what has been documented in prior research. First, DIP financing has become quite common during our sample period—happening to close to two thirds of our sample firms. The frequency of DIP financing ranges from 7% to 48% in Dahiya, John, Puri, and Ramirez's (2003) sample for 1988-1997, with a distinct jump around 1995. Our statistics are quite similar to those of Bharath, Panchapegesan, and Werner (2007) for the overlapped time period.

Second, close to 90% of our sample firms form the unsecured creditors committees during the restructuring process.¹¹ Such committees are usually appointed by the bankruptcy court upon request, and are usually not formed in prepackaged bankruptcies. On the equity side, the court appoints the equity committees in only 11% of the cases. Bharath, Panchapegesan, and Werner (2007), while reporting an almost identical overall frequency, document a dwindling trend in the formation of equity committees after 1990. The diminishing role of shareholders in the Chapter 11 process is apparently matched by the rising importance of creditors-in-control in the process (Skeel (2003), and Ayotte and Morrison (2009)). However, we also note that during the most recent years (2005-2007), hedge funds are present on all equity committees when there is one (see Table 3 Panel A).

Finally, APR violations are far from commonplace in our sample, occurring in less than 20% of the cases and in small magnitudes. The unconditional average size of APR violations is 0.6% of the total value paid to all claimholders, and the average size conditional on APR violations is 4.6%. These

¹¹ In most Chapter 11 cases, the United States trustee appoints five to nine of the debtor's largest unsecured creditors to the unsecured creditors committee. An appointment to the committee can enhance the controlling creditor's involvement in the debtor's restructuring. The creditor can recommend and vote on professionals to serve as the committee's counsel and financial advisors. It typically receives non-public information regarding the debtor and its restructuring process. Serving on the committee provides the creditor with an opportunity to further its investment agenda (Harner (2008)).

statistics are much smaller than those reported for the periods of 1980s and early 1990s when APR violations were the norm rather than the exception, with the average size of violations ranging between 2.3% to 7.6% of firm value.¹² On the other hand, our sample statistics are consistent with Bharath, Panchapegesan, and Werner (2007) using more recent data.

B2. Firm and case characteristics

Table 2 presents the summary statistics of firm and case characteristics. All firm-level variables are recorded at the fiscal year end prior to the date of bankruptcy filing. Unless otherwise specified, we winsorize all the potentially unbounded variables at the 1% and 99% extremes. Panel A presents the descriptive statics, and Panel B presents their pair-wise correlations.

[Insert Table 2 here.]

Panel A shows that the median size of our sample firms, measured by total assets (*Assets*) is \$706 million, putting the typical sample firms between the 6th and 7th size-decile of the Compustat universe during the same period. Both the mean and median ratios of book leverage to total assets (*Leverage*) are close to one, much higher than the mean (median) leverage ratio of 68% (59%) for the Compustat universe. The high leverage ratio is a direct sign of financial distress. The mean (median) ratio of cash and short-term investments to total assets (*Cash*) is 6.8% (3.0%), much lower than the Compustat mean (median) of 18% (7%). The mean (median) ratio of PP&E to total assets (*Tangibility*), at 35.8% (33.9%), is slightly higher than that for the Compustat firms. The mean (median) return on assets (*ROA*) is 1% (4.3%), while the same measure for the Compustat universe is -3.3% (6.6%).¹³ Finally, the mean (median) fraction of institutional equity ownership (*Institution*) is 28% (24%), lower than the Compustat mean (median) of 42% (40%).

¹² For example, Weiss (1990) shows that priority of claims is violated for 29 of the 37 firms examined from 1979 to 1986. Eberhart, Moore, and Roenfeldt (1990) show that 23 of the 30 cases examined result in violations of the APR, and the average extent of APR violations is 7.6% of the total value paid to all claimants during the same sample period. Franks and Torous (1994) find that APR violations occur in 80% of their 37 Chapter 11 cases and the average percentage of APR deviations is 2.3% during 1983-1988. Using a sample of 75 Chapter 11 cases over the period of 1982-1990, Betker (1995) reports the frequency of APR violations is 72% and the average extent of APR violations is 2.9% of the firm value.

¹³ The low average ROA of all Compustat firms is due to a small portion of firms that have huge losses, especially young firms. On the other hand, the Chapter 11 firms are mostly mature firms.

By counting the number of different classes of claims¹⁴ listed in the bankruptcy plans, we find that the mean (median) number of claim classes (*NumClasses*) is 9, with an inter-quartile range of 3. This variable is commonly used as a proxy for bargaining complexity in the restructuring process (Franks and Torous (1994), and Betker (1995)). Finally, close to a third of the cases are prepackaged Chapter 11 filings.¹⁵

B3. Hedge fund involvement

We construct a set of indicator variables to capture the different roles that hedge funds take on in Chapter 11. In general, an indicator variable takes the value of one if at least one hedge fund is involved in the particular role examined.¹⁶ On the debt side, “largest unsecured creditors” refers to cases where a hedge fund is one of the creditors holding 20 (and in some cases information is available for 50) largest unsecured claims according to the Chapter 11 petition forms. The largest unsecured creditors are ranked based on the amount of unsecured claims, and therefore the largest secured creditors are revealed only if they hold both unsecured and secured claims. As a result, hedge funds as the largest unsecured creditors are fully identified from the petition forms, while their role as the largest secured creditors are only partially identified. “Unsecured creditors committee” refers to cases where a hedge fund sits on the unsecured creditors committee approved by the bankruptcy court. “Buy debt claims” refers to cases where a hedge fund buys debt claims during bankruptcy. Through the court dockets we are able to identify the buyers of debt claims during bankruptcy.

In recent years, DIP financing is considered as creditors’ new power tool of corporate governance in Chapter 11 (Skeel (2003)). DIP lenders are often granted by the court the so-called “priming lien,” a

¹⁴ The different classes of claims include, for example, tax claims, secured claims, priority non-tax claims, bank loan claims, secured debt claims, unsecured debt claims, worker compensation claims, general unsecured claims, litigation claims, intercompany interests, convenience claims (smaller amount unsecured claims), subordinated claims, equity claims, and warrants and unexercised options, etc.

¹⁵ This variable is taken directly from Bankruptcy Research Database and cross-checked with BankruptcyData.com. According to the definition by LoPucki, a case is prepackaged if the debtor drafted the plan, submitted to a vote of the impaired classes, and claimed to have obtained the acceptance necessary for consensual confirmation before filing the case. It is necessary that no class rejects the plan or the class that rejects is minimal. On the other hand, if the debtor negotiates the plan with less than all groups or obtains the acceptance of less than all groups necessary to confirm before the bankruptcy case is filed, then the case is regarded as pre-negotiated.

¹⁶ We conduct sensitivity analysis using continuous versions of these variables, such as the number of hedge funds involved in the specific role, or the total value of claims they hold.

super seniority status that is even above the status of existing senior secured claims. Through these loan contracts, DIP lenders are able to take control of the bankrupt firm by bargaining for seats on the board of directors and receiving stocks of newly reorganized company. Very often, a Chapter 11 firm receives exit financing to replace its DIP financing, thus a majority of DIP financing is expected to be repaid by cash or newly issued securities before its emergence from Chapter 11. “DIP financing” refers to cases where a hedge fund provides such financing during the restructuring process.

On the equity side, “largest shareholders” refers to cases where a hedge fund is listed among the largest equity holders on the company’s proxy statements or its holding is greater than 2% as disclosed in the 13F filings. “13D filing” refers to cases where a hedge fund files a Schedule 13D for equity ownership exceeding 5%. Finally, “equity committee” refers to cases where a hedge fund serves on the equity committee.

The above variables are grouped and summarized to provide evidence on hedge funds’ participation on the debt, equity, and both sides in the Chapter 11 process. A hedge fund is considered to be involved on the debt side if it satisfies at least one of the following: (i) it is one of the 20 (or 50 when information is available) largest unsecured creditors; (ii) it is on the unsecured creditors committee; (iii) it is the recipient of debt claims during the bankruptcy process; or (iv) it is the provider of DIP financing. Similarly, a hedge fund is considered to be involved on the equity side if one of the following applies: (i) it is listed as one of the largest shareholders; (ii) it files the Schedule 13Ds or discloses on the Form 13Fs an equity holding greater than 2%; or (iii) it is on the equity committee.

An increasingly important strategy that hedge funds take in the Chapter 11 process is “loan-to-own” (LTO) where a hedge fund enters the restructuring process as a major creditor and emerges from the process becoming a significant shareholder. Our first indicator variable for “loan-to-own” takes the value of one if any of the following situations applies: (i) a hedge fund is on the list of the largest unsecured creditors holding secured debt and the reorganization plan indicates that the secured debt class receives

equity;¹⁷ (ii) a hedge fund is on the list of the largest unsecured creditors and/or on the unsecured creditors committee, and the reorganization plan indicates that the unsecured debt holders receive equity; or (iii) a hedge fund is identified as a creditor in all possible forms except as a provider of DIP financing, and the same hedge fund holds significant equity within one year after the confirmation of Chapter 11 plans as evidenced by either a Schedule 13D or a Form 13F filing.

In recent years, hedge funds have become more involved in providing DIP financing to distressed firms. Often, these DIP loans have trigger clauses that replace the DIP debt with preferred or common equity to avoid default, and replace exit financing with debt-for-equity swaps.¹⁸ For this reason, we also construct a second indicator variable, “loan-to-own_DIP,” which takes the value of one if any of the above (conditions (i) to (iii)), or (iv) a hedge fund is the provider of DIP financing, holds.

[Insert Table 3 here.]

Table 3 presents an overview of hedge fund involvement during the Chapter 11 process. Panel A presents different channels and timing of hedge fund presence. The statistics are grouped by year, by the type of stakes that hedge funds acquire, and by the timing of their involvement (including both before and during bankruptcy).

The first general pattern that emerges from Table 3 is that hedge funds’ participation in the world of bankruptcies is commonplace: 94% of the cases have publicly observable hedge fund involvement in some forms; and in 2005 and 2006, hedge funds were involved in all bankruptcy cases in our sample. In 79% (53%) of the cases, hedge funds are present on the debt (equity) side. Some more specific patterns are summarized as follows.

First, despite the absence of an obvious time trend, hedge funds’ participation on the debt side exhibits significant cyclicity. The percentage of cases with hedge funds listed among the largest

¹⁷ In practice it is not easy to identify whether a particular creditor receives equity distribution by going through the reorganization plans. Instead, we infer this information from statements that indicate a certain class of debt holders receives equity distribution.

¹⁸ A recent example is General Growth Properties Inc. in 2009. Farallon Capital Management LLC offered DIP financing that can be converted into 8-10% of the common stock on the effective date of the reorganization plan. For recent examples and related discussions, see “KKR Turns Vulture Investor as Distressed Debt Beckons,” by Bravo and Hester in Bloomberg News, September 3, 2009.

unsecured creditors and the percentage of cases with hedge funds on the unsecured creditors committee are relatively low in the recession years of 1997, 2001 and 2007 compared to the sample average, suggesting the tightening of credit conditions during or ahead of recessions.

Second, there is a distinct rising trend of hedge funds as providers of DIP financing over our sample period, coinciding with the overall rising trend of DIP financing since 1990 (Dahiya, John, Puri, and Ramirez (2003) and Bharath, Panchapegesan, and Werner (2007)). While the majority providers of DIP financing in the 1990s and early 2000s were banks and financial institutions that had prior lending relationships with the borrower, we show that hedge funds have become a new force in providing DIP financing since 2003.

Third, hedge funds' overall involvement on the equity side is smaller as compared to their presence on the debt side. In about half of the cases hedge funds are among the largest shareholders at the bankruptcy filing. In about 6% of the cases hedge funds sit on the equity committee, and the percentage increases to double digits numbers in recent years. The increase could be attributed to the fact that more equity committees are formed in recent years (see Table 1 Panel B).¹⁹

Conditional on having an equity committee, hedge funds have representation in more than half of the cases, and in all cases during the period 2004-2006 (untabulated). Therefore, it seems that hedge funds have strong incentives to represent shareholders by forming and joining the equity committee.

Finally, based on our definitions of the loan-to-own strategies, hedge funds are creditors-turned-shareholders in a quarter of the cases if DIP financing is not considered and in 31% of the cases if it is. These numbers are remarkably close to the survey evidence in Harner (2008).²⁰ Hedge funds' loan-to-own strategies are clearly cyclical. In the recession years of 1997, 2001, and 2007, the percentage of cases

¹⁹ Unlike the unsecured creditors committee, the equity committee is not common (see Bharath, Panchapegesan, and Werner (2007) and our statistics in Table 1 Panel B). Parties (usually the seven largest equity holders as dictated by the U.S. Bankruptcy Codes Section §1102) that have intention to form the equity committee need to submit motions to the court. Once approved by the court, these parties will most likely become members.

²⁰ One of Harner's (2008) survey questions is "how often does your firm invest in a company's distressed debt to try to acquire the company or a controlling ownership position in the company, and how often is your firm successful in acquiring at least controlling ownership position?" 32% of the respondents indicate they engage and succeed in this practice.

where hedge funds engaged in the loan-to-own strategy ranges from 0 to 18%, considerably lower than the sample average frequency of 25%.

