Acquisitions of Bankrupt and Distressed Firms

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Abstract

In this paper we focus on acquisitions of bankrupt firms and firms that recently emerged from Chapter 11 and compare these firms with acquired distressed firms to determine whether or not transaction timing plays a role in the outcomes of the mergers. We analyze deal premiums (or lack thereof) and evaluate post-merger operating cash flows to determine whether or not timing of the transactions impacts their effectiveness and success. We also evaluate targets and their acquirers' stock price reactions to the announcements of acquisitions. We find that distressed targets sell their assets at a premium or at a discount smaller than bankrupt firms do, thereby benefiting from acquisitions more than bankrupt targets—and the announcement day abnormal returns are reflective of the disparity of these purchases with bankrupt firms having significant negative abnormal returns and distressed firms having significant positive announcement day abnormal returns and acquirers of both having material announcement day abnormal returns. We also find that abnormal post-merger cash flow and cumulative abnormal return changes are more pronounced for bankrupt than distressed firms, indicating that acquisitions in Chapter 11 add greater economic value for both target and its acquirer than do acquisitions outside of bankruptcy. We also find post-merger market performance improvements for bankrupt and not distressed firms. In summary, distressed firms get a merger announcement premium and bankrupt firms give it away to their acquirers whose shareholders benefit from acquisition premiums in a year after the mergers.

Keywords: mergers and acquisitions, Chapter 11 reorganization, corporate bankruptcy, distress.

> Indeed, if those making the decisions in Chapter 11 were loyal agents of the owners of the assets as a group and if they could effectively communicate information about the firm to third parties, there would be no reason to *require* an early auction. Under these conditions, those in control could be counted upon to conduct such a sale if it were in everyone's interest. I suggest, however, that those in control often lack the incentive to act in a way that is in everyone's interest and that, even if they did, they might not be able to persuade third parties that they wanted an early sale to save the costs of bankruptcy, rather than to get rid of assets that they (but not others) thought would turn out to be worth less than those of firms that were indistinguishable to third parties. None of this would matter if remaining in Chapter II for several years brought with it few costs, but these costs, although still largely unknown, may be substantial.[3]

I. Introduction

The purpose of this paper is to analyze acquisitions of bankrupt firms and firms that recently emerged from Chapter 11 and compare these acquisitions with those of distressed firms. There is a vast literature which largely portrays the large premiums received by targets in acquisitions and also presents a mixed picture of returns to bidders. Most of these studies focus on broad cross-sections of targets, irrespective of their financial condition. In this study we focus on acquisitions of financially distressed firms. We consider whether or not acquisition transaction timing plays a role in the outcomes of the mergers. We report deal premiums (or lack thereof) received by targets. We describe the announcement price reactions of acquirers and consider what the target and acquirer price reactions might communicate about wealth transfer. Subsequently we evaluate post-merger operating cash flows to determine whether or not timing of the transactions impacts their effectiveness and success.

The acquisition of a bankrupt or distressed firm should be considered as quite distinct from what we might, euphemistically at least, denote a "normal" acquisition. By definition bankrupt and distressed firms are under severe operating and financial pressure. They do not have the "degrees of operating or financial freedom" of a "normal" firm. In the "normal" acquisition the manager likely has a large array of possible alternatives to an acquisition bid and the financial means to execute them. In the case of an acquisition attempt relating to a bankrupt or distressed firm, these options are likely far more limited and any asymmetric information relating to target firm prospects is likely lower in a bankrupt/distressed

[3] Baird (1993), p. 3.

acquisition than in a "normal" one, reducing the ability to extract a large merger premium. It is well established in the financial literature that the goal of a manager is maximize shareholder value. Yet, as briefly described above, pragmatic realities may rule.

Turning to the acquirer, in a "normal" merger there are a relatively large number of rationale for the acquisition, ranging from synergies to replacing incompetent management to asset redeployment, to getting into new lines of business, as well as others. In acquiring a bankrupt or distressed firm, the list likely does not change, but acquirers may be perceived to attempt to execute such an acquisition at a bargain price, given the distress and limited options of the target. One might even argue such acquisitions could represent "vulture" acquisitions. In this paper we provide a comparison of outcomes for bankrupt firms (distressed firms whose managers filed for bankruptcy) versus those distressed firms whose managers did not file for bankruptcy.

The paper is organized as follows. In the next section we provide a brief background. In the following section we present our hypotheses. In Section IV we describe our sample and provide some preliminary analysis. We present formal tests of our hypotheses in section V and conclusions and discussion in Section VI.

II. Background

Distressed firms often choose Chapter 11 bankruptcy as a mechanism to reduce debt burden, to effectively redeploy their assets, and/or to change their strategic focus. These firms emerge from Chapter 11 as independent reorganized companies, either private or publicly traded, convert to Chapter 7 and subsequently liquidate, or are acquired by other public or private operating companies, creditors, or private investors. It has been shown that acquisitions of bankrupt firms create value, provide an efficient mechanism for asset redeployment, and result in a better performing enterprise than when bankrupt firms reorganize independently (Hotchkiss and Mooradian (1998), Maksimovic and Phillips (2002). Hotchkiss and Mooradian (1998) observe that the combined post-acquisition cash flows of the merged firms increase by more than is observed for transactions that do not occur under Chapter 11. In addition, Maksimovic and Phillips (2002) find that in high-growth industries the productivity of the assets sold by

bankrupt manufacturing firms increases under new ownership, evidencing efficient redeployment of assets to more productive uses. As an outcome of Chapter 11, the capital structure of filing firms changes—in addition to asset sales, firms reduce their leverage as a result of debt-to-equity conversions and debt forgiveness.

Summarizing the merger and acquisition literature (M&A) in aggregate, we find that despite variations in time period, type of deal (merger, acquisition, tender offer, etc.), and observation period, researchers conclude that M&A transactions deliver a premium return to target firms' shareholders (Bradley, Desai, and Kim (1988), Lang, Stulz, and Walkling (1989), Loughran and Vijh (1997), Kuipers, Miller, and Patel (2003)) and mixed market-based returns to buyer firms' shareholders (Roll (1986), DeLong (2001), Kuipers et al. (2003), Loderer and Martin (1990), Kohers and Kohers (2000), and Jarrell and Poulsen (1989)). Roll (1986), DeLong (2001) and Kuipers et al. (2003) report negative returns to buyer firms' shareholders, while Loderer and Martin (1990) and Kohers and Kohers (2000) report zero or positive returns to acquirers and Jarrell and Poulsen (1989) find significant positive abnormal returns to acquiring firm shareholders.

As part of the "hubris hypothesis" of corporate takeovers[4] Roll (1986) argues that the average increase in the target firm's market value as a result of the merger is more than offset by the average decrease in the value of the acquirer, wiping out all the gains available to the acquirer's shareholders. Roll (1986) concludes that the reason why a merger results in a loss to the bidding firm's shareholders is because on average acquirers pay too much for their targets.

In contrast, on March 10, 2014, *The Wall Street Journal* article "Buyers' Fading Remorse" argues that "Investors are rewarding U.S. companies for making acquisitions… Typically shareholders have punished an acquirer for making an acquisition. Between 1995 and 2011, the stock price of acquirers

[4] To explain the corporate takeover phenomenon Roll's (1986) "hubris hypothesis" describes bidders/managers as being convinced that their valuation of the target is accurate and that the market does not reflect the full economic value of the merged firm: "If there are actually no aggregate gains in takeover, the phenomenon depends on the overbearing presumption of bidders that their valuations are correct." (p. 200)

averaged a loss every year… Yet at a time when companies are increasingly struggling to increase their earnings and sales, investors are applauding companies for making acquisitions."[5]

[Insert Figures 1a and 1b here]

In Figure 1a we present annual volumes of all M&A announcements (U.S. targets) and Chapter 11 filings for the period between 1993 and 2013 and evaluate two events correlation. In Figure 1b, we plot annual numbers of acquisition announcements of bankrupt and distressed firms[6] during the same period. Data for both figures are obtained from Thompson Financial Services SDC Platinum database. We also provide a correlation matrix for the four variables plotted on the two figures.

From Figure 1a we observe that annual number of all M&A transactions (left axis) is significantly greater than annual number of bankruptcy filings (right axis) in each year reported. In the late 1990's we observe the greatest increase in M&A filings, peaking in 1998. The number of bankruptcy filings started to rise in 1998 and peaked in 2001as the dot com bubble burst. In the late 2000's we observe the next M&A wave with the highest number of announcements in 2007. Subsequently, in 2009, the number of bankruptcy filings peaks as a result of the most recent economic recession following the mortgage meltdown. Although it may seem as the two corporate events are diametrically opposed, there are several periods when volumes of M&A announcements and Chapter 11 filings increase or decrease simultaneously: in the periods from 1994 to 1995, from 1997 to 1998, and again from 2006 to 2007 the number of M&A's and Chapter 11 filings rise, and from 2001 to 2002 they both fall. In all other annual time horizons, when M&A filings increase, the number of Chapter 11 filings declines, and vice versa. In addition, the correlation between the two events is -0.33, indicating weak inverse relationship between the two events.

In Figure 1b we summarize data on announcements of bankrupt and distressed firm[7] acquisitions; it is evident that more distressed than bankrupt firms are acquired in every year reported. Although the correlation between these two events is weak (0.25), it is positive. The correlation between the overall

[5] "Buyers' Fading Remorse" By Maureen Farrell, *The Wall Street Journal*, Money and Investing section of online subscription, March 10, 2014.
[6] Distressed firms are those with Altman z-score (Altman (1968)) of less than 1.8. The difference between distressed and bankrupt firms is that these firms, in spite of low z-score, have not filed for bankruptcy at any point during the period analyzed.
[7] Our definition of distressed firm, developed more fully subsequently, is a firm with an Altman's z-score of less than 1.80.

number of M&A announcements and the number of bankrupt firm acquisition announcements is negative and strong (-0.65), indicating that with the increase in the overall number of M&A's the number of bankrupt firm acquisitions declines, suggesting the economic forces driving acquisition of bankrupt firms may be quite different from those driving the overall acquisition market. The correlations between the number of bankruptcy filings and number of bankrupt and distressed firm acquisition announcements are positive and strong (0.71 and 0.47, respectively), indicating bidders' interest in affordable (but risky) acquisitions.