While Panel A of Table 3 summarizes the patterns of hedge funds' participation at the event level, Panels B lists the five most active hedge funds by the particular roles they assume in Chapter 11. It is not surprising that Oaktree Capital Management, one of the world's largest distressed debt investors with \$25 billion assets under management (Goldschmid (2005)), is ranked at the top in the largest unsecured creditors and unsecured creditors committee categories. It also appears on the lists of largest shareholders and providers of DIP financing. Cerberus Capital Management is the most active provider of DIP financing and also holds large unsecured claims and sits on the unsecured creditors committee.²¹

Out of a total of 619 hedge funds in our sample, the top five (ten) players collectively are present in 43% (54%) of the cases (untabulated). Moreover, the list of the top hedge funds across all categories overlaps greatly with the list of the top hedge fund buyers of debt claims during bankruptcy, implying that these major players regularly trade debt claims during the restructuring process, either as a part of their loan-to-own strategy, or for the purpose of generating a higher return from pushing for higher debt recovery rates.

In summary, hedge funds are present in a great majority of the bankruptcy cases during our sample period. Moreover, the most active hedge funds are more likely to approach distressed firms from the debt side, rather than from the equity side, though a high percentage of them become equity holders *ex post*. And within the debt category, the most popular entry point for hedge funds is the unsecured debt. Out of the 92 cases where hedge funds are among the largest unsecured creditors, hedge funds hold exclusively unsecured debt in 86 cases. This preference is consistent with the argument put forth by recent legal studies (see for example, Lichtenstein and Cheney (2008)) that hedge funds have a strong preference for the so-called "fulcrum" securities in the capital structure.

²¹ Cerberus Capital Management, among the five largest hedge funds in the world (with more than \$10 billion assets under management) as of 2007, set up a special unit, Ableco Finance, in 1992 to specialize in DIP financing to distressed borrowers.

A “fulcrum” security is the point in the capital structure where the enterprise value just fails to fully cover the claims. Upon confirmation of the reorganization plan, these securities are most likely to receive equity in the reorganized firm. Such securities are appealing to hedge funds because of the potential upside gain due to their option-like features and, more importantly, the sensitivity of the value of the securities to their actions. Given that most of the Chapter 11 cases in our sample have their leverage ratio close to one, and their ratio of secured debt to assets around 25%, the “fulcrum” securities are most likely to be the unsecured debt claims, and in some cases equity. This explains why hedge funds exclusively hold a large amount of unsecured debt claims in more than 90% of the 92 cases in our sample where information on the largest unsecured creditors is available.

II. Determinants of Hedge Fund Presence in Chapter 11

Hedge funds make calculated choices in timing their involvement (before versus after the Chapter 11 filing) in the distressed firm, and in picking their entry point (e.g., acquiring debt versus equity) to the capital structure. To analyze such choices, we start with predictive regressions that relate hedge fund distress investing strategies to firm and case characteristics.

The dependent variables we consider span the set of observable hedge fund strategies defined in the previous section. They include: (1) hedge funds’ overall participation on the debt side (*HFDebt*); (2) hedge funds among the largest unsecured creditors (*HFLargestCreditor*); (3) hedge funds on the unsecured creditors committee (*HFCreditorsCommittee*); (4) hedge funds as providers of DIP financing (*HF DIP*); (5) hedge funds’ overall participation on the equity side (*HFEquity*); (6) the joint equity ownership of all participating hedge funds exceeding 5% (*HFJoint5%*); (7) hedge funds on the equity committee (*HFEquityCommittee*); and (8) hedge funds taking the loan-to-own strategy (*HFLTO* and *HFLTO_DIP*), depending on whether DIP financing is included). Variables (2) to (4) represent special cases of variable (1), and variables (6) and (7) represent special cases of variable (5). The set of explanatory variables is chosen following prior literature on bankruptcy. These variables are defined and summarized in Section I and Table 2. Table 4 presents the results.

[Insert Table 4 here.]

Table 4 shows that hedge fund presence on the debt side, especially through their representation on the unsecured creditors committee, is positively associated with firm size (significant at the 1% level). Hedge funds are significantly (at the 1% level) less likely to participate on the debt side of prepackaged Chapter 11 firms. There are two possible explanations for the observed pattern. First, hedge funds tend to be “tough” creditors to negotiate, making prepacked deals less likely to happen when there are hedge fund creditors. This is illustrated by the case of the Chrysler bankruptcy in 2009.²² Second, as we shown in Table 3 Panel A, a high percentage of hedge fund presence on the debt side takes the form of claims trading during bankruptcy. For prepackaged cases, terms and distributions are laid out upfront, leaving little uncertainty about the final distribution of claims to each class. As a result, incentives are weaker for hedge funds to trade claims (and hence becoming creditors) during the restructuring process.

Not surprisingly, hedge funds invest on the debt side when the distressed firm has more cash and liquid assets on its balance sheet. Interestingly, hedge funds prefer to invest in distressed debt when the ratio of secured debt to assets is lower, and the negative coefficient on secured debt is significant at the 5% level when *HFCreditorsCommittee* is the dependent variable. When the senior debt is over-collateralized (i.e., a low ratio of secured debt to total assets), there is room for a more active role for the unsecured creditors. Needless to say, the secured debt ratio and the leverage ratio are positively correlated (the coefficients of correlation is 0.23). However, the effect on hedge fund presence seems to come more from the secured debt rather than from the total debt because the coefficient on *SecuredDebt* remains significant regardless of whether leverage is controlled for, while the latter becomes insignificant in the presence of *SecuredDebt*.

On the equity side, hedge funds’ overall participation and holding large equity stakes are positively associated with cash holdings and return on assets, where the effects are significant at the 5% and 10% levels, respectively. Large values of both variables suggest relatively strong fundamentals and

²² In April 2009, President Obama criticized that a group of “investment firms and hedge funds failed to accept reasonable offers to settle on their debt,” and pushed Chrysler into bankruptcy.

lower risk for the equity holders. However, the same relations lose significance when *HFEquityCommittee* is the dependent variable.

More interestingly, in contrast to the result on hedge fund presence on the unsecured creditors committee, hedge funds as shareholders prefer to invest in firms with higher levels of secured debt. One possible explanation for this contrast in findings is that in firms with high secured debt to assets ratios, the senior debt is likely to be under-collateralized, and hence their creditor-driven fire-sale bias is weakened (Ayotte and Morrison (2009)), leaving more upside potential for the shareholders including hedge funds. This phenomenon is also related to hedge funds' preference for "fulcrum" securities discussed in Section I.B3: The probability of equity being "fulcrum" usually increases when the secured debt is under-collateralized.

Not surprisingly, hedge fund presence on the equity side is positively associated with institutional equity ownership before bankruptcy (significant at the 1% level).²³ Not only that such stocks may possess characteristics that are appealing to institutional investors (which include hedge funds in the first place), but also that hedge funds prefer to work with other institutional rather than individual investors when they intend to influence corporate policy and control, a phenomenon documented by Brav, Jiang, Partnoy, and Thomas (2008) and Bradley, Brav, Goldstein, and Jiang (2009) among hedge funds that pursue activist agendas in under-performing companies and in discounted closed-end funds, respectively. Finally, hedge funds' large equity ownership is negatively associated with the number of claim classes (significant at the 5% level), as more complex claim structure leads to less bargaining power of large shareholders.

Certain firm attributes predict hedge funds' adopting loan-to-own strategies.²⁴ We find that firm size, leverage, assets tangibility, the number of claim classes, and prepackaged Chapter 11 cases are positively associated with, while secured debt ratios are negatively associated with hedge funds' loan-to-own strategy. The combination of high leverage and low secured debt indicates a high probability that the

²³ The significant relation holds if we exclude the participating hedge funds from the institutional ownership calculation.

²⁴ It is worth noting that our coding of loan-to-own relies on *ex post* observable equity ownership by the hedge fund, and therefore does not include cases where the hedge fund invests in distressed debt with an intention to own but that intention is not materialized.

unsecured debt will be converted into the equity upon reorganization, a natural route for loan-to-own. Asset tangibility facilitates asset valuation because of lower information asymmetry in tangible assets. The large number of claim classes is usually associated with greater difficulty in reaching agreement among different groups of investors. However, the involvement of hedge funds in different parts of the capital structure through the loan-to-own strategy would help internalize such costs.

Finally, we show that hedge funds are more likely to adopt loan-to-own strategies in prepackaged bankruptcies which usually are utilized by better performing firms that are easier to reorganize. Tashjian, Lease, and McConnell (1996) find that the unsecured creditors prefer prepackaged bankruptcies to traditional Chapter 11 reorganizations because the priority for secured creditors is less likely to be upheld under prepackaged bankruptcies. Their results are consistent with our evidence that most of the hedge funds start their loan-to-own strategy by first investing in the unsecured debt which tends to enjoy higher recovery rates under prepackaged bankruptcies.

In summary, the general pattern of firm and case characteristics associated with hedge fund presence in bankruptcy reflects their strategic choice of seeking an entry point to the capital structure of the distressed firm that allows them to have a big impact in reorganization. For example, firms with high levels of secured debt are more likely to be under-collateralized for the secured debt, providing less room for the unsecured creditors and hence less appeal for hedge funds to influence the process through the unsecured creditors committee. In the meantime, given the senior creditors' weaker incentive to push for liquidation, the potential for reorganization and emergence gives the shareholders more upside potential, which attracts more hedge funds to the equity side.

III. Hedge Fund Presence and Bankruptcy Outcomes

A. Relating Bankruptcy Outcomes to Hedge Fund Presence

This section examines the relation between hedge fund involvement and bankruptcy outcomes as measured by the following four sets of variables. (i) *Emergence* is an indicator variable for the emergence of the firm from bankruptcy (as opposed to being liquidated or acquired). (ii) *Duration* is the

number of months (measured in log) spent in bankruptcy (till emergence, liquidation, or acquisition). (iii) Two variables capture APR violations: *APR* is an indicator variable that takes the value of one if there is any APR violation; while *APR%* measures the extent of violation. Finally, (iv) two variables capture the incentives and stability of senior management during the Chapter 11 process: *KERP* is an indicator variable that takes the value of one if a key employee retention plan is approved by the court; and *CEOTurnover* is an indicator variable tracking CEO turnover during the reorganization process.

Table 5 presents the relation between the outcome of emergence and various forms of hedge fund presence. Hedge funds' loan-to-own strategy is not considered here because *ex post* identified loan-to-own strategies are largely associated with successful emergence from the Chapter 11 process.

[Insert Table 5 here.]

Hedge fund presence in all forms is positively associated with firm emergence from bankruptcy. Moreover, when hedge funds play more important roles on the debt side such as being the largest unsecured creditors and serving on the unsecured creditors committee, the likelihood of firm emergence is significantly higher (at the 5% level). Out of the 367 cases with information on the identities of largest unsecured creditors, 92 cases have hedge funds on the list. A more detailed investigation reveals that hedge funds hold only unsecured debt claims in 86 out of these 92 cases, indicating hedge fund involvement as creditors is concentrated in junior debt.

Though hedge funds are more likely to be the unsecured creditors, we have some limited evidence that their style could also be distinct from the traditional lenders, such as banks and insurance companies, if and when they invest in senior debt. For the six cases in which we have information on hedge fund holding secured debt claims (mainly bank loans), all of them emerge from bankruptcy though these firms had secured debt that are on average less than half of the total assets. This result offers an interesting comparison to traditional lenders who have strong incentive to liquidate a bankrupt firm when its debt is over-collateralized (Ayotte and Morrison (2009)).

In contrast, there is no significant relation between hedge fund presence on the equity side and firm emergence. To refine our analysis, we collect information on the stated purpose in Item 4 of

Schedule 13D filings by hedge funds in the bankrupt firms. It turns out that in about two-thirds of the filings, hedge funds state that influencing the restructuring process is their goal, suggesting a strong activist bias in hedge funds' investment in distressed firms.²⁵ When we include an indicator variable for the stated goal in the probit regression to explain emergence (not tabulated), the new variable is positively associated with the likelihood of emergence (significant at the 10% level). Moreover, the marginal effect associated with this new indicator variable is close to 20 percentage points, economically significant as compared to the sample average emergence frequency of 60%.

The next outcome variable that we examine is the duration of the Chapter 11 process. Table 6 shows that hedge fund presence on the debt side lengthens the process of bankruptcy, and the effect is significant except with the dependent variable being *HFLargestCreditors*. This positive relation may be confounded by the higher likelihood of emergence associated with hedge fund involvement (as shown in Table 5), which takes longer time than the alternatives of liquidation or acquisition. When we run the duration regressions conditional on emergence, the coefficients in front of *HFCreditorsCommittee* and *HFDIP* are no longer significant. Further, we find that the largest effect of *HFDebt* on bankruptcy duration comes from claims trading, which introduces new and more parties to the Chapter 11 bargaining table and thus lengthens the restructuring process (untabulated).

[Insert Table 6 here.]