It is in the context of the above M&A considerations that we approach the analyses of this paper: a comparison of acquisitions of bankrupt firms and firms that recently emerged from Chapter 11 with those of distressed firms. We emphasize that the acquisition of bankrupt or distressed firms is a somewhat unique economic event, distinct from the more "normal" M&A activity. We consider whether or not acquisition transaction timing plays a role in the outcomes of the mergers. We conjecture that one of the aspects influencing success of the merger transactions directly relates to targets' pre-merger performance. We expect to observe stronger pre-merger operating performance for distressed than bankrupt firms; consequently, we expect that acquisitions of distressed firms result in stronger post-acquisition operating and market performances than do acquisitions of Chapter 11 firms. For this reason we believe that transaction timing is an important issue in determining whether or not firms should consider merger before distress gets worse and possibly leads to bankruptcy. Although we do not know if acquired distressed firms would have filed for bankruptcy if they did not get acquired or if they would have recovered from distress outside of bankruptcy, these firms are directly comparable (based on a low Altman z-score, size, and industry of operation) to the bankrupt firms in our sample. Distressed firms in general may subsequently file for Chapter 11, get acquired, extricate themselves from distress outside of bankruptcy, or remain in a state of distress for quite some time. We report deal premiums (or lack thereof) of both the bankrupt and distressed firms and evaluate post-merger operating cash flows to determine whether or not timing of the transactions impacts their effectiveness and success. We also present targets and acquirers' stock price reactions to the announcements of acquisitions.

III. Development of Hypotheses

Bradley and Rosenzwieg (1992) demonstrate that under the Bankruptcy Code (Bankruptcy Reform Act of 1978) managers of financially troubled and economically unviable firms are more likely to choose reorganization than liquidation. Is acquisition a better alternative to reorganization in Chapter 11? Consequently, could distressed firms negotiate better acquisition terms than could firms in bankruptcy? And do acquisitions of distressed firms create more value and result in a better performing firm than do acquisitions of bankrupt firms? In the extant literature, researchers do not evaluate the importance of acquisition timing,[8] if it influences acquisition terms, and if and how the timing impacts outcome of the transactions. Although we cannot state with absolute confidence that the distressed firms we use to compare to the bankrupt firms in our sample would have filed for bankruptcy if they were not acquired, we make this assumption based on their low z-scores and weak market and operating performances.

When firms enter a state of operating and/or financial distress they become more vulnerable to a merger, an acquisition or a takeover as potential acquirers expect to pay lower price for the firms' assets than the average price paid for all other acquired firms in the same industry. According to the hubris hypothesis of corporate takeovers (Roll (1986)), acquisitions of bankrupt or distressed firms can be a direct result of acquirer's overconfidence in its accuracy of target firm's valuation. In addition, because acquisitions of distressed, bankrupt, or poorly performing firms are riskier than acquisitions of healthy firms, one would expect potential buyers, depending on the hubris of the acquirers' management, to prefer the "better performing" [9] failing firms over all other failing firms, even if it means paying a higher price (although not as high as they would have paid for a healthy target). We expect distressed firms to be those "better performing" targets (as opposed to bankrupt firms), again depending on the acquirers' hubris. We also expect firms with greater officer, director, and institutional shareholdings to consider merger as a reorganization alternative sooner due to anticipation of appreciation of the share prices than firms with the low officer, director, and institutional ownerships. We anticipate greater transaction

[8] Lambrecht (2004) and Harford (1999) assess timing of acquisitions at a macro level, looking at merger waves and evaluating their causes, and do not relate it to distressed or bankrupt firms.

[9] The "better performing" failing firms are those with higher than average of all failing firms' operating cash returns on assets and sales, return on assets, and profit margin. These firms also have lower than the average debt ratio.

discounts for bankrupt than for distressed firms because of the weakening power to bargain in bankruptcy. After evaluating characteristics of both bankrupt and distressed firms, we determine attributes that contribute to the likelihood of the firms to be acquired outside of bankruptcy. We then evaluate the importance of these attributes in cases when the firms are acquired by another operating company and investors.[10] Our first hypothesis is as follows:

> H1: Firms that are larger, less levered, less distressed, and with higher returns on assets and operating cash flow returns on sales reorganize via merger or acquisition outside of Chapter 11 and not while in bankruptcy or shortly after emergence. In addition, firms with greater officer, director, and institutional ownerships are more likely to choose acquisition outside of bankruptcy as a method of reorganization in anticipation of possible share dilution or cancelation if the firms enter Chapter 11. These conjectures are irrespective of acquirer type: operating firm or investor.

There is evidence that the acquisition of bankrupt firms is a positive occurrence that results in a better performing enterprise than those firms that reorganized independently (Hotchkiss and Mooradian (1998)). We make a contribution to the analysis of acquisitions of bankrupt firms by evaluating not whether or not bankrupt firms should consider merger to independent reorganization, but whether or not this consideration should come before the struggling firms file for bankruptcy protection versus while they are in Chapter 11 or during the first year as reorganized entities. We compare post-merger performance of bankrupt firms or firms that just emerged from Chapter 11 with that of distressed, but not bankrupt, firms. We anticipate distressed firms to have a better post-merger performance than bankrupt firms because of their better pre-merger conditions, highlighting the importance of the firms' reorganization via merger outside of bankruptcy. We develop our second hypothesis as follows:

> H2: Acquisitions of firms outside of bankruptcy result in a better post-merger operating cash returns on sales and cumulative abnormal returns than do acquisitions in bankruptcy.

III. Sample Selection and Data Analysis

[10] "Creditors" is another group of acquirers, however they acquire very few distressed and many more bankrupt firms. Creditors also become bankrupt firms' owners in cases when firms' debt is converted to equity as part of reorganization under Chapter 11. We do not perform logistic regression analysis for this acquirer type due to the unusual nature of these acquisitions common primarily to bankrupt firms.

i. Sample selection

We utilize two sources of data to obtain a sample of U.S. non-utility/non-financial firms[11] that filed for Chapter 11 reorganization and emerged from bankruptcy during the period of January 1992 through December 2013: *Thompson Financial Services SDC Platinum* database and *The UCLA-LoPucki Bankruptcy Research Database* (BRD).[12] The two data sources combined list 4,086 firms filing for reorganization during this period. Next, we combine the firms from the two databases and remove duplicates. We search for firms' identifiers such as CUSIP, TICKER, and PERMNO on the *Center for Research in Security Prices* (CRSP) and eliminate those firms whose identifiers are either missing or inaccurate. This reduces our sample to 1,381 firms.[13] We further revise the sample by retaining the firms that were acquired while in reorganization or one year following their emergence. Our sample consists of 428 firms with 483 acquisition announcements[14] and effective dates classified as follows: (1) 58 acquisition announcements preceding bankruptcy announcements with effective dates either during bankruptcy or following the emergence, (2) 335 acquisition announcements while in bankruptcy with effective dates either during Chapter 11 proceedings or following the emergence, and (3) 90 acquisition announcements and effective dates within one year following emergence from bankruptcy.

[Insert Table 1 here]

In Table 1, Panel A, we delineate how we obtain our sample of 428 firms that were acquired from the time they file for Chapter 11 until one year following emergence from bankruptcy proceedings. About 12 percent of our sample has acquisition announcement dates preceding bankruptcy filing. Firms usually start experiencing financial difficulty long before petitioning for reorganization or liquidation in the Federal Court by filing Chapter 11 or Chapter 7, respectively, (Altman (1968), Aharony, Jones, and Swary (1980), Clark and Weinstein (1983), Campbell et al. (2008)) and investors continue to suffer losses up to the time of filing (Clark and Weinstein (1983)). Consequently, most bankruptcy filings are not

[11] Financial and utility firms operate in highly regulated environments and often have very different reporting standards. Including these firms would impair our ability to accurately compare sample firms' characteristics and performance.
[12] For more information see http://lopucki.law.ucla.edu/.
[13] It is possible that most of the excluded firms are either private or have never been on CRSP.
[14] Several firms in our sample had multiple acquirers in the same transaction with different announcement dates.

surprises in that most firms suffer from the throes of financial and/or operating distress for some time before the filing; many are rumored to be contemplating this drastic action well before the actual physical filing. In cases when acquisition announcements come shortly before Chapter 11 filings, the targets may have made a last attempt at reorganizing outside of bankruptcy and if the attempt[15] has failed they petition for Chapter 11 protection. In cases when acquisition announcements follow emergence from bankruptcy (19 percent of our sample), the reorganized firms may have failed to return to an operating position where they believed their long term success was reasonably assured and instead of reentering bankruptcy accepted acquisition. The bidders in this case may have timed their acquisition and have waited for the firms to emerge from Chapter 11 with less debt and a more favorable capital structure. Alternatively it is possible that both bidders and targets in this case might see enhanced opportunities for synergy and enhanced wealth for both participants, or bidders may have perceived any of the "normal" acquisition rationale as being valid. It is also possible that, according to the hubris hypothesis (Roll (1986)), the bidders are overly confident in their accuracy of their target firms' valuations. The majority of our sample firms' acquisitions, however, are announced during Chapter 11 proceedings (almost 70 percent of the announcements).

In Table 1, Panel B, we report 38 percent of the sample firms are acquired by creditors and 30 percent by investors; the remainder is acquired by operating firms. On the surface this distribution of acquirers seems surprising. For that reason and to investigate the importance of acquisition timing, we create a group of control firms as follows. We first determine all other firms that are not already part of our sample and were acquired between January 1992 and December 2013. We then calculate the Altman z-score[16] in the year preceding acquisition announcement date for each of these firms and retain those with a z-score of less than 1.81, where 1.81 is the highest point of the distress zone with probability of

[15] For instance, necessary creditors' consent may not have been achieved, or if a merger with another firm was discussed, management may not have agreed with acquisition as a method of reorganization, or perhaps a potential acquirer was not willing to accept all targets' liabilities. While in Chapter 11 the bankruptcy court can use "cram-down" provision to enforce reorganization so long as the plan does not discriminate unfairly and is equitable with respect to each class of claims.

[16] Altman's z-score, a bankruptcy-risk proxy (Altman (1968)), is defined as 3.3x((pretax income + interest expense)/total assets) + 0.999x(sales/total assets) + 0.6x(market capitalization/total liabilities) + 1.2x(working capital/total assets) + 1.4(retained earnings/total assets).

filing for bankruptcy within two years being very high.[17] We match the distressed firms with the firms in the sample based on the two-digit Securities Industrial Classification (SIC) codes, acquisition announcement date, and size measured by market capitalization. Our initial match based on two-digit SIC codes and acquisition announcement dates result in one bankrupt firm being matched to several distressed firms. We then pick a single matched distressed firm closest in market capitalization to the bankrupt firm. Our one-to-one match yields a total of 306 control firms.[18] Creditors acquire only 4 percent of distressed firms and about nine times as many bankrupt firms (36 percent of bankrupt firms are acquired by creditors or bondholders). Operating companies acquire more distressed (60 percent) than bankrupt firms (32 percent); however the percentage of acquisitions within the same industry (as measured by the two-digit SIC code) are nearly identical for the two groups of firms (66 percent for distressed and 60 percent for bankrupt firms).[19] Acquirers operating in the same industry as the target are more likely to find the best use of the target's assets and benefit from consolidation of the operations. Buyers also gain a greater post-acquisition ownership percentage[20] of the bankrupt targets (85 percent with 33 percent of bidders acquiring less than 100 percent of targets' assets) than they do of distressed firms (67 percent with 48 percent of bidders acquiring less than 100 percent of targets' assets). The average (median) value of the transaction[21] is also higher for bankrupt firms than for distressed firms ($440 ($56) million vs. $202 ($24) million).

ii. Financial and operating characteristics of sample and control targets and their acquirers

[17] We evaluate the distributions (and quartiles of the distributions) of Altman z-scores for both sample and control firms. We find that the distributions are qualitatively similar with the exception that, there are 13 bankrupt firms (3.77 percent out of 345 firms for which we calculate z-score) in the highest quartile with the z-scores exceeding 1.8. Four of these firms have z-scores of 3 or higher. By including these few non-distressed bankrupt firms in our sample we potentially biasing our results upwards when comparing the financial characteristics and performance of bankrupt and distressed firms.

[18] Several sample firms are matched to the same control firm. In order to avoid comparing different sample firms to the same control firms, we eliminate these duplicates from our analysis.

[19] These results are similar to those of Clark and Ofek (1994) and Hotchkiss and Mooradian (1998) who find that acquirers of distressed firms are frequently in the same industry.

[20] Per SDC, "Percent Owned by Acquirer Post Merger: The percentage of a company held by the acquirer upon completion of a merger. This data item will be populated if the merger results in the formation of a new company and the percentages held by former target and acquirer shareholders have been disclosed, or in reverse takeovers. In reverse takeovers, if the post merger percentage owned is not disclosed, Thomson Financial will calculate the percentage if the number of shares issued and current number of shares outstanding is available in public disclosure."

[21] Per SDC, "Value of Transaction ($ mil): Total value of consideration paid by the acquirer, excluding fees and expenses. The dollar value includes the amount paid for all common stock, common stock equivalents, preferred stock, debt, options, assets, warrants, and stake purchases made within six months of the announcement date of the transaction. Liabilities assumed are included in the value if they are publicly disclosed. Preferred stock is only included if it is being acquired as part of a 100% acquisition. If a portion of the consideration paid by the acquirer is common stock, the stock is valued using the closing price on the last full trading day prior to the announcement of the terms of the stock swap. If the exchange ratio of shares offered changes, the stock is valued based on its closing price on the last full trading date prior to the date of the exchange ratio change. For public target 100% acquisitions, the number of shares at date of announcement (CACT) is used."

Because we have three types of acquirers—operating companies, creditors, and investors[22]—we provide analysis of bankrupt and distressed firms based on acquirer type. We report descriptive statistics for the sample firms as of one year preceding bankruptcy filings. For control firms, the same statistics are reported as of one year preceding acquisition announcements. In addition, we report statistical significance tests for differences between means (two-tailed t-test) and medians (Wilcoxon-Mann-Whitney test) of variables reported in the table. We compare means and medians for all bankrupt and all distressed firms, for bankrupt and distressed firms acquired by investors, for bankrupt and distressed firms acquired by creditors, and for bankrupt and distressed firms acquired by other operating companies.

[Insert Table 2 here]

In Table 2 we compare firms acquired in Chapter 11 to acquired distressed firms. In Panel A we provide pre-bankruptcy/pre-announcement financial data for the sample and control firms. The sample firms are significantly different from control firms on many reported measures. Although, the financial condition and operating performance are poor for both groups of firms, surprisingly, distressed firms significantly underperform bankrupt firms as shown by differences in means of performance related variables such as EBITDA as a percentage of sales or assets and profit margin. Bankrupt firms are larger (as measured by either total assets or sales) and more levered, but also have a lower market capitalization and market-to-book ratio than do distressed firms. Bankrupt firms acquired by investors also have greater median assets and sales, lower mean market capitalization, and better cash flow returns on assets and ROA than do investor acquired distressed firms. Bankrupt firms acquired by creditors are more levered and better performing as measured by medians of debt ratio, profit margin, and ROA, than distressed firms acquired by creditors.[23] Similarly, operating company acquired bankrupt firms are larger than their distressed counterparts (as measured by medians of assets and sales), have lower market capitalization and market-to-book ratio, greater leverage, and better mean cash flow returns on sales. These firms however have lower median profit margin and mean and median ROA than do distressed firms acquired

[22] Based on acquirers' business description, "investors" are primarily investment firms, investment holding companies, and private equity funds.
[23] As we report in Table 1, creditors acquire many more bankrupt than distressed firms.

by other operating companies. Notably, none of the differences between Altman z-scores between bankrupt and distressed firms are statistically significant. Contrary to our expectation distressed firms' pre-acquisition operating performance is generally worse than that of bankrupt firms.[24] They are, however, smaller and less levered than their bankrupt counterparts.

In Panel B of Table 2 we present CEO turnover and officers and directors' stock ownership. We utilize COMPUSTAT's Execucomp and Thomson Reuters' Insider Data to gather management turnover and investment data available for bankrupt and distressed firms.[25] The variable "CEO replaced through bankruptcy filing" indicates whether the CEO in office during the two years prior to filing is still in office at the time of filing. We subtract 730 days from the filing data and determine whether or not firms have the same CEOs during this two-year period. The two-year CEO turnover we report in Panel B is 44 percent, slightly lower than the levels found in previous studies of distressed firms.[26] The variable "CEO replaced through acquisition" indicates whether the CEO in office during the two years prior to acquisition date is still in office at the time of announcement. We find that fewer distressed firms' CEOs are replaced as a result of acquisition than CEOs of bankrupt firms.[27] Interestingly, this percentage is somewhat higher for distressed firms acquired by another operating firm (34 percent) than it is for bankrupt firms acquired by another operating firm (27 percent). It appears that CEOs in these distressed firms who have been with the company for less than two years are more likely to consider merger as a method of reorganization. Firms with higher CEO turnover during two years prior to acquisition by creditors and investors are less likely to reorganize via M&A outside of bankruptcy (mean CEO turnovers for bankrupt firms acquired by creditors and investors are 45 and 30 percents, respectively, and mean CEO turnovers for distressed firms in the same acquirer type categories are only 7 and 11 percent, respectively). The level of officers and directors' stockholdings is similar between bankrupt and

[24] As discussed earlier the paper, we have 13 bankrupt firms in our sample with z-scores of above 1.8. To verify robustness of the characteristics reported in Table 2, we remove these firms from our analysis and re-calculate means and medians for the performance related variables. The statistics we obtain are identical to those reported in Table 2, Panel A.

[25] The sources used to gather the data do not have comprehensive coverage of the variables reported in Panel B of Table 2. In addition, COMPUSTAT's Execucomp only provides data on the top officers of the S&P 1500 Index active, inactive, current, and previous member firms.

[26] About 50-51% of CEOs are replaced by the time of bankruptcy filing (Betker (1994), Hotchkiss and Mooradian (1998)).

[27] However, CEO turnover percentages due to acquisition are possibly inflated for bankrupt firms with bankruptcy filings preceding acquisition announcements because these percentages may measure effects of the filings and not of the announcements on the CEO replacement.

distressed firms, suggesting officers and directors are no more or less invested in the firms for the acquired distressed firms than for acquired bankrupt firms. However, officers and directors' ownership is significantly larger for bankrupt than distressed firms acquired by creditors.

iii. Analysis of merger transactions

Table 3 provides a detailed description of firm and deal valuations and discounts and premiums. We report characteristics of the acquisitions for both bankrupt and distressed firms and categorize them based on type of acquirer.

[Insert Table 3 here]

In Panel A of Table 3 we report available statistics on firm and deal valuations at the time of acquisitions. We obtained these data from Thompson Financial Services SDC Platinum Database. Deal value and firm market and book values are greater for bankrupt firms than for distressed firms. This is driven by the data for bankrupt (versus distressed) firms acquired by either investors or creditors. However, when analyzing these values for each sample and control subcategories we observe that mean and median deal and firm values of the distressed and bankrupt firms acquired by another operating company are identical.