APR violations are at the center of bankruptcy outcomes. Table 7 shows that hedge funds have no impact on this outcome as creditors, but their presence on the equity committee and their adoption of loan-to-own strategies are positively and significantly (at the 5% and 10% levels, respectively) associated with the occurrence and extent of APR violations. Though APR violations have been in secular decline in the past decade, we show that hedge fund presence on the equity side and/or their goal of becoming new equity holders of the emerged firms have been counteracting this trend. Further, while Bharath, Panchapegesan, and Werner (2007) document that the formation of an equity committee is positively

²⁵ Large (above 5%) shareholders who plan to be passive can file the Schedule 13G instead of the Schedule 13D. The former filing requires less information and allows longer delays in disclosing ownership.

associated with APR violations, we clarify that such an effect is driven by hedge fund presence on the committee. That is, the coefficient in front of an indicator variable for the equity committee would be rendered insignificant if hedge fund presence is controlled for. On the other hand, the coefficient in front of *HFEquityCommittee* would retain its significance if the existence of an equity committee is controlled for.

[Insert Table 7 here.]

Finally, Tables 8 and 9 examine the relation between hedge fund presence and managerial incentives in Chapter 11. We first note that a bankrupt firm is more likely to adopt KERPs if hedge funds sit on the unsecured creditors committee (significant at the 5% level). This is related to findings in Gilson and Vetsuypens (1993) and Blumestein (2002) that KERPs tie managers' pay to creditors' recoveries and the duration of bankruptcy. Hence, it is not surprising that hedge funds on the unsecured creditors committee are more likely to push for KERPs. On the equity side, the significantly positive (at the 5% level) relation between hedge funds' loan-to-own strategy and the adoption of KERPs indicates that hedge funds prefer continuity in key personnel when they have a long investment horizon (as new shareholders) in the emerged firm.

[Insert Table 8 here.]

On CEO turnover, Table 9 shows that hedge funds as the largest unsecured creditors (significant at the 10% level) and hedge funds on the equity committee (significant at the 5% level) are both positively associated with CEO turnover. Although hedge funds' large equity holdings per se do not lead to higher CEO turnover, an explicitly stated purpose to "seek board representation" by hedge funds in the Schedule 13D filings is significantly associated with top management replacement (not tabulated), consistent with the findings of Brav, Jiang, Partnoy, and Thomas (2008) who show that the CEO turnover rate among firms targeted by activist hedge funds doubles the normal level.

[Insert Table 9 here.]

To summarize Tables 5 to 9, we find that hedge funds tend to favor emergence over liquidation or acquisition, and their presence lengthens the bankruptcy process. Further, several key results from the

above tables add to our understanding of or even challenge the conventional wisdom about hedge funds in bankruptcy. First, hedge funds are not necessarily anti-management. In fact, hedge funds could be better described as transforming the traditional “management-driven” restructuring process to a more “management neutral” one, a trend analyzed by Skeel (2003) and Adler, Capkun, and Weiss (2006). Though hedge fund presence is associated with high CEO turnover, they are equally eager to retain key employees through KERPs. The correlation between the adoption of a KERP and CEO turnover among bankrupt firms in our sample is positive (0.15). While it seems counter-intuitive, the positive correlation indicates a common practice of replacing the former leader of the company while striving to retain key employees at the same time. The WorldCom case provides such an example. While the company’s CEO (Bernard Ebbers) and CFO (Scott Sullivan) were both forced out, a KERP was approved in order to retain 329 key employees.²⁶ Hedge funds (including Blue River Capital and Cerberus Capital), among the largest unsecured creditors and members of the unsecured creditors committee, played an active role in selecting the new CEO of Worldcom, and worked with the management on developing long-term strategic plans.

Second, hedge funds seem to be effective in achieving intended outcomes for the side they take on. In Section II, we discuss hedge funds’ general preference for “fulcrum” securities. To the extent that hedge fund presence increases the likelihood of reorganization, so does the likelihood of converting these securities (unsecured debt and sometimes equity) into new equity upon case resolution, which provides more upside potential. Moreover, when hedge funds are shareholders of the bankrupt firms, APR violations occur more often and in bigger magnitude, indicating more distributions in favor of the shareholders.

²⁶For a more detailed story, see “WorldCom Judge Approves Plan to Keep Employees,” by Blumenstein, in the *Wall Street Journal*, October 30, 2002. Movies Gallery Inc is another example. Its 2008 10K stated that the company “expect[s] to make cash payments during the course of fiscal 2008 of approximately \$13 million for employee retention and severance programs related to changes in our management team and consolidation of certain corporate functions.” On the other hand, the former chairman/CEO/founder, Joe Malugen was replaced by C.J. Gabriel Jr. on May 20, 2008.

Finally, hedge funds in distress companies do not necessarily have a short investment horizon as their reputation normally suggests. They benefit more from companies' emergence which takes a longer time to materialize than straight liquidation or acquisition; and the increasingly popular loan-to-own strategy necessitates their transition to holding long term stakes in the underlying firm. This phenomenon extends Brav, Jiang, Partnoy, and Thomas' (2008) finding that hedge funds pursuing activist agenda in under-performing firms have considerably longer investment horizon than their counterparts that simply trade on securities without any intention to intervene.

In addition to the effects of hedge fund involvement on bankruptcy outcomes, Tables 5 to 9 also relate firm and case characteristics to outcomes. Most of these results are consistent with the prior literature. The main results regarding the control variables can be summarized as follows. First, prepackaged Chapter 11 bankruptcies are associated with a higher likelihood of emergence and shorter duration in bankruptcy. Relatedly, prepackaged Chapter 11 cases are associated with more frequent and larger APR violations, fewer adoptions of KERPs, and lower CEO turnover. Second, high leverage is associated with a higher likelihood of emergence. High leverage and high return on assets are associated with more adoptions of KERPs. These relations indicate that firms with strong fundamentals but suffer from financial distress are more likely to retain its key employees and to emerge from Chapter 11.

Finally, cases with a large number of classes of claims favor reorganization. High institutional equity ownership is associated with more APR violations and more adoptions of KERPs. The first result might seem counter-intuitive in that more claim classes tend to make negotiations more difficult, but it is consistent with the general goal of bankruptcy courts that is to facilitate an outcome that makes the greatest economic gains rather than to simply protect the most senior parties (Harner (2008)). In cases with a large number of claim classes, liquidation will result in zero distribution to many classes in order to secure payments to the most senior classes. As a result, a bankruptcy court is more likely to lean toward reorganization when there are a large number of claim classes. The second result is consistent with institutional shareholders' interest in continuity and demand for a higher distribution.

B. Selection Models

It is natural to ask whether the various relations between hedge fund presence in the Chapter 11 process and bankruptcy outcomes reported in Tables 5 to 9 represent more a treatment effect or a selection effect. Considering the following model:

$$\begin{aligned} HFPart_i^* &= X_i\beta + \varepsilon_i, \\ HFPart_i &= 1 \text{ if } HFPart_i^* > 0; \text{ and } HFPart_i = 0 \text{ if otherwise,} \\ Outcome_i &= Z_i\gamma + \mu HFPart_i + \eta_i. \end{aligned} \tag{1}$$

In the above system, $HFPart$ is an indicator variable that takes a value of one for hedge funds' participation in various ways as analyzed in Table 4; and $Outcome$ is one of the outcome variables that are analyzed in Tables 5 to 9.

There are two types of potential selection effects. The first type of selection effects prescribes a passive role for hedge funds, that is, hedge funds are informed investors and therefore are able to choose bankruptcy cases that are pre-disposed for certain outcomes (such as emergence). As a result, the significant relation between hedge fund presence and the outcome can arise even without an active role of hedge funds. In other words, the same outcome would prevail in the absence of hedge funds. Econometrically this amounts to a non-zero correlation between the error disturbances of the two equations in (1), that is, $corr(\varepsilon_i, \eta_i) \neq 0$. Consequently, the estimated $\hat{\mu}$ could be significantly positive (negative) if $corr(\varepsilon_i, \eta_i)$ is positive (negative) even when the truth is $\mu = 0$.

Second, it is possible that hedge funds do play an active role in the sense that the bankruptcy outcomes would be different in their absence. But the effects of hedge funds in bankruptcy (i.e., the coefficient μ in (1)) are not the same if hedge funds were to participate in all cases. Naturally, they choose to participate in particular forms and at particular stages where they could have a bigger impact (in absolute terms) on the outcomes. If we treat μ as a random coefficient, then econometrically, this second type of selection effects amounts to $corr(\varepsilon_i, \eta_i) = 0$ but $corr(\varepsilon_i, |\mu|) > 0$.

We believe that the second type of selection effects is at work, and do not view it as contradictory to the active role of hedge funds. Our analysis in Section II shows that hedge funds' choices of participation are indeed consistent with their strategic considerations to have a big impact in reorganization. In comparison, it is far more important to rule out the first type of selection effects (or to assess its magnitude) in order to establish an active role of hedge funds. For the purpose of this identification, we would need instrumental variables that effectively predict hedge funds' participation but do not affect outcome variables other than through hedge funds. We do not find satisfactory candidates for such instruments. As a step back, we test the sign and significance of $corr(\varepsilon_i, \eta_i)$ by examining the following system:

$$\begin{aligned} Outcome_i &= Z_i \gamma_1 + \delta_1 \frac{\phi(X_i \beta)}{\Phi(X_i \beta)} + \eta_{i,1}', \text{ if } HFPart = 1; \\ Outcome_i &= Z_i \gamma_0 + \delta_0 \frac{\phi(X_i \beta)}{1 - \Phi(X_i \beta)} + \eta_{i,0}', \text{ if } HFPart = 0. \end{aligned} \quad (2)$$

The derivation of (2) from (1) follows from the standard Heckman's (1979) two-step procedure.

Because the inverse Mill's ratios $\left(\frac{\phi(X_i \gamma)}{\Phi(X_i \gamma)} \text{ and } \frac{\phi(X_i \gamma)}{1 - \Phi(X_i \gamma)} \right)$ are non-linear, the above system can be estimated without instrumental variables that satisfy the exclusion criterion. The coefficient in front of the inverse Mill's ratio, δ_1 (δ_0), is effectively the (negative of) linear projection coefficient of η on ε .

If hedge funds tend to participate in a particular way (such as joining the unsecured creditors committee) in bankrupt firms that would have a higher propensity for certain outcomes to prevail (such as emergence) even in their absence, then $\delta_1 > 0$ (or $\delta_0 < 0$) because $corr(\varepsilon_i, \eta_i) > 0$. In summary, a significant $\hat{\delta}_1$ (or $\hat{\delta}_0$) estimate is indicative of a selection effect. A positive $\hat{\delta}_1$ (or negative $\hat{\delta}_0$) is indicative that the coefficient μ is over-estimated in Tables 5 to 9; and vice versa.

Table 10 examines all the pairs of significant relations between measures of hedge fund presence and bankruptcy outcomes (from Tables 5 to 9) using this method. The two equations in (2) should convey the same information asymptotically, but could have different numerical results in limited samples like

ours. Hence we report estimation results from both equations. To be on the conservative side, we alert a possible selection effect if any least one of the two equations produces a significant coefficient on the inverse Mill's ratio (at the 10% level or higher). We use the linear probability model rather than probit if the dependent variable in (2) is an indicator variable. This is because the inverse Mill's ratio does not enter linearly if the second-stage regression is non-linear.²⁷

[Insert Table 10 here.]

Results from the positive response subsample (Panel A) show that the only significant coefficient in front of the inverse Mill's ratio appears in the relation between the incidence of APR violations (*APR*) and hedge funds' loan-to-own strategy (*HFLTO*). The coefficient is significantly (at the 10% level) negative, suggesting that hedge funds are more likely to adopt the strategy if the case is less likely to have APR violations. As a result, the coefficient on *HFLTO* was under-estimated in Table 7. In other words, the treatment effect of *HFLTO* is strengthened when we try to correct for the second type of selection effects.

Results from the negative response subsample (Panel B) point to two cases of possible selection effects. In the first case between hedge fund presence on the unsecured creditors committee (*HFCreditorsCommittee*) and firm emergence from bankruptcy (*Emergence*), the coefficient in front of the inverse Mill's ratio is significantly (at the 10% level) positive. That is, hedge funds are more likely to join the unsecured creditors committee if the firm is *a priori* more likely to be liquidated or acquired. Again, the coefficient on *HFCreditorsCommittee* in Table 5 was likely to be under-estimated due to the selection bias.

In both cases discussed above, hedge funds are motivated to take a more proactive role to influence the bankruptcy process in a direction opposite to its nature course (i.e., in the absence of their active role). As a result, the treatment effect is likely to be stronger than what they appear in Tables 5 to 9 once the selection effect is controlled for. In the first case, hedge funds' dual role as both creditors and shareholders help internalize the conflicts between the two sides, making distributions to shareholders

²⁷ See Wooldridge (2002) Chapter 15.7.3. for a discussion of the issue.

more likely. In the second case, when they are junior creditors in firms that stand less chances of emergence, hedge funds are motivated to exert more influence by joining the unsecured creditors committee and to push for an outcome that favors junior creditors who would receive little under the alternative, liquidation (or acquisition).

On the other hand, in the second case between hedge fund presence on the equity committee (*HFEquityCommittee*) and the occurrence of APR violations, the coefficient in front of the inverse Mill's ratio is significantly (at the 5% level) negative. That is, hedge funds are more likely to join the equity committee if the case is *a priori* more likely to achieve resolutions that favor shareholders (i.e., APR violations). As such, the coefficient on *HFEquityCommittee* in Table 7 was more likely to be over-estimated. Given that shareholders overall have less influence over the bankruptcy process as compared to creditors, hedge funds are more opportunistic in their equity investment, that is, they pick firms where equity holders stand a higher chance of receiving distributions.

Given that all but one pair of relation exhibits the second type of selection effects that work in favor of our findings in Table 5 to 9, the treatment effect interpretation in those tables is largely valid in the sense that the effects, if significant, are unlikely to be over-estimated due to hedge funds' strategic participation in Chapter 11 firms based on unobserved heterogeneities.

C. Event Studies

After relating *ex post* outcomes of bankruptcy to hedge fund presence, in this section we implement an event study that aims at extracting the market's expectations of bankruptcy outcomes, and value implications for investors. In this *ex ante* analysis, we relate changes in stock prices around the bankruptcy filing to hedge fund involvement on the debt side that is observable at the time. To the extent that equity prices are forward looking, they should incorporate information that is predictive of the effect of hedge funds on future outcomes.

We obtain daily stock prices, returns, and trading volume information from CRSP for the event windows around the bankruptcy filing date. When such information is missing from CRSP we manually

collect data from Datastream and Bloomberg. We drop trading days with zero or unavailable trading volume. There are 274 out of 474 cases in our sample where the full set of required information is available. We then separate this event sample into two groups depending on whether there is publicly known hedge fund involvement on the debt side at the time of the Chapter 11 petition: 74 out of the 274 cases have hedge funds listed among the largest unsecured creditors on the petition forms on the day of bankruptcy filing.

Figure 1 plots the cumulative abnormal returns (CAR) of both groups in the [-10, +10] window where day 0 is the date of the Chapter 11 filing. Following Dawkins, Bhattacharya, and Bamber (2007), we use the CRSP equal-weighted return as the market return as most of these bankrupt firms experience a large reduction in market capitalization before filing for Chapter 11. Results are qualitatively similar when the CRSP value-weighted return is used. We show that the stock market in general reacts negatively to bankruptcy filings. Both groups experience price declines leading to the filing of Chapter 11. But cases with hedge funds on the debt side fare much better. Immediately after the petition, the group where hedge funds are the largest unsecured creditors experience price increases while the group without hedge fund presence continues with price declines.

[Insert Figure 1 here.]

Table 11 presents the multivariate regression results from our event study. The dependent variables are CARs over five different event windows: [-10, +10], [-5, +5], [-5, +5], [-1, +5], and [-1, +10]. The variable of interest is hedge fund presence as the largest unsecured creditors (*HFLargestCreditor*), known at the time of bankruptcy filing. We find that the coefficient in front of the indicator variable *HFLargestCreditors* is positive in all, and significant in three out of the five CAR regressions, suggesting that hedge funds as the largest unsecured creditors is expected by the market to be favorable to the shareholders of Chapter 11 firms. In contrast, almost none of the other control variables seems to explain the cross-sectional variation in CARs.

[Insert Table 11 here.]

Results in Table 11 are closely related to our analysis on emergence reported in Table 5 which shows that a Chapter 11 firm is more likely to emerge when hedge funds hold large debt claims or sit on the unsecured creditors committee. In general, emergence from Chapter 11 is good news to equity holders because the absolute priority rule would be more strictly followed in liquidation while the firm as a going-concern leaves some upside potential for shareholders, and hence the favorable stock market reaction to hedge fund presence.

The fact that hedge funds' influence as creditors does not come at the expense of shareholders (or, in fact, benefits the shareholders on the order of 9-20% increases in value over the event windows that we examine) is a strong indication that they enhance the overall value of firms in Chapter 11, apparently by providing fresh capital, reducing the frequency of inefficient liquidation, and mitigating conflicts among different classes of claims. Our result is consistent with Hotchkiss and Mooradian (1997) who show a positive stock price reaction to purchases of public debt by vulture investors, and supports Golschimid (2005) who describes distressed debt investors "more like phoenix than vulture" as they add value to the restructuring process.

We are not able to conduct a similar analysis for hedge fund presence on the equity side because public releases of such information are not as timely and accurately as disclosures on the debt side. The equity committee is usually not formed until further along into the Chapter 11 process, and the disclosure of hedge funds' holdings of large equity stakes through their SEC filings (such as the Schedule 13D and the Form 13F) constitutes either unknown or stale information at the time of the bankruptcy filing. When we use the presence of large (above 5%) aggregated hedge fund equity stakes known at the time of bankruptcy filing as an indicator variable for hedge fund presence on the equity side, we find a mildly positive market reaction (insignificant). This insignificant result could be due to both the timing of information and the overall weaker shareholder influence over the bankruptcy process as compared to the (hedge fund) creditors.

IV. Conclusion

Using a comprehensive sample of Chapter 11 firms from 1996 to 2007, we document that hedge funds are almost ever present in the restructuring process and play an active role in shaping bankruptcy outcomes, most notably in terms of a higher probability of emergence. The prevalence of hedge funds contributes to the trend toward a more management-neutral restructuring process, and is viewed by the market as enhancing the overall value of bankrupt firms.

Appendix:

Identifying Hedge Funds in Chapter 11

We manually identify hedge fund management companies from a master list of large unsecured creditors, members of creditor committees, members of equity committees, DIP providers, and large shareholders. The general criterion for an institutional investor to be classified as a hedge fund management company (or loosely, a “hedge fund”) is that hedge fund management represents the institution’s major business. For our purpose, we do not distinguish between hedge funds and private equity funds. The more detailed classification criteria are as follows:

1. Banks, insurance companies, trusts, endowment funds, real estate investment companies, and regular corporations are not classified as hedge funds.
2. Full-service brokerages and investment banks, such as Goldman Sachs and Citigroup, are excluded even if some of them have large in-house hedge funds.
3. An institution is classified as a hedge fund if it satisfies at least one of the following:
 - i. It is listed by industry publications (Hedge Fund Group (HFG), Barron’s, Alpha Magazine, Business Week, and Institutional Investors) as a hedge fund.
 - ii. The company’s own website claims itself as a hedge fund management company or lists hedge fund management as a major line of business, or mentions that it manages pooled, privately organized investment vehicles that adopt performance-based compensation.
 - iii. The company is featured by news articles in Factiva as a hedge fund manager/sponsor.
4. Some names in the master list are those of individuals. In such cases we search the full name of the individual over the internet (mostly through the filer and co-filer identity information on various types of SEC filings) and classify the name as a hedge fund if that individual is the founder, partner, chairman, or other leading personnel of a hedge fund company.

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Figure 1: Event study around Chapter 11 filing

This figure shows the cumulative abnormal returns (CAR, adjusted by the CRSP equal-weighted index) from the ten days prior to the ten days after a Chapter 11 filing. The solid line represents CARs for cases with at least one hedge fund listed as the largest unsecured creditor. The dashed line represents CARs for cases without any hedge fund listed as the largest unsecured creditor.

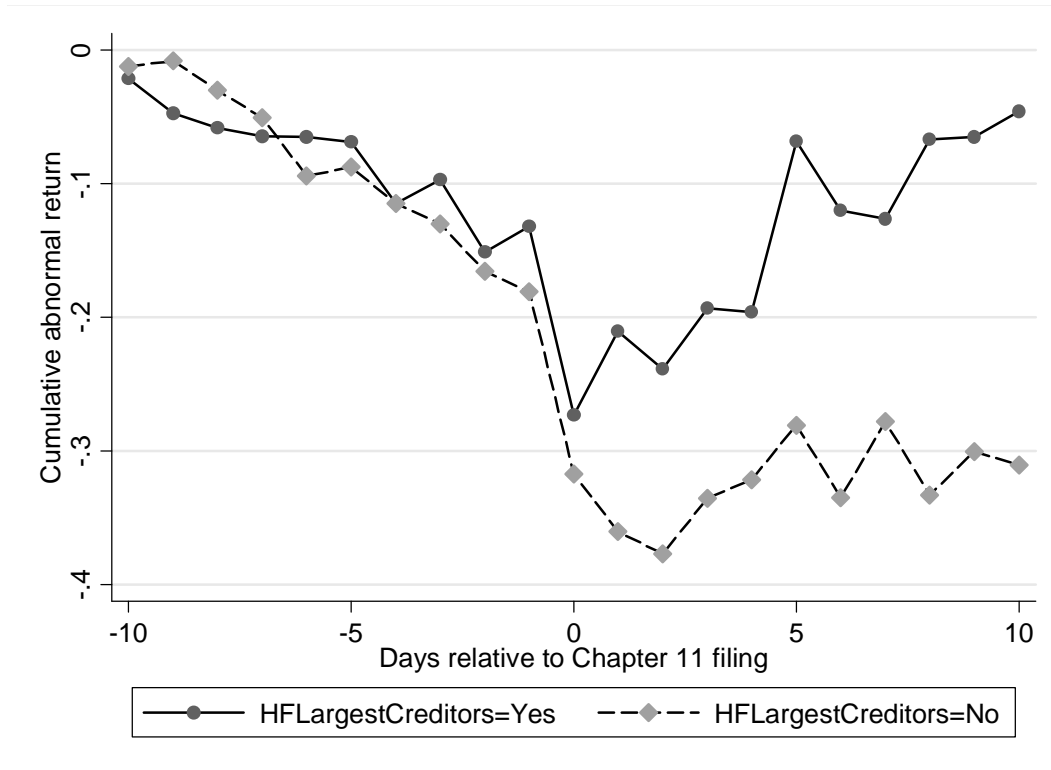


Table 1: Variable definition and sample overview

Our sample consists of the 474 largest Chapter 11 filings over 1996-2007. Panel A presents variable definitions and data sources. Panel B presents Chapter 11 case characteristics. Panel C presents Chapter 11 case outcomes.

Panel A: Variable definitions

Variable	Definition	Data Source
<u>Firm Characteristics</u>		
Assets	Book assets measured in 2008 dollars.	Bankruptcy Research Database, BankruptcyData.com, Compustat
Sales	Sales measured in 2008 dollars.	Bankruptcy Research Database, BankruptcyData.com, Compustat
Leverage	The ratio of total liabilities to book assets.	Compustat, EDGAR (10Ks), BankruptcyData.com
Cash	The ratio of cash and short-term investments to book assets.	Compustat, EDGAR (10Ks), BankruptcyData.com
Tangibility	The ratio of net PP&E to book assets.	Compustat, EDGAR (10Ks), BankruptcyData.com
ROA	The ratio of EBITDA to book assets.	Compustat, EDGAR (10Ks), BankruptcyData.com
SecuredDebt	The ratio of secured debt to book assets.	Capital IQ, BankruptcyData.com, Compustat
Institution	Percentage of institutional ownership.	Thomson Reuters Ownership Database (13Fs)
NumClasses	Number of claim classes.	Bankruptcy Plans
<u>Bankruptcy Case Characteristics</u>		
Prepack	An indicator variable takes a value of one if a bankruptcy is prepackaged or pre-negotiated.	Bankruptcy Research Database, BankruptcyData.com, Bankruptcy Plans
DIP	An indicator variable takes a value of one if the bankrupt firm receives court approval of debtor-in-possession financing.	BankruptcyData.com, Bankruptcy DataSource, Bankruptcy Plans, LexisNexis, Factiva
KERP	An indicator variable takes a value of one if a key employee retention plan is approved by the court.	BankruptcyData.com, Bankruptcy DataSource, Bankruptcy Plans, LexisNexis, Factiva
CreditorsCommittee	An indicator variable takes a value of one if an official unsecured creditors committee is appointed by the court.	BankruptcyData.com, LexisNexis, Factiva
EquityCommittee	An indicator variable takes a value of one if an official equity committee is appointed by the court.	BankruptcyData.com, LexisNexis, Factiva
CEOTurnover	An indicator variable takes a value of one if CEO of the bankrupt firm is replaced during the Chapter 11 restructuring.	BankruptcyData.com, LexisNexis, Factiva, EDGAR (Proxy Statements and 10Ks)
Emerged	An indicator variable takes a value of one if the bankrupt firm emerges from bankruptcy.	Bankruptcy Research Database, BankruptcyData.com
Liquidated	An indicator variable takes a value of one if the bankrupt firm is liquidated (liquidation in Chapter 11 or conversion to Chapter 7).	Bankruptcy Research Database, BankruptcyData.com