In Panel A we also report that relative to distressed firms, both means and medians of deal and enterprise values as multiples of either sales or book value of total assets are *lower* for bankrupt targets than they are for distressed targets. In addition, mean (median) deal value divided by common equity and mean (median) offer price divided by book value are 2.0 (1.1) and 1.7 (1.0), respectively, for bankrupt firms and 5.7 (2.1) and 4.9 (1.8), respectively, for distressed firms. These differences remain when comparing bankrupt and distressed firms categorized based on acquirer type.[28] In summary, enterprise and deal value multiples are higher for distressed than for bankrupt firms, suggesting greater valuation of distressed firms and possibly their ability to secure better acquisition prices than bankrupt firms.

[28] Due to the small subsample size for distressed firms acquired by creditors, two tailed t-test and Wilcoxon-Mann-Whitney test failed to identify apparent differences between the means and the medians as statically significant.

As part of our analysis we evaluate whether or not distressed firms negotiate better prices than do firms merging in bankruptcy. This is also important in determining whether timing of acquisitions plays an important role. Jensen (1986) analyzes the premium paid relative to the pre-offer share price of the target. However, this measure is not meaningful for comparisons of transactions involving bankrupt and distressed targets. Bankrupt target shareholders, for instance, may receive little or no distribution as the result of the transaction. In addition, the common stock of many distressed and bankrupt targets ceases trading. For our purposes of determining premiums and/or discounts that acquirers pay for bankrupt and distressed firms' assets we utilize a modification of Hotchkiss and Mooradian's (1998) methodology. They find that the price paid for the assets of the struggling firms relative to a benchmark is a more useful measure. First, we select the benchmark to compare the price paid for the sample and control firms to all other acquisitions in the same industry[29] reported by SDC within one year[30] of the sample transaction. The price paid for a target is defined as transaction price (total value of consideration paid by the acquirer, excluding fees and expenses) plus all liabilities assumed by the acquirer (the price paid is equal to the enterprise value). We then calculate industry median price paid as a multiple of sales or total assets for the benchmark firms. This multiple times the bankrupt or distressed target's sales or total assets yields the price that would have been paid for the bankrupt or distressed firm if it had been valued similarly to all other firms in its industry. The transaction premium (+) or discount (-) is the percentage difference between the actual price paid for the target and the "industry benchmark price." We use the following formula to calculate transaction premiums and discounts.

$$EV_b = S_t * \frac{EV_b}{S_b} \text{ or } EV_b = AT_t * \frac{EV_b}{AT_b}$$

$$Premium(+)/Discount(-) = \frac{EV_t - EV_b}{EV_b}$$

[29] Inconsistent with Hotchkiss and Mooradian (1998), we base our analysis on the three-digit SIC code.
[30] The period includes one year prior to, day of, and one year following the sample and control transactions.

where EV_t and EV_b are enterprise values of target and benchmark, respectively; S_t and $S_b$are sales of target and benchmark, respectively; and $AT_t$and $AT_b$are total assets of target and benchmark, respectively.

We present the results of this analysis in Table 3, Panel B. As this Panel shows, relative to the industry benchmark, acquirers pay substantially lower multiples of sales and total assets for bankrupt firms than they do for distressed firms. Regardless of the benchmark multiple used, bankrupt targets are purchased at a deep discount: the median is -29 percent when measuring against industry's median of enterprise value divided by sales and -37 percent when measuring against industry's median of enterprise value divided by total assets. The respective median discounts for distressed firms are -12 percent and -20 percent.[31] Discounts are the highest for the bankrupt firms acquired by other operating companies and the lowest for the bankrupt firms acquired by creditors. Creditors acquire bankrupt firms at a -19 percent discount when measuring against industry's median of enterprise value divided by sales and at a -28 percent discount when measuring against industry's median of enterprise value divided by total assets.[32]

Turning to the distressed firm mergers: the three subgroups of distressed firms are sold at a discount (as measured by the median values) significantly smaller than that secured by bankrupt firms in the respective subcategory. In addition, creditors acquiring distressed firms pay the lowest price for the eleven targets in the sub-sample (-45 and -39 percent acquisition discounts when measuring against industry's median of enterprise value divided by sales and assets, respectively), suggesting that these acquisitions are very different from those of bankrupt firms, where creditors may be forced to accept less favorable acquisition terms in order to avoid 100% loss on their investments.

The differences in sale terms between bankrupt and distressed firms lead us to believe that time plays an important role in securing a better price for a target's assets: the sooner the firms are acquired (while in distress and not bankruptcy), the higher the price they can obtain for their assets. Bankrupt

[31] Given the non-normality of the data median is a better measure of central tendency. However the contrast between mean is more vivid: for bankrupt firms the mean discounts for sales and assets are -15 percent and -27 percent, respectively, while for distressed firms there are premiums of 20 percent and 6 percent.

[32] For the median enterprise value/sales discount of -19 percent, 58 percent of the firms are acquired at a discount and for median enterprise value/total assets discount of -28 percent, 67 percent of the acquisitions are at a discount.

firms may not have as much leverage in negotiating better deal terms with the bidders once they enter Chapter 11 and may benefit from reorganizing via M&A prior to entering Chapter 11. Another reason why bankrupt firms' assets are sold at a discount may be acquirers' inability to pay a premium for the firms' assets or consider purchasing firms other than those sold at a bargain price.

iv. Market reaction to acquisition announcements

We now turn to analyzing the market reaction to announcements of acquisitions of bankrupt and distressed firms. Day 0 is the day of acquisition announcement. We present market adjusted and cumulative market adjusted returns and abnormal trading volumes for days -10 through +10 surrounding the announcement day. Market adjusted returns are defined as security returns adjusted for the NYSE/Amex/NASDAQ equally-weighted returns including dividends. We use equally-weighted returns instead of value-weighted returns in calculations of market adjusted returns because equal weighting captures the extent of underperformance better than value weighting does and this is important given the particular nature of bankrupt equity (Gilson (1995), Brav et al (2000), Kadiyala and Rau (2004)). In addition, Brav et al (2000) argue that because small stocks are likely to be mispriced more than large stocks, then the magnitude of mispricing consideration alone implies the use of equal weighting. We utilize CRSP to gather market related data. We expect to observe a more favorable market reaction to acquisition announcements of distressed than bankrupt firms. In acquisitions of bankrupt firms there is an increased possibility of the cancellation of existing shares or more massive dilution than distressed firms' shareholders face.

[Insert Table 4 and Figure 2 here]

In Panel A of Table 4 we present the abnormal returns analysis. Daily and cumulative abnormal returns are statistically insignificant for both targets and acquirers on most of the days prior to the announcements. Bankrupt targets' mean CMAR is -1.86 percent and not statistically significant for the pre-announcement period t-10 through t-1. Bankrupt firm acquirers' CMAR for the same pre-announcement period is 2.54 percent, which is also not statistically significant. This indicates that there is little or no information leakage prior to bankrupt firms' M&A being formally announced. On the day of

acquisition announcement, bankrupt targets' mean daily abnormal return is -8.5 percent and it is 3.85 percent for their acquirers, both statistically significant. The two-day mean abnormal returns are -9.6 (significant at a ten percent level) and 5.1 (significant at a five percent level) for bankrupt targets and acquirers, respectively. The daily mean abnormal returns are negative for the bankrupt targets three days following the announcement, with mean abnormal return of -3.5 percent on day t+2 being statistically significant at a 5 percent conventional level. Post-announcement CMARs (for days t+2 to t+10) are not statistically significant for either bankrupt targets or their acquirers.

In Table 4, Panel B, we present results of the analysis of market reaction to acquisition announcements for distressed firms and their acquirers. We observe a very different market reaction for distressed as opposed to bankrupt targets. Distressed targets and their acquirers' pre-announcement abnormal returns are positive and statistically significant starting on days -4 and -1, respectively, perhaps due to merger rumors, positive news announcements, and/or insider trading.[33] The pre-announcement CMARs for targets and their acquirers (for the period from t-10 to t-1) are 1.85 percent (statistically significant at a 10 percent level) and -0.42 (not statistically significant), respectively. Market participants possibly anticipate resolution of distress through acquisitions and react positively to announcements of the transactions: daily abnormal returns are positive and statistically significant for distressed targets starting several days prior to the announcements. Distressed targets' mean abnormal return on the day of the announcement is economically and statistically significant 12 percent; their acquirers' mean daily abnormal return is 2.7 percent on the day of the announcement. The two-day mean abnormal return (time window 0, 1) is 18.8 percent (significant at a one percent level) for distressed targets and 2.9 percent (significant at a five percent level) for their acquirers. While on day t+2 abnormal returns are not significant for either targets or bidders, on day t+3 the mean abnormal daily returns are 0.69 and -0.73 for distressed targets and their acquirers, respectively, which are statistically significant at a five percent

[33] Keown and Pinkerton(1981) find that market reaction to intended mergers begins prior to the public announcement of the merger. They observe trading on this non-public (insider) information as early as 12 trading days prior to the announcement.

level. Post-announcement CMARs for distressed targets and their acquirers are not statistically significant for the time period (+2, +10).

In summary, for bankrupt targets we observe a massive sell-off, perhaps in anticipation of the cancellation of the existing share and/or their dilution, which drives the firms' share price down. In contrast, investors acquire shares of distressed targets, possibly in anticipation of distress resolution and future gains, driving the price up.

a. Announcement abnormal returns of bankrupt firms categorized by the timing of acquisition announcements relative to bankruptcy filings

In Table 4 we observed positive market reaction to acquisition announcements of distressed firms and negative reaction to acquisition announcements of bankrupt targets. In Table 3 we also found that firm and deal valuation multiples are higher for distressed firms than for bankrupt firms. Finally, we observed that distressed firms sell their assets at a premium while their bankrupt counterparts sell them at a discount. Based on these results we continue to believe that whether the firms are acquired in or outside of bankruptcy matters when it comes to choosing acquisition as a method of reorganization.