Variable	Definition	Data Source
Acquired	An indicator variable takes a value of one if the bankrupt firm is acquired.	Bankruptcy Research Database, BankruptcyData.com
Duration	Number of months in bankruptcy, from the date of filing to the date of plan confirmation.	Bankruptcy Research Database, BankruptcyData.com
APR	An indicator variable takes a value of one if there is APR violation.	BankruptcyData.com
APR%	Percentage of the value of cash and new securities received by common equity holders divided by the value of cash and new securities received by all debt and common equity holders in the reorganization.	BankruptcyData.com, CRSP, Bloomberg, DataStream, Bankruptcy DataSource
<u>Hedge Fund Presence</u>		
HFDebt	An indicator variable takes a value of one if at least one hedge fund is on the creditor side including on the list of largest unsecured creditors as listed on the Chapter 11 petition forms, on the unsecured creditors committee, the provider of DIP financing, and the claim buyers during Chapter 11 restructuring.	BankruptcyData.com, Bankruptcy DataSource, Bankruptcy Plans, LexisNexis, Factiva
HFLargestCreditors	An indicator variable takes a value of one if at least one hedge fund is one of the largest unsecured creditors as listed on the Chapter 11 petition forms.	BankruptcyData.com, LexisNexis, Factiva
HFCreditorsCommittee	An indicator variable takes a value of one if at least one hedge fund is on the unsecured creditors committee.	BankruptcyData.com, LexisNexis, Factiva
HFDIP	An indicator variable takes a value of one if at least one hedge fund is the provider of DIP financing.	BankruptcyData.com, Bankruptcy Plans, LexisNexis, Factiva
HFEquity	An indicator variable takes a value of one if at least one hedge fund is on the equity side including on the list of largest shareholders as listed on proxy statements, the Chapter 11 petition forms, 10Ks, 13Fs (with ownership exceeding 2%), and 13Ds (with ownership exceeding 5%), or on the equity committee.	Thomson Reuters Ownership Database (13Fs), EDGAR (13Ds, Proxy Statements, 10Ks), BankruptcyData.com, LexisNexis, Factiva
HFJoint5%	An indicator variable takes a value of one if the total equity ownership by all hedge funds is at least 5%.	Thomson Reuters Ownership Database (13Fs), EDGAR (13Ds, Proxy Statements, 10Ks)
HFEquityCommittee	An indicator variable takes a value of one if at least one hedge fund is on the equity committee.	BankruptcyData.com, LexisNexis, Factiva
HFLTTO	An indicator variable takes a value of one if at least one hedge fund takes the loan-to-own (LTO) strategy. A hedge fund taking the LTO strategy if hedge funds identified from a list of the largest unsecured creditors holding secured debt and receive equity in the bankruptcy plan, or hedge funds identified from a list of the largest unsecured creditors and/or on the unsecured creditors committee, and unsecured debt holders receive equity in the bankruptcy plan, or hedge funds identified as creditors from all sources except as providers of DIP financing and they are matched to 13D and 13F filings within one year after bankruptcy.	BankruptcyData.com, Bankruptcy DataSource, Bankruptcy Plans, LexisNexis, Factiva, Thomson Reuters Ownership Database (13Fs), EDGAR (13Ds, Proxy Statements, 10Ks)
HFLTTO_DIP	An indicator variable takes a value of one if at least one hedge fund takes the loan-to-own (LTO) strategy including as providers of DIP financing. A hedge fund taking the LTO strategy if hedge funds identified from a list of the largest unsecured creditors holding secured debt and receive equity in the bankruptcy plan, or hedge funds identified from a list of the largest unsecured creditors and/or on the unsecured creditors committee, and unsecured debt holders receive equity in the bankruptcy plan, or hedge funds identified as creditors from all sources including as providers of DIP financing.	BankruptcyData.com, Bankruptcy DataSource, Bankruptcy Plans, LexisNexis, Factiva, Thomson Reuters Ownership Database (13Fs), EDGAR (13Ds, Proxy Statements, 10Ks)

Panel B: Chapter 11 case characteristics

Filing Year	# cases	Prepack	DIP	KERP	Unsecured Creditors Committee	Equity Committee
1996	15	46.7%	73.3%	26.7%	73.3%	6.7%
1997	17	41.2%	70.6%	29.4%	70.6%	5.9%
1998	31	29.0%	64.5%	29.0%	90.3%	16.1%
1999	42	35.7%	69.0%	42.9%	81.0%	14.3%
2000	77	19.5%	62.3%	28.6%	88.3%	6.5%
2001	88	21.6%	53.4%	38.6%	83.0%	8.0%
2002	80	36.3%	57.5%	40.0%	86.3%	8.8%
2003	50	24.0%	60.0%	54.0%	100.0%	14.0%
2004	28	46.4%	78.6%	57.1%	82.1%	17.9%
2005	23	17.4%	78.3%	60.9%	91.3%	13.0%
2006	13	38.5%	76.9%	46.2%	84.6%	38.5%
2007	10	40.0%	70.0%	50.0%	70.0%	10.0%
All	474	29.3%	63.3%	40.5%	85.9%	11.2%

Panel C: Chapter 11 case outcomes

Filing Year	CEO Turnover	Emerged	Liquidated	Acquired	Duration (months)	APR	APR%
1996	60.0%	40.0%	46.7%	13.3%	20.5	33.3%	0.5%
1997	29.4%	76.5%	11.8%	11.8%	21.0	17.6%	0.3%
1998	30.0%	71.0%	22.6%	6.4%	17.0	16.1%	1.1%
1999	39.0%	54.8%	31.0%	14.2%	19.0	31.0%	0.6%
2000	23.4%	55.8%	32.5%	11.7%	20.6	9.1%	0.5%
2001	18.1%	47.7%	42.0%	10.3%	17.6	14.8%	0.8%
2002	18.3%	58.8%	25.0%	16.2%	14.1	20.0%	0.1%
2003	30.0%	68.0%	24.0%	8.0%	15.9	10.0%	0.3%
2004	21.4%	85.7%	14.3%	0.0%	11.6	25.0%	0.3%
2005	50.0%	69.6%	21.7%	8.7%	14.7	0.0%	0.0%
2006	23.1%	84.6%	15.4%	0.0%	11.4	30.8%	6.4%
2007	20.0%	50.0%	50.0%	0.0%	8.4	10.0%	0.2%
All	26.7%	60.3%	29.3%	10.3%	16.8	16.7%	0.6%

Table 2: Summary statistics of firm and case characteristics

This table presents summary statistics of the main firm and case characteristics variables. Definitions of the variables are provided in Table 1 Panel A. Panel A presents descriptive statistics. Panel B presents the pair-wise correlation coefficients. P-values are in the parentheses.

Panel A: Summary statistics

	# cases	Mean	SD	Min	25 th Percentile	Median	75 th Percentile	Max
Assets	474	2718	8975	220	424	706	1686	124363
Sales	474	1901	6914	0	323	615	1324	122787
Leverage	474	0.997	0.390	0.254	0.767	0.919	1.129	2.707
Cash	473	0.068	0.097	0	0.011	0.03	0.082	0.513
Tangibility	474	0.358	0.240	0	0.150	0.339	0.527	0.896
ROA	473	0.010	0.164	-1.073	-0.026	0.043	0.093	0.297
SecuredDebt	466	0.296	0.488	0	0.034	0.226	0.426	8.777
Institution	474	0.278	0.254	0	0.018	0.239	0.435	1
NumClasses	414	9	3.118	3	7	9	10	27
Prepack	474	0.293	0.456	0	0	0	1	1

Panel B: The correlation matrix

	Assets	Sales	Leverage	Cash	Tangibility	ROA	SecuredDebt	Institution	NumClass
Sales	0.669 (0.00)								
Leverage	-0.100 (0.04)	-0.081 (0.08)							
Cash	0.026 (0.57)	-0.063 (0.17)	0.034 (0.46)						
Tangibility	-0.030 (0.56)	-0.023 (0.61)	0.152 (0.00)	-0.091 (0.05)					
ROA	0.030 (0.51)	0.058 (0.21)	-0.087 (0.06)	-0.380 (0.00)	0.022 (0.64)				
SecuredDebt	-0.060 (0.22)	-0.060 (0.19)	0.225 (0.00)	-0.090 (0.05)	0.091 (0.05)	0.040 (0.39)			
Institution	0.134 (0.00)	0.122 (0.00)	-0.161 (0.00)	0.049 (0.29)	0.003 (0.96)	0.073 (0.11)	-0.096 (0.04)		
NumClasses	0.225 (0.00)	0.162 (0.00)	0.031 (0.52)	-0.088 (0.07)	0.141 (0.00)	0.113 (0.02)	0.026 (0.60)	0.101 (0.04)	
Prepack	-0.040 (0.37)	-0.073 (0.11)	0.253 (0.00)	0.000 (0.99)	-0.031 (0.50)	0.096 (0.04)	0.032 (0.49)	-0.112 (0.02)	0.035 (0.48)

Table 3: Hedge fund presence in Chapter 11

Our sample consists of the 474 largest Chapter 11 filings over 1996-2007. This table presents an overview of hedge fund presence in Chapter 11. Definitions of the variables are provided in Table 1 Panel A. Panel A presents descriptive statistics of hedge fund presence by years. Panel B presents summary statistics of hedge fund presence by the nature of their involvement in Chapter 11 firms.

Panel A: Hedge fund presence by years

Filing Year	# cases	HF presence before bankruptcy			HF presence during bankruptcy					Both before and during bankruptcy				Overall
		Largest unsecured creditors	Largest shareholders	13D filing	Unsecured creditors committee	Buy debt claims	DIP financing	13D filing	Equity committee	Debt	Equity	Loan-to-own	Loan-to-own_DIP	
1996	15	16.7%	27.3%	0.0%	30.8%	20.0%	0.0%	6.7%	6.7%	64.3%	36.4%	26.7%	26.7%	83.3%
1997	17	7.7%	42.9%	17.6%	40.0%	47.1%	11.8%	0.0%	0.0%	78.6%	42.9%	17.6%	29.4%	86.7%
1998	31	32.0%	48.4%	9.7%	40.7%	30.0%	0.0%	3.2%	9.7%	74.1%	58.1%	19.4%	19.4%	96.6%
1999	42	39.5%	50.0%	4.8%	50.0%	50.0%	4.8%	0.0%	2.4%	84.6%	52.5%	35.7%	38.1%	95.0%
2000	77	33.3%	55.4%	5.2%	30.9%	39.0%	5.2%	3.9%	0.0%	77.8%	56.0%	22.1%	27.3%	93.0%
2001	88	11.3%	44.7%	5.7%	29.4%	50.6%	3.4%	2.3%	3.5%	82.0%	48.2%	13.6%	17.0%	94.5%
2002	80	28.3%	47.4%	2.5%	43.5%	45.2%	7.5%	3.8%	3.8%	82.5%	50.0%	27.5%	30.0%	94.0%
2003	50	20.9%	50.0%	8.0%	47.6%	39.1%	12.0%	2.0%	10.2%	85.4%	59.2%	32.0%	42.0%	93.6%
2004	28	29.6%	25.0%	14.3%	48.1%	17.9%	21.4%	7.1%	7.4%	67.8%	35.7%	42.9%	50.0%	85.7%
2005	23	21.7%	59.1%	13.0%	40.9%	52.4%	21.7%	17.4%	13.0%	77.3%	73.9%	30.4%	47.8%	100.0%
2006	13	30.8%	61.5%	7.7%	38.5%	53.8%	38.5%	30.8%	38.5%	92.3%	69.2%	23.1%	23.8%	100.0%
2007	10	0.0%	80.0%	20.0%	20.0%	30.0%	20.0%	0.0%	10.0%	40.0%	80.0%	0.0%	20.0%	90.0%
All	474	25.1%	48.5%	7.0%	39.5%	41.8%	8.6%	4.4%	5.8%	78.7%	53.4%	24.7%	30.8%	93.5%

Panel B: Top hedge fund players in Chapter 11 by categories

Rank	Largest unsecured creditors	Unsecured creditors committee	Buy debt claims
1	Oaktree Capital Management, LLC	Oaktree Capital Management, LLC	Regen Capital, LLC
2	Appaloosa Management LP	PPM America Special Investments Fund	Contrarian Capital Advisors, LLC
3	Apollo Advisors, LP	Cerberus Capital Management	Longacre Capital Partners, LP
4	Cerberus Capital Management	Appaloosa Management, LP	ASM Capital, LP
5	Loomis Sayles & Co., LP	Loomis Sayles & Co., LP	Amroc Investments, Inc.