However, negative market reaction to the acquisition announcements of bankrupt firms might be due to the timing of these announcements, especially if they take place on the day of bankruptcy filings. That said, to strengthen our evaluation of market reaction to the announcements of bankrupt firms' acquisitions we further analyze the abnormal returns by categorizing our sample firms based on the timing of acquisition announcements in relation to bankruptcy filings and emergence.

[Insert Table 5 and Figure 3 here]

In Table 5 we report mean daily market adjusted returns and CMAR for four groups of bankrupt targets, categorized by the timing of acquisition announcements in relation to bankruptcy filings. Firms in the first group have acquisition announcements before Chapter 11 filings,[34] firms in the second group

[34] We have searched LexisNexis Academic for the official acquisition announcements and news articles around the same time for the 26 firms with the announcements preceding bankruptcy filings to see if there were any statements made regarding the upcoming bankruptcy filings. Although the stock market may have anticipated the filings, the firms have not made information about the bankruptcy filings official until the actual filings.

have announcements on the date of the filings, firms in the third group have announcements while in bankruptcy, and firms in the last group have announcements during one year following emergence.

Pre-announcement MARs and CMARs for the group of firms with acquisition announcements before Chapter 11 filings are not significant. Market reaction to the acquisition announcements of these firms is negative, perhaps in anticipation of bankruptcy filings (the mean market adjusted return for these firms on the announcement day is an economically material and statistically significant -14.5 percent). Considering the effect of acquisition announcements made after the market close, the two-day (days t=0 and t+1) mean abnormal return for the firms in the first group is -11 percent. Post-announcement mean daily MARs and CMARs are not statistically significant for the firms with the announcements preceding bankruptcy filings.

For the firms with acquisition announcements on the day of the filing pre-announcement MARs and CMARs are generally negative during the ten days prior to the acquisition announcement and become statistically significant starting on day t-3. The CMAR for the time period from t-10 through t-1 is -13.93 percent which is significant at a five percent level. Not surprisingly, on the announcement date the mean daily market adjusted return for bankrupt firms with the same acquisition announcement and bankruptcy filing dates is very large: approximately -30 percent. The two-day mean abnormal return is -40 percent and on day t+2 we observe an additional mean abnormal return of -17 percent for this group of firms. Post-announcement CMARs are negative and statistically significant for the firms with the same announcement and filing dates.

The ten-day CMAR for the subsample filing during bankruptcy is negative but not significant. Although day t=0's mean abnormal return is also negative for the group of bankrupt firms with acquisition announcements while in reorganization (-3.12 percent), it is not statistically significant. The two-day announcement period CMAR for these firms is -2.6 percent, which is also not significant. For the firms with acquisition announcements while in reorganization post-announcement CMAR (for the time period from t+2 through t+10) also is not significant.

Finally, we observe a positive pre-announcement run-up for the firms with acquisition announcements during the year following emergence from Chapter 11. Mean MAR on days t-2 is 3.19 percent, which is statistically significant at a five percent level. Mean CMAR is approximately 10 percent and statistically significant at a five percent level for the pre-announcement period from t-10 through t-1. The two-day CMAR (for days t=0 and t+1) is approximately 12 percent, which is economically material and statistically significant at a ten percent level for the firms with the announcements during the year following emergence from bankruptcy. Post-announcement CMAR (for the period from t+2 through t+10) for these firms is not different from zero.

In summary, for the first three groups of firms we observe negative abnormal returns: mean abnormal returns are negative and statistically significant on the announcement day for the first two groups with the mean daily and cumulative abnormal returns for the group of firms filing for bankruptcy and announcing the acquisition on the same day being the lowest. Although negative, cumulative abnormal returns for the group of firms with acquisition announcements while in bankruptcy are not statistically significant. Based on the analysis of timing of acquisition announcements in relation to bankruptcy announcements we find that bankruptcy (or anticipation of it) leads to a negative market reaction to otherwise good news of the firms being acquired. From examining daily mean abnormal returns we observe three vastly different responses to acquisition announcements—significantly negative, negative, and positive.

v. Post-acquisition performance

We turn now to post-acquisition performance. To measure post-acquisition performance we use pretax operating cash flow returns before interest, taxes, and depreciation and amortization (EBITDA). To provide measures comparable across sample and control firms we deflate EBITDA by sales. When using operating cash flows to measure firm performance some researchers scale EBITDA by assets to obtain cash flow returns on assets. Return on sales however is not affected by differences in accounting treatment across transactions and differences in the degree of asset write-downs, which can be substantial for distressed and bankrupt firms. The operating cash flow ratios are calculated as the sums of target and

acquirer's EBITDA divided by the sums of target and acquirer's sales revenues for three years before the acquisition. After the acquisition, we use the acquirers' operating cash flow ratios. We analyze operating cash flow ratios only for those bankrupt and distressed firms acquired by another operating firm for which accounting data is available.

[Insert Table 6 here]

In Table 6, Panel A, we report median levels of bankrupt and distressed firms' operating cash flow ratios from three years before the effective date of acquisition to three years after the effective day of acquisition. For the firms acquired in Chapter 11 or during the first year following their emergence, the combined target and acquirer's cash flow returns increase from year -3 to year -2 and then in year -1 fall back almost to the same level as in year -3. Bankrupt firms' post-merger operating cash flow returns improve substantially, peaking at almost 18 percent of sales in year +2. For distressed firms, the level of these combined returns declines somewhat in the years prior to the acquisition, and improves in the two post-acquisition years. Distressed firms' combined pre-acquisition cash flow returns are higher than those of bankrupt firms in two of the three years and slightly lower in each of the three years following effective year of acquisition.

In Panel B of Table 6 we show changes in bankrupt and distressed firm operating cash flows relative to the year prior to their acquisitions. For bankrupt firms, we observe positive and significant changes from the year prior to acquisition to years +1, +2, and +3, with the change for the time window -1, +2 being the highest (0.11), although not significantly different from the changes for the other two time windows. For distressed firms these performance changes, although positive, are not significantly different from zero in each period with exception of the period from year -1 to year +3. During the last time horizon the median performance change for distressed firms is 0.01, which is not economically material, while for bankrupt firms it is almost 0.11. Clearly, post-acquisition performance and improvement in performance of firms merged with bankrupt firms is better than that of firms merged with distressed firms. Hence, acquisitions of bankrupt firms add greater economic value than do acquisitions

of distressed firms acquired outside of bankruptcy. It is possible that operating firm acquirers of bankrupt targets select firms likely to experience improved performance.

In summary, we analyzed market reaction to acquisition announcements for targets and their acquirers and changes in firms' post-merger operating performance. Price changes around the announcements should reflect anticipated changes in future cash flow, which accrue to firms' shareholders. One must also note that we have fewer bankrupt than distressed targets that are acquired by other operating companies. Surprisingly, negative market reaction to bankrupt targets' merger announcements reported in Tables 4 and 5 does not accurately reflect positive changes in the post-merger operating cash flows and vice versa, positive market reaction to distressed targets' announcements does not reflect quite weak positive changes in the post-merger operating cash flow returns.

IV. Hypothesis Testing and Presentation of Regression Results

Previously (in Table 3) we found that acquired distressed firms secure a higher premium for their assets than do bankrupt firms. In addition, from Tables 4 and 5 we found significant negative abnormal market returns on the day of acquisition announcements for bankrupt firms while these returns are positive and economically material for acquired distressed firms and reorganized firms acquired in the year following emergence from Chapter 11. In Table 6, we, however, observed weaker improvements in operating performance for the merged distressed than bankrupt firms. That said, we now turn to testing our first hypothesis that firms that are larger, less levered, less distressed, and with higher returns on assets and operating cash flow returns on sales reorganize via merger or acquisition. We evaluate the likelihood of distressed firms to be acquired before they petition for bankruptcy protection under Chapter 11.

[Insert Table 7 here]

To test the first hypothesis related to likelihood of acquisition being used as a method of reorganization for distressed firms we utilize a logistic regression and set our binary dependent variable to be equal to one if a firm is an acquired distressed firm (which includes all our control firms and excludes all bankrupt firms, regardless of the announcement in relation to bankruptcy filings), and zero otherwise.

Prior to running the regressions, we eliminate all duplicate firms as a result of matching several bankrupt firms to the same distressed firm (in Table 1 we report 428 total number of bankrupt firms and 306 total number of distressed firms). We use the following performance related variables measured as of one year prior to bankruptcy filings for bankrupt firms and as of one year prior to acquisition announcements for distressed firms, identical to those reported in Table 2, as controls: natural logarithm of market capitalization (LNMKTCAP), number of employees (EMP), Altman's z-score (ZSCORE), debt-to-equity ratio (DEBT), return on assets (ROA), operating cash flow returns on sales (OCFSL), current ratio (CURRT), market-to-book ratio (MB), and shareholdings of officers and directors (OFFDIR), and institutions (IH) as percentages of total shares outstanding. We omit using several variables reported in Table 2 such as total assets, sales, and debt-to-assets ratio, to avoid high correlations among variables in the regression.

In Model 1 we use the following independent variables: natural logarithm of market capitalization, number of employees, and z-score to measure effects of firm's size and level of distress on the likelihood of acquisition outside of bankruptcy. Larger firms with smaller workforces are more likely to reorganize via merger: for one unit increase in natural log of market value the likelihood rises by close to 17 percent and for one unit increase in the number of employees it falls by 3 percent.

In Model 2 we add liquidity, debt management, profitability, and market value related variables and remove z-score because it highly correlates with several newly added variables. We find that the size related variables remain statistically significant. The magnitude and the direction of the variables' parameters remain similar to those in Model 1. Variables such as debt-to-equity, ROA, and cash returns on sales do not relate to the likelihood of acquisition outside of bankruptcy. We find that current and market-to-book ratios have parameter estimates of 0.14 and 0.08, respectively, which are statistically significant at a five percent level, indicating that the likelihood to reorganize via acquisition rises for the firms with greater current and market-to-book ratios—for one unit increase in each variable the likelihood rises by 15 and 8 percent, respectively.

In Model 3 we add two more variables to the variables in Model 2, percentage shareholdings of officers and directors, and of institutional managers, to analyze relevance of these variables to the likelihood of being acquired outside of bankruptcy. We find that the relationships between variables such as natural log of market capitalization, number of employees, current and MB ratios and the likelihood of acquisition outside of bankruptcy remain statistically significant in the third model. We find that officers and directors' percentage shareholdings directly relates to the likelihood of considering merger as a reorganization method—with one unit increase in the variable the likelihood increases by nearly 5 percent. This relation indicates that firms with greater officers and directors' shareholdings, ownership of individuals who directly influence decisions to merger or to petition for reorganization, are more likely to merge outside of bankruptcy. These individuals are likely aware of their firm's high likelihood of filing for bankruptcy. To avoid bankruptcy and possible loss of all of their holdings, officers and directors with greater stake in their companies prefer merger to Chapter 11. We find no relationship between institutional shareholdings variable and the likelihood of merger outside of bankruptcy, suggesting that institutional ownership does not influence probability of the firms' reorganizations via merger.

We now separate our firms based on the type of acquirer (operating company vs. investors) and run regressions 4 and 5 with several variables from Model 3. Model 4 is for distressed and bankrupt firms acquired by investors. Model 5 is for distressed and bankrupt firms acquired by other operating companies. In models 4 and 5 we use fewer independent variables because of the reduced number of observations in each sub-group of firms. We utilize the natural log of market capitalization, number of employees, two size related variables, debt-to-equity ratio, a debt management related variable, ROA, ratio that measures profitability, current ratio, ratio that measures liquidity, market-to-book, market value variable, and percentage of officers and directors' shareholdings, an insider related variable. We use an addition dummy variable, SIC, in Model 5 to control for industry. SIC is equal one if a target and its acquirer operate in the same industry, and zero otherwise.

From Model 4 we observe that investors are more likely to acquire distressed firms with smaller number of employees, higher MB ratio and officers and directors' shareholdings. We find that parameter

estimates of these three variables are -0.06, 0.159 and 0.142, respectively. For every unit increase in the number of employees the likelihood of the firms reorganizing via merger declines by 6 percent, which is not economically material. For every unit increase in either MB or executive shareholdings variable the likelihood of the firms choosing merger as a reorganization method rises by on average 16 percent. We find that coefficients of all other variables in the model are not statistically significant.

Based on the results of Model 5, we observe that operating firm acquirers are inclined to purchase outside of bankruptcy struggling targets that are bigger and better performing.[35] We find that for one unit increase in natural log of market capitalization and ROA the likelihood of the acquisition increases by 30 and 84 percent, respectively. The operating firms are also more likely to acquire non-bankrupt firms with higher current ratio—for every unit increase in current ratio the likelihood goes up by 18 percent. Similar to the findings by Hotchkiss and Mooradian (1998), we observe that acquisitions of distressed firms by other operating companies directly relate to whether or not the bidders and the targets operate in the same industry. We observe that parameter estimate of variable SIC is 0.87, which is economically material and statistically significant.

Based on the results reported in Table 7, Models 1 through 3, we find support for our first hypothesis. Bigger firms (as measured by natural log of market capitalization) with higher short-term liquidity (as measured by current ratio) and market valuation (as measured by MB ratio) are more likely to reorganize via M&A. We find that performance related measures such as ROA and operating cash flow returns on sales and variables measuring levels of distress and leverage (z-score and debt ratio) do not seem to play a role in the probability of reorganization via merger. Finally, we find that the percentage of shares held by officers and directors directly relates to the likelihood of reorganization via merger.

Based on the results in Model 4, we observe that firms' qualities such as size, leverage, short-term liquidity, and their performance measured by ROA do not seem to matter for timing of acquisitions by investors. Investors prefer to acquire distressed firms with higher market value and larger officers and

[35] "Better performing" in comparison to our samples of firms, not the overall population of firms.

directors' ownership. Based on the results of the last regression and in line with our earlier conjectures, operating firm acquirers prefer to acquire distressed firms that are bigger, with better short-term liquidity, stronger performance, and operating in the same industry.

To test our second hypothesis, we adopt methodology used by Healy et al (1992), Barber and Lyon (1996), and Hotchkiss and Mooradian (1998). We use the cash flow performance variables of bankrupt and distressed firms reported in Table 6 as independent variables and run several cross-sectional regressions of post-merger cash flow returns on sales for years 1, 2, and 3 on pre-merger cash flow returns in year -1. We scale operating cash flows by sales and not total assets in order to address the historic costs and non-operating assets problems. The disadvantage of using cash flow returns on sales is that it does not measure decline in productivity of bankrupt and distressed firms' assets. Our intercept measures abnormal performance and captures post-merger performance influenced by economy-wide and industry factors as well as any omitted variables. We run the regression of the following form:

$$CR_{post,i/j} = \alpha + \beta\, CR_{-1,i/j} + \varepsilon_{i/j}$$

where $CR_{post,i/j}$ is the post-merger (years 1-3) cash flow return on sales for bankrupt (*i*) and distressed (*j*) firms, and $CR_{-1,i/j}$ is the pre-merger (year -1) cash flow return on sales for bankrupt (*i*) and distressed (*j*) firms. The slope coefficient β measures covariance, scaled by a variance term of the explanatory variable, between pre- and post-merger cash flow returns or the relationship between the firm performance one year prior to acquisition and post-merger cash returns one, two, and three years following the acquisition. We are, however, more interested in intercept coefficient α that captures magnitude of cash flow improvements from one year prior to acquisition to one, two, and three years following the transaction—after accounting for the cash flow return of the year prior to merger and "market" volatility as measured by β. To obtain results and to address issues of non-normal distribution of data, heteroscedasticity, and inclusion of observations with large residuals, we estimate the asymptotic covariance matrix of the estimates under the hypothesis of heteroscedasticity and report heteroscedasticity consistent p-values.

[Insert Table 8 here]

In Panel A, in each regression for bankrupt firms the abnormal performance measured by α is positive and significant. The magnitude of cash flow improvements for year-period (-1, 1) is approximately 17 percent, for period (-1, 2) 15 percent, and for period (-1, 3) approximately 14%.[36] In Panel B, for the distressed firms acquired outside of bankruptcy abnormal performance although positive is not different from zero for the first two year-periods. The magnitude of cash flow improvement is statistically significant 11 percent for the last year-period of (-1, 3), however we don't observe any correlation between pre- and post-merger cash flow returns during this period as the coefficient on variable $CR_{-1,j}$ is not different from zero. In addition, based on the low adjusted R^2, the third regression equation does not have explanatory power while the equations for two prior years do. This evidence reported in Table 8 does not support our second hypothesis. We instead observe that acquisitions of firms in Chapter 11 create greater value in terms of operating cash flow returns than do acquisitions outside of bankruptcy.

In addition to evaluating and comparing operating performance of the merged bankrupt and distressed firms, we perform similar analysis of the pre- and post-acquisition cumulative market adjusted returns for the two groups of firms. We analyze the returns for three, six, and twelve month post-acquisition periods and regress them on the three month pre-acquisition cumulative abnormal returns. We compute three month pre- and post-acquisition cumulative adjusted returns as a weighted sum of the returns for target and its acquirer.[37]

[Insert Table 9 here]

In Table 9 we report combined mean cumulative abnormal returns for 3-, 6-, and 12-month post-merger periods. We determine combined returns for all bankrupt firms, for bankrupt firms that were acquired in Chapter 11, for bankrupt firms that were acquired during the first year after emergence, and

[36] Hotchkiss and Mooradian (1998) find cash flow improvements ranging from approximately 5% to year +1 and 6% to year +2. Please note: the further away we move from the year of merger, the more the cash flow improvements become affected by aspects other than merger.

[37] To calculate targets' weights, we divide their pre-acquisition market values by the sum of the targets and acquirers' market values. Similarly, to calculate acquirers' weights, we divide acquirers' pre-acquisition market values by the sum of targets and acquirers' market values. We then multiply targets' cumulative abnormal returns by their weights and acquirers' market adjusted return by their weights. To determine combined abnormal returns, we sum up the weighted abnormal returns for targets and their acquirers. In the 3- and 6-month post acquisition periods, approximately 41 percent of returns are acquirers' only; in the 12-month post acquisition period, this percentage is 39. In addition, mean (median) percentage bankrupt and distressed target weights are 7.99 (6.96) percent and 13.12 (10.93) percent, respectively. Thus in general targets' weights are not very important in this analysis.

for distressed firms. We find that bankrupt firms' combined post-merger cumulative abnormal returns are -1.18, -2.94, and -6.26 percent during the 3-, 6-, and 12-month periods, respectively (abnormal returns for 3- and 6-month periods are not statistically significant and for 12-month period they are significant at a five percent level). Mean abnormal returns for bankrupt firms acquired while in Chapter 11 are approximately -3.54, -5.91, and -9.53 percent during the 3-, 6-, and 12-month periods, respectively (abnormal returns for 3- and 12-month periods are statistically significant at a five percent level and for 6-month period they are significant at a ten percent level). Mean cumulative abnormal returns for bankrupt firms acquired after emergence are positive, but not statistically significant. Cumulative abnormal returns for distressed firms are negative during 3- and 12-month periods and positive during 6-month period; they are not significant in any of the three time periods. From these results and the results presented in Figure 2 we observe that when bankrupt firms are acquired, the target firms' shareholders largely suffer great market losses at the time of the merger announcements and the acquirers in the year after acquisition have negative abnormal returns. Conversely, when announcements of distressed firm acquisitions are made, they and their acquirers get large positive announcement abnormal returns and in the year after consummation the acquirer returns are quite modest and not nearly of the magnitude of the announcement returns for the targets, thus the targets' shareholders reap the biggest proportion of these returns.