Rank	DIP financing	Largest shareholders/ 13D filing before bankruptcy	Equity committee/ 13D filing during bankruptcy
1	Cerberus Capital Management	Bain Capital Funds	Harbinger Capital Partners Master Fund
2	Silver Point Capital Group, LLP	Loomis Sayles & Co. LP	Xerion Capital Partners, LLC
3	Black Diamond Capital Management, LLC	Oaktree Capital Management, LLC	Lonestar Partners, LP
4	DDJ Capital Management, LLC	Rutabaga Capital Management, LLC	Appaloosa Management, LP
5	Oaktree Capital Management, LLC	Warburg, Pincus Ventures, LP	Prescott Group Capital Mgmt

Table 4: Predicting hedge fund presence in Chapter 11

Definitions of all variables are provided in Table 1 Panel A. The dependent variable is an indicator variable for hedge fund presence. The model is estimated by probit. Marginal effects, capturing the incremental change in predicted probability change for one unit of change in the regressor, while holding other regressors at their respective mean levels, are reported in the table. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Debt side				Equity side			Loan-to-own	
	(1) HFDebt	(2) HFLargestCreditors	(3) HFCreditorsCommittee	(4) HFDIP	(5) HFEquity	(6) HFJoint5%	(7) HFEquityCommittee	(8) HFLTO	(9) HFLTO_DIP
Ln(Assets)	0.0763*** [0.0220]	-0.0271 [0.0212]	0.0632*** [0.0245]	-0.0212 [0.0133]	-0.0175 [0.0241]	-0.029 [0.0241]	0.0073 [0.0064]	0.0600*** [0.0191]	0.0463** [0.0210]
Leverage	-0.0029 [0.0581]	-0.0811 [0.0699]	0.0953 [0.0805]	0.0287 [0.0367]	-0.0213 [0.0713]	-0.0185 [0.0711]	-0.0607** [0.0302]	0.1066* [0.0590]	0.1370** [0.0641]
Cash	0.1677 [0.2322]	0.116 [0.2464]	0.5853* [0.2999]	-0.0658 [0.1503]	0.6226** [0.2821]	0.5940** [0.2791]	-0.1457 [0.1191]	-0.2691 [0.2568]	-0.1903 [0.2626]
Tangibility	0.0745 [0.0870]	0.0234 [0.0967]	0.13 [0.1121]	-0.086 [0.0565]	-0.024 [0.1054]	-0.0101 [0.1063]	-0.0327 [0.0340]	0.1460* [0.0869]	0.0779 [0.0951]
ROA	-0.0311 [0.1773]	0.0138 [0.1974]	0.3058 [0.2271]	0.0885 [0.1102]	0.3446* [0.1815]	0.3105* [0.1813]	0.0352 [0.0753]	0.073 [0.1647]	0.1501 [0.1776]
SecuredDebt	-0.1066 [0.0764]	-0.021 [0.0924]	-0.2777** [0.1113]	-0.0163 [0.0505]	0.2307** [0.0943]	0.2490*** [0.0946]	0.0032 [0.0337]	-0.1363* [0.0797]	-0.127 [0.0864]
Institution	-0.0984 [0.0845]	0.0375 [0.0940]	-0.0727 [0.1083]	0.0756 [0.0516]	0.4733*** [0.1061]	0.4380*** [0.1056]	0.1108*** [0.0335]	-0.0044 [0.0846]	0.1424 [0.0909]
NumClasses	0.0096 [0.0078]	0.0104 [0.0080]	0.006 [0.0091]	0.0018 [0.0047]	-0.01 [0.0088]	-0.0185** [0.0089]	0.0016 [0.0026]	0.0214*** [0.0072]	0.0234*** [0.0080]
Prepack	-0.1706*** [0.0515]	0.076 [0.0546]	-0.0766 [0.0578]	0.0183 [0.0303]	0.0443 [0.0549]	0.0656 [0.0552]	0.0192 [0.0212]	0.1400*** [0.0489]	0.1263** [0.0516]
# cases	390	361	369	466	448	447	459	466	466
Pseudo R2	0.093	0.014	0.049	0.031	0.056	0.056	0.154	0.092	0.073

Table 5: Hedge fund presence and Chapter 11 emergence

Definitions of all variables are provided in Table 1 Panel A. The dependent variable is an indicator variable for Chapter 11 emergence. The model is estimated by probit. Marginal effects, capturing the incremental change in predicted probability change for one unit of change in the regressor, while holding other regressors at their respective mean levels, are reported in the table. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
HFDebt	0.0281 [0.0681]						
HFLargestCreditors		0.1255** [0.0556]					
HFCreditorsCommittee			0.1284** [0.0510]				
HFDIP				0.0719 [0.0800]			
HFEquity					0.0322 [0.0505]		
HFJoint5%						0.0084 [0.0504]	
HFEquityCommittee							0.1354 [0.0877]
Ln(Assets)	0.0151 [0.0239]	0.0209 [0.0237]	0.0088 [0.0241]	0.0174 [0.0231]	0.0179 [0.0237]	0.0186 [0.0238]	0.0126 [0.0233]
Leverage	0.3464*** [0.0970]	0.3090*** [0.0995]	0.2907*** [0.0959]	0.2976*** [0.0818]	0.2957*** [0.0829]	0.2951*** [0.0829]	0.3022*** [0.0830]
Cash	-0.3473 [0.2837]	-0.3778 [0.2900]	-0.5594* [0.2908]	-0.3481 [0.2769]	-0.3948 [0.2798]	-0.3868 [0.2806]	-0.3083 [0.2822]
Tangibility	0.03 [0.1133]	-0.0025 [0.1130]	0.0715 [0.1133]	0.0619 [0.1062]	0.0776 [0.1081]	0.0693 [0.1087]	0.0825 [0.1067]
ROA	0.4124* [0.2318]	0.3935* [0.2266]	0.0336 [0.2213]	0.2825 [0.1762]	0.2845 [0.1774]	0.2826 [0.1775]	0.3190* [0.1787]
SecuredDebt	0.0985 [0.1128]	0.1025 [0.1152]	0.0363 [0.1220]	0.0369 [0.1001]	0.0211 [0.1015]	0.0297 [0.1020]	0.0269 [0.1014]
Institution	0.0212 [0.1051]	0.006 [0.1087]	0.0467 [0.1069]	0.085 [0.1011]	0.0688 [0.1055]	0.0771 [0.1053]	0.0409 [0.1059]
NumClasses	0.0410*** [0.0100]	0.0466*** [0.0109]	0.0503*** [0.0108]	0.0456*** [0.0098]	0.0481*** [0.0100]	0.0480*** [0.0100]	0.0470*** [0.0099]
Prepack	0.3149*** [0.0458]	0.3046*** [0.0479]	0.3432*** [0.0444]	0.3556*** [0.0419]	0.3554*** [0.0423]	0.3571*** [0.0423]	0.3537*** [0.0421]
# cases	390	361	369	466	448	447	459
Pseudo R2	0.200	0.217	0.234	0.204	0.209	0.209	0.207

Table 6: Hedge fund presence and Chapter 11 duration

Definitions of all variables are provided in Table 1 Panel A. The dependent variable is the number of months spent in Chapter 11 (measured in logs). Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
HFDebt	0.3938*** [0.0924]								
HFLargestCreditors		-0.1290 [0.0907]							
HFCreditorsCommittee			0.1775** [0.0812]						
HFDIP				0.2798** [0.1188]					
HFEquity					-0.0074 [0.0716]				
HFJoint5%						-0.0210 [0.0715]			
HFEquityCommittee							0.1618 [0.1494]		
HFLT0								0.031 [0.0817]	
HFLT0_DIP									0.1094 [0.0757]
Ln(Assets)	0.0146 [0.0344]	0.0533 [0.0359]	0.0317 [0.0364]	0.0541* [0.0324]	0.0515 [0.0337]	0.0498 [0.0338]	0.0454 [0.0330]	0.0467 [0.0329]	0.0435 [0.0327]
Leverage	-0.1123 [0.1116]	-0.1189 [0.1198]	-0.1343 [0.1184]	-0.1175 [0.0979]	-0.0931 [0.1005]	-0.0928 [0.1005]	-0.0885 [0.1003]	-0.1114 [0.0987]	-0.1227 [0.0987]
Cash	-0.9484** [0.3987]	-0.9597** [0.4390]	-0.9187** [0.4443]	-0.9096** [0.3814]	-0.9158** [0.3897]	-0.9010** [0.3898]	-0.9171** [0.3995]	-0.9188** [0.3839]	-0.9061** [0.3830]
Tangibility	-0.2144 [0.1576]	-0.2216 [0.1676]	-0.1893 [0.1663]	-0.079 [0.1455]	-0.1374 [0.1499]	-0.1269 [0.1505]	-0.0925 [0.1475]	-0.1093 [0.1464]	-0.1127 [0.1458]
ROA	0.1075 [0.3036]	-0.1068 [0.3345]	0.0037 [0.3339]	-0.0359 [0.2387]	-0.0128 [0.2432]	0.0029 [0.2436]	-0.0221 [0.2430]	-0.0184 [0.2400]	-0.0285 [0.2396]
SecuredDebt	-0.3011** [0.1472]	-0.3392** [0.1578]	-0.2749* [0.1620]	-0.3287** [0.1295]	-0.3369** [0.1339]	-0.3394** [0.1343]	-0.3374** [0.1315]	-0.3274** [0.1308]	-0.3181** [0.1304]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Institution	0.1699 [0.1501]	0.1012 [0.1626]	0.1563 [0.1601]	0.1519 [0.1411]	0.2115 [0.1492]	0.2197 [0.1488]	0.154 [0.1488]	0.1755 [0.1416]	0.1601 [0.1417]
NumClasses	0.0203 [0.0127]	0.0251* [0.0139]	0.0262* [0.0137]	0.0167 [0.0120]	0.0149 [0.0123]	0.0146 [0.0124]	0.0179 [0.0122]	0.0165 [0.0122]	0.0146 [0.0122]
Prepack	-1.1623*** [0.0851]	-1.2117*** [0.0906]	-1.2290*** [0.0873]	-1.2539*** [0.0768]	-1.2522*** [0.0791]	-1.2530*** [0.0792]	-1.2509*** [0.0778]	-1.2520*** [0.0780]	-1.2611*** [0.0776]
Constant	2.4517*** [0.2630]	2.5343*** [0.2809]	2.5159*** [0.2765]	2.4995*** [0.2433]	2.5426*** [0.2536]	2.5582*** [0.2550]	2.5391*** [0.2468]	2.5660*** [0.2473]	2.5946*** [0.2452]
# cases	390	361	369	466	448	447	459	466	466
R2	0.459	0.431	0.448	0.439	0.432	0.433	0.432	0.432	0.434

Table 7: Hedge fund presence and APR violation

Definitions of all variables are provided in Table 1 Panel A. In Panel A, the dependent variable is an indicator variable for APR violation. The model is estimated by probit. Marginal effects, capturing the incremental change in predicted probability change for one unit of change in the regressor, while holding other regressors at their respective mean levels, are reported in the table. In Panel B, the dependent variable is the size of APR violation. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: The likelihood of APR violation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
HFDebt	-0.0388 [0.0461]								
HFLargestCreditors		-0.0138 [0.0396]							
HFCreditorsCommittee			-0.0085 [0.0395]						
HFDIP				-0.0253 [0.0504]					
HFEquity					0.0227 [0.0336]				
HFJoint5%						-0.0144 [0.0339]			
HFEquityCommittee							0.2720** [0.1076]		
HFLTO								0.0713* [0.0418]	
HFLTO_DIP									0.0449 [0.0370]
Ln(Assets)	-0.0172 [0.0177]	-0.022 [0.0177]	-0.0187 [0.0189]	-0.0203 [0.0164]	-0.0171 [0.0167]	-0.0187 [0.0168]	-0.0243 [0.0164]	-0.026 [0.0167]	-0.0234 [0.0166]
Leverage	-0.0492 [0.0517]	-0.048 [0.0529]	-0.0357 [0.0542]	-0.011 [0.0450]	-0.0019 [0.0458]	-0.0038 [0.0457]	-0.0039 [0.0446]	-0.0167 [0.0446]	-0.0173 [0.0450]
Cash	-0.1554 [0.2063]	-0.2633 [0.2238]	-0.1712 [0.2297]	-0.1552 [0.2009]	-0.1606 [0.2015]	-0.1416 [0.2019]	-0.0936 [0.1990]	-0.1427 [0.1986]	-0.1397 [0.1985]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Tangibility	0.1423*	0.1590**	0.1116	0.1267*	0.1099	0.1096	0.1545**	0.1170*	0.1257*
	[0.0729]	[0.0738]	[0.0786]	[0.0671]	[0.0687]	[0.0689]	[0.0667]	[0.0665]	[0.0665]
ROA	-0.2117	-0.2540*	-0.1501	-0.0336	-0.0402	-0.0205	-0.0336	-0.0345	-0.0334
	[0.1387]	[0.1508]	[0.1585]	[0.1263]	[0.1287]	[0.1298]	[0.1249]	[0.1262]	[0.1269]
SecuredDebt	-0.0605	-0.072	-0.1103	-0.084	-0.0935	-0.0858	-0.0912	-0.0734	-0.0777
	[0.0711]	[0.0724]	[0.0767]	[0.0624]	[0.0643]	[0.0647]	[0.0620]	[0.0620]	[0.0624]
Institution	0.0881	0.1148	0.1061	0.0718	0.0512	0.067	0.0211	0.0712	0.0642
	[0.0746]	[0.0770]	[0.0798]	[0.0682]	[0.0713]	[0.0710]	[0.0725]	[0.0675]	[0.0678]
NumClasses	0.004	0.0053	0.005	0.0057	0.0063	0.0057	0.0051	0.0047	0.0049
	[0.0060]	[0.0061]	[0.0064]	[0.0055]	[0.0056]	[0.0057]	[0.0055]	[0.0055]	[0.0055]
Prepack	0.3823***	0.3914***	0.3875***	0.3641***	0.3631***	0.3654***	0.3608***	0.3499***	0.3551***
	[0.0537]	[0.0542]	[0.0518]	[0.0473]	[0.0483]	[0.0483]	[0.0473]	[0.0476]	[0.0475]
# cases	390	361	369	466	448	447	459	466	466
Pseudo R2	0.213	0.217	0.210	0.200	0.201	0.200	0.220	0.207	0.203

Panel B: The size of APR violation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
HFDebt	0.5945								
	[2.5455]								
HFLargestCreditors		-0.3466							
		[2.5106]							
HFCreditorsCommittee			-0.5674						
			[2.2412]						
HFDIP				-1.9346					
				[3.2517]					
HFEquity					1.6436				
					[1.9950]				
HFJoint5%						-0.8265			
						[1.9647]			

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
HFEquityCommittee							13.1162***		
							[3.0067]		
HFLTO								3.7517*	
								[2.0726]	
HFLTO_DIP									2.5871
									[1.9736]
Ln(Assets)	-2.0187*	-2.1159*	-1.8123*	-1.7478*	-1.6311*	-1.7367*	-2.0384**	-2.1293**	-1.9549**
	[1.0946]	[1.1038]	[1.0652]	[0.9537]	[0.9779]	[0.9811]	[0.9050]	[1.0001]	[0.9843]
Leverage	-2.8877	-2.9915	-2.4514	-0.863	-0.5488	-0.7492	-0.0296	-1.325	-1.3707
	[3.1303]	[3.2458]	[3.0247]	[2.5669]	[2.6650]	[2.6471]	[2.3997]	[2.5975]	[2.6181]
Cash	3.31	1.0269	5.6691	4.0068	4.2959	5.1622	9.1051	4.8121	4.9588
	[12.0291]	[12.8951]	[12.2311]	[11.0500]	[11.2244]	[11.2103]	[10.3034]	[11.1015]	[11.0688]
Tangibility	9.8108**	9.2049**	7.7973*	5.7199	6.3007	6.2074	8.0201**	5.1008	5.6738
	[4.4784]	[4.6534]	[4.3953]	[3.8440]	[3.9899]	[3.9760]	[3.6741]	[3.8624]	[3.8498]
ROA	-4.8784	-6.3397	0.6744	3.7403	4.1028	5.2314	3.6688	3.7208	3.9217
	[9.4641]	[10.2094]	[9.7227]	[8.1946]	[8.5323]	[8.5704]	[7.6859]	[8.3242]	[8.3821]
SecuredDebt	-3.1753	-3.794	-5.7401	-3.4744	-4.4099	-3.8829	-4.3426	-2.8246	-3.1382
	[4.3715]	[4.5703]	[4.3359]	[3.6157]	[3.7982]	[3.8011]	[3.3953]	[3.6457]	[3.6612]
Institution	14.7204***	15.5300***	14.1214***	11.9984***	10.6784***	11.5809***	8.0045**	12.2789***	11.7876***
	[4.6117]	[4.8903]	[4.4843]	[3.9246]	[4.1059]	[4.0878]	[3.8700]	[3.9511]	[3.9397]
NumClasses	0.3643	0.3722	0.4303	0.3801	0.4071	0.3767	0.2612	0.3168	0.3311
	[0.3626]	[0.3830]	[0.3586]	[0.3260]	[0.3372]	[0.3375]	[0.3102]	[0.3272]	[0.3287]
Prepack	15.7962***	15.9736***	15.5952***	14.0151***	14.0214***	14.0980***	13.3451***	13.7373***	13.8884***
	[2.7775]	[2.9304]	[2.7270]	[2.3026]	[2.3678]	[2.3721]	[2.1628]	[2.3023]	[2.3104]
Constant	-15.3877*	-14.2796*	-15.2372*	-14.9776**	-17.1756**	-15.0416*	-12.5400*	-12.6922*	-13.8524*
	[8.2695]	[8.5802]	[8.0943]	[7.2816]	[7.6969]	[7.6841]	[6.8007]	[7.3914]	[7.3596]
# cases	377	350	357	451	434	433	444	451	451
R2	0.102	0.099	0.103	0.097	0.095	0.094	0.122	0.101	0.099

Table 8: Hedge fund presence and KERP

Definitions of all variables are provided in Table 1 Panel A. The dependent variable is an indicator variable for KERP. The model is estimated by probit. Marginal effects, capturing the incremental change in predicted probability change for one unit of change in the regressor, while holding other regressors at their respective mean levels, are reported in the table. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
HFDebt	0.0693 [0.0682]								
HFLargestCreditors		-0.0598 [0.0646]							
HFCreditorsCommittee			0.1152** [0.0586]						
HFDIP				0.1275 [0.0857]					
HFEquity					0.0151 [0.0510]				
HFJoint5%						0.0156 [0.0511]			
HFEquityCommittee							-0.0688 [0.1035]		
HFLTO								0.1203** [0.0604]	
HFLTO_DIP									0.1015* [0.0553]
Ln(Assets)	0.1081*** [0.0266]	0.1005*** [0.0265]	0.1008*** [0.0275]	0.1167*** [0.0246]	0.1095*** [0.0250]	0.1110*** [0.0250]	0.1169*** [0.0248]	0.1075*** [0.0247]	0.1099*** [0.0246]
Leverage	0.1387* [0.0825]	0.1705** [0.0858]	0.2020** [0.0868]	0.1292* [0.0710]	0.1539** [0.0722]	0.1529** [0.0721]	0.1231* [0.0717]	0.1244* [0.0710]	0.1224* [0.0711]
Cash	0.0003 [0.3079]	-0.1438 [0.3228]	-0.0064 [0.3384]	0.0303 [0.2821]	0.0346 [0.2850]	0.026 [0.2848]	0.0177 [0.2937]	0.0527 [0.2833]	0.0447 [0.2824]
Tangibility	0.1081*** [0.1188]	0.1005*** [0.1213]	0.1008*** [0.1235]	0.1167*** [0.1069]	0.1095*** [0.1086]	0.1110*** [0.1092]	0.1169*** [0.1067]	0.1075*** [0.1069]	0.1099*** [0.1066]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ROA	0.4315*	0.2414	0.5472**	0.3568**	0.3727**	0.3587**	0.3524*	0.3632**	0.3565**
	[0.2367]	[0.2350]	[0.2628]	[0.1810]	[0.1831]	[0.1826]	[0.1813]	[0.1807]	[0.1809]
SecuredDebt	0.1623	0.1287	0.0394	0.0898	0.058	0.0642	0.0893	0.1023	0.0986
	[0.1105]	[0.1140]	[0.1196]	[0.0959]	[0.0977]	[0.0978]	[0.0960]	[0.0962]	[0.0961]
Institution	0.2943***	0.3101***	0.2876**	0.2928***	0.3194***	0.3164***	0.2861***	0.3020***	0.2887***
	[0.1114]	[0.1163]	[0.1171]	[0.1017]	[0.1062]	[0.1058]	[0.1061]	[0.1020]	[0.1019]
NumClasses	0.0062	0.0113	0.0146	0.0058	0.0049	0.0051	0.0064	0.0036	0.0039
	[0.0095]	[0.0101]	[0.0100]	[0.0088]	[0.0089]	[0.0089]	[0.0088]	[0.0089]	[0.0089]
Prepack	-0.3253***	-0.3798***	-0.4116***	-0.3351***	-0.3355***	-0.3342***	-0.3282***	-0.3458***	-0.3428***
	[0.0532]	[0.0530]	[0.0510]	[0.0456]	[0.0461]	[0.0461]	[0.0460]	[0.0457]	[0.0457]
# cases	390	361	369	466	448	447	459	466	466
Pseudo R2	0.159	0.174	0.208	0.158	0.157	0.157	0.153	0.161	0.160

Table 9: Hedge fund presence and CEO turnover

Definitions of all variables are provided in Table 1 Panel A. The dependent variable is an indicator variable for CEO turnover. The model is estimated by probit. Marginal effects, capturing the incremental change in predicted probability change for one unit of change in the regressor, while holding other regressors at their respective mean levels, are reported in the table. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
HFDebt	0.0334 [0.0586]								
HFLargestCreditors		0.1129* [0.0584]							
HFCreditorsCommittee			0.0516 [0.0498]						
HFDIP				0.0732 [0.0781]					
HFEquity					-0.0059 [0.0449]				
HFJoint5%						-0.0401 [0.0446]			
HFEquityCommittee							0.2428** [0.1049]		
HFLTO								-0.0441 [0.0491]	
HFLTO_DIP									-0.0008 [0.0472]
Ln(Assets)	0.0421** [0.0211]	0.0497** [0.0208]	0.0449** [0.0212]	0.0538*** [0.0193]	0.0481** [0.0200]	0.0487** [0.0200]	0.0512*** [0.0195]	0.0552*** [0.0196]	0.0523*** [0.0194]
Leverage	-0.0428 [0.0764]	-0.0196 [0.0792]	0.0159 [0.0765]	0.0266 [0.0659]	0.0304 [0.0670]	0.0299 [0.0667]	0.0262 [0.0670]	0.0345 [0.0657]	0.0292 [0.0660]
Cash	-0.5086* [0.2747]	-0.6282** [0.2934]	-0.6163** [0.2910]	-0.4743* [0.2487]	-0.4386* [0.2538]	-0.4252* [0.2530]	-0.5070* [0.2599]	-0.4944** [0.2500]	-0.4815* [0.2499]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Tangibility	-0.0626	-0.0832	-0.0779	-0.061	-0.0454	-0.0614	-0.035	-0.0612	-0.0683
	[0.1005]	[0.1009]	[0.1019]	[0.0917]	[0.0941]	[0.0944]	[0.0919]	[0.0918]	[0.0916]
ROA	0.1964	0.2044	-0.0778	0.0312	0.0653	0.0577	0.0272	0.035	0.0368
	[0.2067]	[0.2357]	[0.1993]	[0.1610]	[0.1652]	[0.1645]	[0.1621]	[0.1605]	[0.1609]
SecuredDebt	-0.1263	-0.1293	-0.097	-0.1995**	-0.2048**	-0.1860**	-0.1979**	-0.2051**	-0.1989**
	[0.1018]	[0.1039]	[0.1046]	[0.0908]	[0.0935]	[0.0934]	[0.0909]	[0.0909]	[0.0908]
Institution	0.1238	0.1975**	0.1448	0.1227	0.1285	0.139	0.0683	0.1292	0.1281
	[0.0913]	[0.0937]	[0.0927]	[0.0839]	[0.0890]	[0.0884]	[0.0881]	[0.0839]	[0.0842]
NumClasses	0.0053	-0.0011	0.0003	0.0019	0.0026	0.002	0.0018	0.0033	0.0021
	[0.0079]	[0.0084]	[0.0082]	[0.0074]	[0.0076]	[0.0076]	[0.0075]	[0.0075]	[0.0075]
Prepack	-0.1054**	-0.0911*	-0.1102**	-0.1165***	-0.1074**	-0.1040**	-0.1142**	-0.1099**	-0.1139**
	[0.0506]	[0.0519]	[0.0501]	[0.0444]	[0.0460]	[0.0460]	[0.0446]	[0.0449]	[0.0447]
# cases	386	356	362	449	431	430	442	449	449
Pseudo R2	0.064	0.084	0.062	0.067	0.059	0.060	0.078	0.066	0.065

Table 10: Selection effects

Definitions of all variables are provided in Table 1 Panel A. This table reports results from linear regressions (equation (2)) of Chapter 11 outcome variables on firm and case characteristics, and the inverse Mill's ratio from a first-stage probit regression of hedge fund presence. Panel A presents the regression results for the subsample with *ex post* hedge fund presence. Panel B presents the regression results for the subsample without *ex post* hedge fund presence. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Subsample with ex post hedge fund presence