Finally, in Table 10 we analyze changes in the market performance of merged bankrupt and distressed firms. We run several cross-sectional regressions of post-merger cumulative abnormal returns on the three month pre-merger cumulative abnormal returns for both sample (in Panels A, B, and C) and control (in Panel D) firms. As in Table 8, our intercept measures abnormal performance and captures post-merger market performance influenced by economy-wide and industry factors. It captures the magnitude of market return improvements from three month prior to effective date of acquisition to three, six, and twelve months following the transaction. The slope coefficient β measures covariance, scaled by a variance term of the explanatory variable, between pre- and post-merger market returns or the effect of the firm's market performance during three months prior to acquisition on post-merger three, six, and twelve month abnormal returns. Similar to the regressions in Table 8, we estimate the asymptotic

covariance matrix of the estimates under the hypothesis of heteroscedasticity and report heteroscedasticity consistent p-values for each regression.

[Insert Table 10 here]

In Panel A of Table 10 we report regression results for all bankrupt firms. In each regression for bankrupt firms in the panel the abnormal market performance measured by α is negative and significant only in the third regression. The magnitude of market performance decline during the month period (-3, +3) is approximately 2 percent, during the period (-3, +6) this decline is 5 percent, and during the period (-3, +12) it is 11 percent. We observe that the relationship between the pre- and post-merger cumulative abnormal returns during the second and third periods is inverse and we do not observe any correlation between the returns during the first time period as the coefficients on variable $CR_{-1,j}$ is not different from zero in the first regression. Based on the adjusted R^2, explanatory power of the equations improves for the longer time periods (equations two and three).

In the following two panels, Panels B and C, we split bankrupt firms into the firms with acquisition announcements either before bankruptcy filings or while in Chapter 11 and the firms with acquisition announcement during the first year after emergence, respectively. We partition our sample firms this way because, as plotted on Figure 3, the abnormal returns around announcement dates are positive for the firms with acquisition announcements after emergence and negative for all other bankrupt firms. In Panel B, we observe that intercept becomes increasingly negative and statistically significant in all three regressions. We also observe that the relationship between pre- and post-merger cumulative abnormal returns during all three periods is inverse, suggesting that the market performance of bankrupt firms with stronger pre-merger cumulative abnormal returns improves less than the market performance of bankrupt firms with weaker pre-merger returns. In addition, based on the adjusted R^2, explanatory power of the equations improves for the longer time periods (equations two and three).

In Panel C of Table 10 we find that the abnormal market performance measured by α is positive however not statistically significant in all three regressions. We also observe that the relationship

between pre- and post-merger cumulative abnormal returns during all three periods is significant and inverse. However, based on the low adjusted R^2, the first regression equation does not have explanatory power while the other two equations do.

In Panel D we report regression results for distressed firms. Similar to the results in Table 8, Panel B, these firms' post-merger market performance improvements are not significant during any of the three periods analyzed. In addition, in Table 9 we observed negative however not statistically significant abnormal returns for acquired distressed firms in the six and twelve month periods; these returns are positive and also not significant in the six month period. In Panel D of Table 10, we find that post-merger cumulative abnormal returns positively relate to the firms' pre-merger three-month cumulative returns in the six and twelve month periods. In addition, based on the low adjusted R^2, explanatory powers of the three regression equations are weak.

In summary, post-merger market performance improvements does not resemble those of post-merger operating performance. We observe that post-merger market performance of acquirers merged with bankrupt firms declines while market performance of acquirers merged with distressed firms somewhat improves. We conclude that acquisitions of bankrupt firms create greater operating value than do acquisitions outside of bankruptcy and acquisitions of distressed firms create greater market value than do acquisitions of bankrupt firms.

V. Conclusion

Our research paper provides empirical evidence that whether distressed firms are acquired in or outside of bankruptcy matters. Acquired bankrupt firms' total assets and sales are greater and market capitalization is lower than those of distressed firms acquired outside of bankruptcy. Although mean operating cash returns on sales is greater for bankrupt firms than it is for distressed firms, bankrupt firms' profitability and operating performance measured by median profit margin and ROA are significantly lower than those for distressed firms.

Most importantly, we find that distressed targets are capable of negotiating better deal terms than their bankrupt counterparts. Distressed firms not only avoid selling their assets at a discount, they are on

average capable of securing a sales price that frequently exceeds their enterprise value. In addition, market abnormal returns on the day of acquisition announcements for distressed firms are positive while these returns for bankrupt firms are negative. These differences are perhaps due to the fact that bankrupt and distressed firms are distinctly different groups of firms in size, level of debt, operating performance, market valuation, and, perhaps especially, bargaining position. Based on this evidence, distressed firms are better off pursuing acquisition as a more advantageous reorganization alternative to Chapter 11 filing and subsequent acquisition in bankruptcy.

We find that bigger firms with smaller workforce, higher current and market-to-book ratios, and greater percentage of shares owned by officers and directors are more likely to reorganize via merger. Investors are more likely to acquire distressed firms with a higher market-to-book ratio and percentage of officers and directors' shareholdings. Operating companies also acquire larger and better performing distressed firms (as measured by ROA) and the firms with higher current ratio. These results explain why operating firm acquirers pay the highest premium for distressed firms' assets than do investors and creditors.

We find that distressed targets sell assets at a better price (e.g., at a premium or lower discount) than bankrupt firms do. Shareholders of distressed targets also enjoy positive abnormal returns at the time of acquisition announcements, while bankrupt targets' shareholders incur losses. We also find that abnormal cash flow changes from one year preceding acquisition to any of the three post-merger annual periods are more pronounced for bankrupt than distressed firms, indicating that acquisitions in Chapter 11 add greater economic value than do acquisitions outside of bankruptcy. However we find that market returns around the day of the announcements do not accurately reflect post-merger changes in the operating cash flow returns. Abnormal market returns are negative for bankrupt targets, suggesting that investors do not anticipate positive changes in firms' future cash flows that we find as part of our analysis. Similarly, positive market reaction to acquisition announcements of distressed firms does not

correspond to weak positive changes in their post-acquisition operating cash flow returns.[38] We find post-merger market performance improvements for bankrupt and not distressed firms. In summary, distressed firms get a merger announcement premium and bankrupt firms give it away to their acquirers whose shareholders benefit from acquisition premiums in a year after the mergers.

[38] We analyze mean abnormal market returns around announcement dates (same analysis as presented on Figure 2a) for the firms included in Table 6. We find that the returns for those firms are qualitatively similar to those reported on Figure 2a: the two-day CMAR for bankrupt targets is negative and statistically significant (-21%) and it is positive and also statistically significant for their acquirers (5%); the two-day CMARs for distressed targets and their acquirers are positive and statistically significant (22% and 3%, respectively).

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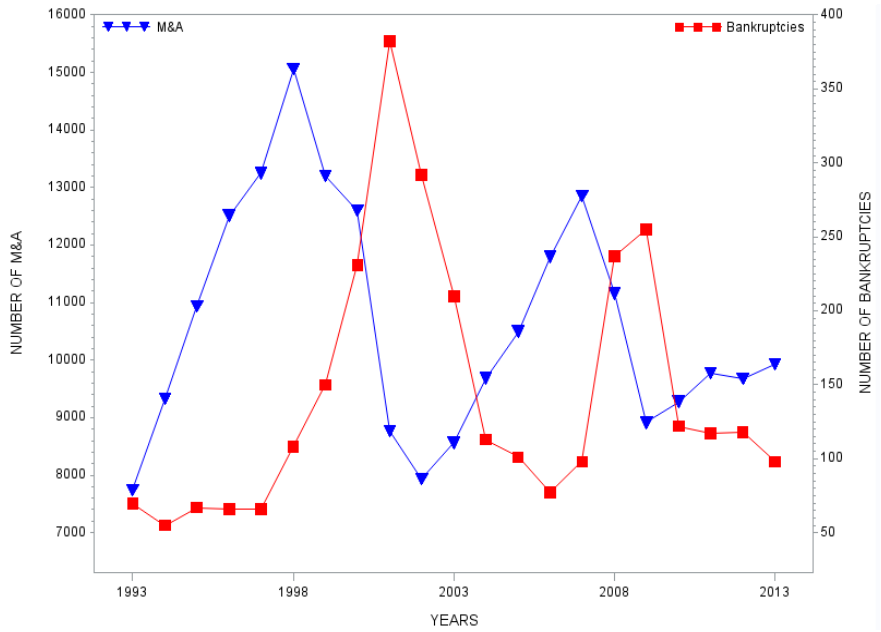
Figures 1a and 1b
Annual volume of M&A and Chapter 11 filings for the period between 1993 and 2011
(a) All M&A announcements and bankruptcy filings **(b) Bankrupt and distressed firm acquisition announcements**