Endogenous Variable	(1) HFLargestCreditors	(2) HFCreditorsCommittee	(3) HFDebt	(4) HFCreditorsCommittee	(5) HFDIP	(6) HFEquityCommittee	(7) HFLTO
Dependent Variable	Emergence	Emergence	Duration	Duration	Duration	APR	APR
Ln(Assets)	0.2719* [0.1505]	-0.0643 [0.2514]	0.097 [0.0870]	0.2943 [0.4222]	2.9501 [3.1859]	-0.9273 [0.7028]	-0.2597* [0.1389]
Leverage	1.1073** [0.4624]	0.0441 [0.4027]	-0.0562 [0.1270]	0.5892 [0.6764]	-3.838 [4.2153]	8.1523 [5.9436]	-0.5273** [0.2650]
Cash	-2.0532*** [0.7516]	-1.4832 [2.3458]	-0.3809 [0.4613]	2.615 [3.9402]	10.6163 [10.0350]	16.7888 [13.8507]	0.0513 [0.8415]
Tangibility	-0.1671 [0.2134]	-0.0901 [0.5793]	-0.0268 [0.2015]	0.4682 [0.9729]	12.0188 [13.0528]	3.9257 [3.1118]	-0.3462 [0.3631]
ROA	-0.0088 [0.3680]	0.1587 [1.3341]	0.268 [0.3271]	1.9284 [2.2409]	-13.2735 [13.3666]	-3.6541 [3.6679]	-0.3747 [0.4282]
SecuredDebt	0.1897 [0.2038]	0.5508 [1.2095]	-0.5248** [0.2313]	-1.7773 [2.0316]	1.2301 [2.5265]	-0.9877* [0.5172]	0.5677 [0.3518]
Institution	-0.3108 [0.2615]	-0.0224 [0.3094]	0.1603 [0.1970]	0.0467 [0.5197]	-10.9817 [11.2635]	-14.0731 [10.6024]	0.1416 [0.1544]
NumClasses	-0.0667 [0.0596]	0.0268 [0.0265]	0.0301* [0.0169]	0.058 [0.0446]	-0.217 [0.2670]	-0.1802 [0.1535]	-0.0750* [0.0452]
Prepack	-0.5281 [0.4133]	0.2409 [0.3318]	-1.2872*** [0.2410]	-1.4758*** [0.5573]	-3.2503 [2.6579]	-1.8926 [1.8102]	-0.0912 [0.3089]
Inverse Mills Ratio	-3.768 [2.3331]	-0.6896 [2.3964]	0.8781 [0.8945]	3.1777 [4.0251]	-24.8361 [27.3852]	-11.4309 [8.5524]	-1.7264* [0.9799]
Constant	3.5453 [2.2913]	1.4768 [4.5857]	1.8079** [0.9134]	-3.2561 [7.7023]	33.1024 [33.5034]	27.8863 [20.9012]	5.4253* [2.9399]
# cases	92	146	308	146	41	27	117
R2	0.267	0.226	0.376	0.376	0.471	0.347	0.241

Endogenous Variable	(8) HFEquityCommittee	(9) HFLTO	(10) HFCreditorsCommittee	(11) HFLTO	(12) HFLTO_DIP	(13) HFLargestCreditors	(14) HFEquityCommittee
Dependent Variable	APR%	APR%	KERP	KERP	KERP	CEO Turnover	CEO Turnover
Ln(Assets)	-0.246 [13.7998]	-1.3249 [1.2831]	0.1171 [0.2766]	0.0776 [0.1489]	0.0453 [0.1147]	-0.7211 [1.1567]	-0.5552 [0.7015]
Leverage	-4.9353 [116.9119]	-0.7538 [2.4448]	0.1325 [0.4431]	-0.1604 [0.2842]	-0.1735 [0.3465]	-2.3204 [3.4269]	4.7009 [5.9332]
Cash	-21.2938 [272.1209]	-1.3778 [7.7626]	1.163 [2.5812]	1.2145 [0.9022]	0.6601 [0.7160]	3.3351 [4.8613]	8.7424 [13.8264]
Tangibility	-4.3431 [61.1221]	-0.4412 [3.3820]	0.0693 [0.6374]	-0.223 [0.3893]	-0.3611 [0.2422]	0.6644 [1.0277]	2.4302 [3.1063]
ROA	10.3347 [71.9386]	2.883 [4.0658]	1.3495 [1.4680]	0.7437 [0.4591]	0.5831 [0.5309]	0.599 [0.8532]	-1.7594 [3.6615]
SecuredDebt	-12.3816 [10.8232]	0.0289 [3.2683]	0.0964 [1.3309]	0.1918 [0.3772]	0.323 [0.3407]	-0.598 [0.9379]	-0.6818 [0.5163]
Institution	46.1654 [208.6183]	4.7348*** [1.4280]	0.2061 [0.3404]	-0.0047 [0.1655]	-0.2698 [0.3783]	1.5068 [1.6174]	-9.4245 [10.5838]
NumClasses	0.0132 [3.0254]	-0.1461 [0.4173]	0.0227 [0.0292]	0.01 [0.0485]	-0.0249 [0.0525]	0.2945 [0.4412]	-0.1429 [0.1532]
Prepack	8.1885 [35.5029]	0.7764 [2.8473]	-0.4532 [0.3651]	-0.4562 [0.3311]	-0.5767* [0.3037]	2.0254 [3.1311]	-1.4842 [1.8070]
Inverse Mills Ratio	19.748 [168.1782]	-4.029 [9.0525]	0.7943 [2.6368]	0.0517 [1.0506]	-0.6651 [1.2077]	12.5337 [17.9954]	-7.7621 [8.5374]
Constant	-44.3953 [410.9991]	15.71 [27.1647]	-1.494 [5.0457]	0.0737 [3.1521]	1.5841 [3.0910]	-12.2877 [17.3027]	19.7387 [20.8645]
# cases	26	113	146	117	146	90	27
R2	0.467	0.167	0.240	0.320	0.261	0.133	0.385

Panel B: Subsample without ex post hedge fund presence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Endogenous Variable	HFLargestCreditors	HFCreditorsCommittee	HFDebt	HFCreditorsCommittee	HFDIP	HFEquityCommittee	HFLTO
Dependent Variable	Emergence	Emergence	Duration	Duration	Duration	APR	APR
Ln(Assets)	0.1063 [0.0947]	-0.3265* [0.1781]	-0.5511 [1.1942]	-0.1726 [0.3296]	-0.0858 [0.1041]	-0.0037 [0.0181]	0.0199 [0.0490]
Leverage	0.3417 [0.2761]	-0.2999 [0.2671]	-0.3776 [0.2427]	-0.6948 [0.4945]	0.0878 [0.1776]	-0.0852 [0.0534]	0.1011 [0.0916]
Cash	-0.4686 [0.5191]	-3.4008** [1.6514]	-4.0669 [2.8528]	-4.0778 [3.0570]	-1.4355*** [0.4849]	-0.2655 [0.2079]	-0.1281 [0.2529]
Tangibility	-0.0943 [0.1413]	-0.5907* [0.3562]	-0.7418 [1.1616]	-0.6114 [0.6594]	-0.6994 [0.4424]	0.1031 [0.0758]	0.2035 [0.1257]
ROA	0.3221 [0.2353]	-1.8112** [0.8363]	-0.3199 [0.8963]	-1.3939 [1.5482]	0.5326 [0.4474]	-0.0301 [0.1125]	0.0173 [0.1181]
SecuredDebt	0.1886 [0.1271]	1.3626* [0.7214]	0.5305 [1.6664]	0.7819 [1.3355]	-0.3769** [0.1534]	-0.063 [0.0617]	-0.2282* [0.1188]
Institution	-0.171 [0.1765]	0.4529** [0.2177]	0.2182 [1.5340]	0.2699 [0.4029]	0.7921* [0.4180]	0.2615** [0.1310]	0.0617 [0.0727]
NumClasses	0.0022 [0.0368]	0.0056 [0.0207]	-0.054 [0.1519]	0.0015 [0.0383]	0.0294* [0.0153]	0.0059 [0.0059]	0.0261 [0.0185]
Prepack	0.1361 [0.2591]	0.8445*** [0.2078]	-0.449 [2.3897]	-0.9958** [0.3847]	-1.1601*** [0.1205]	0.3788*** [0.0381]	0.4420*** [0.1129]
Inverse Mills Ratio	2.0594 [2.3013]	3.5633* [1.8289]	2.284 [5.4836]	2.7944 [3.3856]	-4.1018 [2.9060]	-0.8094** [0.3794]	-0.5788 [0.5302]
Constant	-1.3553 [1.4200]	0.5247 [0.4412]	3.9732*** [0.9964]	2.9212*** [0.8167]	3.9056*** [1.0300]	0.1205 [0.1203]	-0.2261 [0.3767]
# cases	269	223	82	223	425	432	349
R2	0.242	0.326	0.551	0.497	0.458	0.212	0.192

Endogenous Variable	(8) HFEquityCommittee	(9) HFLTO	(10) HFCreditorsCommittee	(11) HFLTO	(12) HFLTO_DIP	(13) HFLargestCreditors	(14) HFEquityCommittee
Dependent Variable	APR%	APR%	KERP	KERP	KERP	CEO Turnover	CEO Turnover
Ln(Assets)	-0.0257 [0.1454]	0.2266 [0.5736]	0.1412 [0.1812]	0.1490** [0.0695]	0.1445** [0.0708]	-0.0003 [0.1956]	0.0512** [0.0235]
Leverage	-0.4313 [0.4296]	0.7823 [1.0748]	0.2437 [0.2719]	0.2371* [0.1299]	0.303 [0.2084]	-0.1735 [0.5795]	0.0651 [0.0711]
Cash	2.4977 [1.6858]	1.4525 [2.9597]	-0.1063 [1.6807]	-0.213 [0.3585]	-0.1928 [0.3703]	-0.5231 [0.9443]	-0.3061 [0.2703]
Tangibility	0.5956 [0.6168]	1.1986 [1.4711]	-0.0431 [0.3625]	0.0298 [0.1781]	0.0071 [0.1526]	-0.0505 [0.2090]	0.0034 [0.0995]
ROA	0.3478 [0.9207]	0.4312 [1.3830]	0.4034 [0.8512]	0.2875* [0.1675]	0.3441 [0.2379]	0.1693 [0.2821]	-0.0017 [0.1566]
SecuredDebt	-0.0849 [0.4998]	-1.6542 [1.3847]	-0.2411 [0.7342]	-0.0518 [0.1684]	-0.0806 [0.2000]	-0.1684 [0.1806]	-0.1632** [0.0803]
Institution	1.3905 [1.0647]	1.8694** [0.8483]	0.2344 [0.2215]	0.3851*** [0.1031]	0.5972** [0.2419]	0.2211 [0.3019]	-0.0504 [0.1738]
NumClasses	0.0288 [0.0482]	0.2052 [0.2156]	0.0139 [0.0210]	0.0156 [0.0263]	0.0321 [0.0364]	0.0172 [0.0777]	0.0019 [0.0077]
Prepack	1.3702*** [0.3130]	2.2889* [1.3245]	-0.3775* [0.2115]	-0.1813 [0.1600]	-0.1451 [0.1892]	0.0544 [0.5427]	-0.1295*** [0.0499]
Inverse Mills Ratio	-4.1428 [3.0622]	-5.7872 [6.2052]	-0.1985 [1.8614]	-0.4683 [0.7516]	-0.7311 [1.0084]	-1.0632 [4.9655]	0.2883 [0.5046]
Constant	0.09 [0.9697]	-2.3982 [4.4028]	-0.6776 [0.4490]	-0.8517 [0.5340]	-0.9094 [0.5633]	0.7392 [3.0254]	-0.0992 [0.1570]
# cases	418	338	223	349	320	266	415
R2	0.069	0.045	0.293	0.184	0.191	0.091	0.063

Table 11: Event study around Chapter 11 filing

Definitions of all variables are provided in Table 1 Panel A. The dependent variable is CAR, cumulative abnormal announcement period return, measured over different event windows. Day 0 is the date of a Chapter 11 filing. Standard errors are in brackets. Superscripts ***, **, * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) CAR[-10, +10]	(2) CAR[-5, +5]	(3) CAR[-1, +1]	(4) CAR[-1, +5]	(5) CAR[-1, +10]
HFLargestCreditors	0.2078** [0.1017]	0.1392 [0.0874]	0.0746 [0.0566]	0.1585** [0.0761]	0.1920** [0.0840]
Ln(Assets)	-0.0654* [0.0389]	-0.0356 [0.0334]	0.0268 [0.0221]	0.014 [0.0290]	-0.0122 [0.0321]
Leverage	-0.0016 [0.1396]	-0.0956 [0.1203]	-0.092 [0.0775]	-0.0679 [0.1046]	-0.0569 [0.1157]
Cash	0.5788 [0.4794]	0.4345 [0.4174]	0.0421 [0.2807]	0.1928 [0.3614]	0.2329 [0.3936]
Tangibility	-0.031 [0.1843]	-0.2001 [0.1582]	-0.0821 [0.1026]	-0.2844** [0.1376]	-0.2342 [0.1516]
ROA	0.6214 [0.4240]	0.3961 [0.3665]	0.1627 [0.2454]	0.5325 [0.3261]	0.6624* [0.3545]
SecuredDebt	-0.083 [0.1765]	0.005 [0.1515]	0.0671 [0.1003]	0.0752 [0.1344]	0.0457 [0.1488]
Institution	-0.1418 [0.1911]	0.0109 [0.1642]	-0.0688 [0.1083]	0.0294 [0.1429]	-0.0244 [0.1583]
Prepack	0.1012 [0.1071]	0.1074 [0.0927]	0.0147 [0.0604]	-0.0528 [0.0812]	0.0101 [0.0894]
NumClasses	0.0084 [0.0147]	0.013 [0.0127]	-0.0062 [0.0081]	0.0042 [0.0110]	0.0071 [0.0122]
Constant	0.0862 [0.3106]	0.0457 [0.2680]	-0.1806 [0.1765]	-0.1336 [0.2332]	-0.0286 [0.2581]
# cases	274	271	256	263	265
R2	0.052	0.042	0.027	0.053	0.048