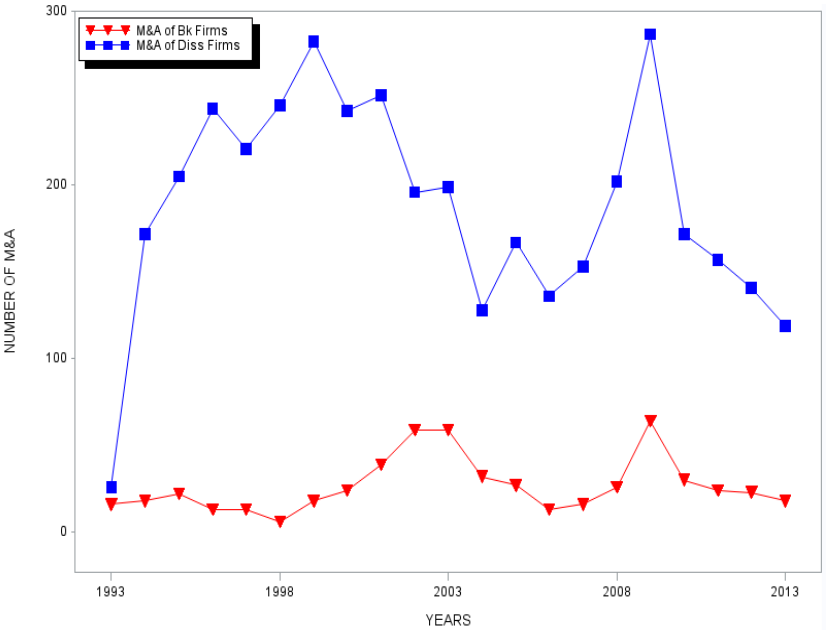


Figure 1a presents annual volumes of all M&A announcements and Chapter 11 filings for the period between 1993 and 2013. Figure 1b provides annual numbers of acquisition announcements of bankrupt and distressed firms during the same annual periods. We obtain data from Thompson Financial Services SDC Platinum database. Figure 1a contains two y-axes and one shared x-axis. The left y-axis plots yearly number of M&A transactions, and the right y-axis plots yearly number of bankruptcy filings. X-axis shows years. Figure 1b plots number of M&A on y-axis and year on x-axis.

Correlation Matrix

NAME	MA_NO	BKPCY_NO	BK_ACQ	DISS_ACQ
MA_NO	1			
BKPCY_NO	-0.33	1		
BK_ACQ	-0.65	0.71	1	
DISS_ACQ	0.42	0.47	0.25	1

The matrix reports correlation between annual volumes plotted in Figures 1a and 1b. MA_NO is number of M&A announcements, BKPCY_NO is number of bankruptcy filings, BK_ACQ is number of bankrupt firm acquisition announcements, and DISS_ACQ is number of distressed firm acquisition announcements.

Table 1
Sample formation and description of M&A transactions for distressed firms and firms filing for Chapter 11 between 1/1/1992 and 12/31/2013

Panel A: Sample of bankrupt firms formation description

	Number	Percentage
Chapter 7 and Chapter 11 filings from SDC; excludes utilities and financial firms	3,243	
Chapter 7 and Chapter 11 filings from Lopucki's Database; excludes utilities and financial firms	843	
Non-duplicating Chapter 11 filings from both data sets with accurate identifiers (Permno, CUSIP, Ticker) and emergence dates between 1992 and 2013; excludes utilities and financial firms	1,429	100%
Number of firms reorganized between 1992 and 2013	1,381	100%
Number of bankrupt firms acquired while in reorganization or one year following emergence	428	31%
Timing of acquisitions:		
*number of acquisition announcements before filing and effective date while in Chapter 11**	*14*	*3%*
number of acquisition announcements before filing and effective date after emergence	*44*	*9%*
*number of acquisition announcement and effective dates of acquisitions while in Chapter 11**	*157*	*33%*
number of acquisition announcements while in Chapter 11 and effective dates after emergence*	*178*	*37%*
number of announcement and effective dates of acquisitions during one year following emergence date	*90*	*19%*
Total number of acquisition announcements:	483**	*100%*

Panel B: Acquisition description

	Bankrupt firms	Distressed firms
Percentage of firms acquired by creditor or bondholder	38%	4%
Percentage of firms acquired by investors (other than creditors and bondholders)	30%	36%
Percentage of firms acquired by firms in the same industry (only for firms acquired by operating company: 169 bankrupt firms and 195 distressed firms)	60%	66%
Mean percentage of target owned after completion of acquisition	85%	67%
Percentage of acquirers with less than 100% post-acquisition ownership	33%	48%
Mean (median) value of transaction ($mill)	440.22 (55.51)	201.75 (24.45)

* This time period includes dates of bankruptcy announcement and emergence.

** Several firms were acquired by more than one bidder with different announcement and effective dates.

The table presents number of firms filed for Chapter 11 reorganization and emerged from bankruptcy during the period of January 1992 through December 2013. The data reported here comes from *Thompson Financial Services SDC Platinum* and Lopucki's Bankruptcy database. The sample consists of all U. S. non-utility and -financial firms that filed for Chapter 11 and completed reorganization during the period. Panel A describes sample formation. Sample consists of bankrupt firms that were acquired either while in Chapter 11 of during one year following emergence. Panel B provides information on type of acquirer and magnitude of post-merger ownership. We compile control (distressed) firms based on the two-digit Securities Data Corporation (SIC) codes, acquisition announcement date, and size measured by market capitalization.

Table 2
Characteristics of acquired bankrupt and distressed firms, categorized by acquirer type

Panel A: Firm characteristics

Variable	All bankrupt firms acquired (n=345)		Bankrupt firms acquired by investors (n=114)		Bankrupt firms acquired by creditors (n=104)		Bankrupt firms acquired by another operating company (n=127)		All distressed firms acquired (n=306)		Distressed firms acquired by investors (n=111)		Distressed firms acquired by creditors (n=13)		Distressed firms acquired by another operating company (n=182)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Total assets ($mill)	1,468.77	403.222[a]	1,134.20	465.36[a]	2917.62[c]	673.71	622.89	209.25[a]	995.58	100.90	1,488.65	100.90	1,386.76	297.39	635.62	95.04
Sales ($mill)	1,098.47	386.15[a]	1,088.12	367.15[a]	1,897.29	696.90	499.92	210.82[a]	850.34	91.20	1,214.42	133.44	1,423.38	277.09	542.68	63.87
Market capitalization ($mill)	124.76[b]	30.14	105.99[b]	36.80	169.06	37.19	106.03[b]	22.69[b]	257.19	35.77	292.37	35.62	222.85	57.03	235.67	39.69
Altman z-score	-1.686	-0.254	-1.190	0.441	-1.930	-0.336	-1.859	-0.596	-1.872	0.457	-1.483	0.732	-2.404	-0.486	-2.307	0.314
Total liabilities/total assets	1.157[b]	0.989[a]	1.062	0.864	1.355	1.068[b]	1.077[b]	1.003[a]	0.943	0.736	1.015	0.790	1.526	0.857	0.843	0.662
EBITDA/total assets	-0.080[b]	0.033	0.008[b]	0.059	-0.0002	0.053	-0.208	-0.006	-0.293	0.033	-0.278	0.054	-0.750	0.085	-0.267	0.014
EBITDA/sales	-0.316[b]	0.028	-0.305	0.040	-0.184	0.052	-0.425[c]	-0.004	-0.979	0.041	-0.755	0.053	-1.234	0.062	-0.996	0.023
Profit margin	-0.849[c]	-0.189[b]	-0.747	-0.098	-0.698	-0.146[b]	-1.043	-0.343[a]	-1.178	-0.126	-0.738	-0.079	-2.562	-0.456	-1.302	-0.139
ROA	-0.461	-0.211[b]	-0.272[c]	-0.127	-0.382	-0.177[b]	-0.664[c]	-0.354[a]	-0.516	-0.122	-0.546	-0.103	-1.225	-0.359	-0.435	-0.136
Market-to-book	0.263[a]	0.090[a]	0.319	0.324	0.308	-0.015	0.186[a]	0.047[a]	1.204	0.722	0.709	0.500	0.344	0.359	1.642	0.870
Days spent in Chapter 11 prior to effective day of acquisition	368	240	479	329	358	248	288	186	NA	NA	NA	NA	NA	NA	NA	NA

Panel B: Management turnover & ownership

Variable	All bankrupt firms acquired (n=93)		Bankrupt firms acquired by investors (n=27)		Bankrupt firms acquired by creditors (n=40)		Bankrupt firms acquired by another operating company (n=26)		All distressed firms acquired (n=91)		Distressed firms acquired by investors (n=41)		Distressed firms acquired by creditors (n=12)		Distressed firms acquired by another operating company (n=38)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
% CEO replaced through bankruptcy filing	44.00	0.00	49.00	0.00	47.00	0.00	35.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA
% CEO replaced through acquisition	35.00[a]	0.00	30.00[a]	0.00	45.00[a]	0.00	27.00[c]	0.00	20.00	0.00	11.00	0.00	7.00	0.00	34.00	0.00
% stock held by officers and directors	2.92	0.11	2.19	0.11	3.88[a]	0.11[a]	2.69	0.10	3.44	0.10	2.87	0.09	0.80	0.02	4.20	0.14
% stock held by CEO	2.51	0.25[b]	3.70	0.75	1.88	0.15[a]	2.14	0.22[c]	2.64	0.13	3.72	0.55	1.66	0.002	2.51	0.17

EBITDA: Earnings before interest, taxes, depreciation and amortization.
[a,b,c] denote mean (median) significantly different between firms in the two groups at the 1, 5, and 10% level, respectively, based on t-test (Wilcoxon rank sum test).

Table presents accounting related data gathered from COMPUSTAT's annual financial reporting statements as well as information on executives and directors obtained from Thomson Reuters' Insider Data. We categorize the data by acquirer type: investors, creditors, and operating firms. In Panels A we report characteristics of sample (bankrupt) and control (distressed) firms and in Panel B we report executive management entrenchment related data. In parenthesis, n is a number of firms for which data is available. We report descriptive statistics for the sample firms as of one year preceding bankruptcy filings. For control firms the same statistics are reported as of one year preceding acquisition announcements. The variable "CEO replaced through bankruptcy filing" indicates whether the CEO in office two years prior to filing is still in office at the time of filing. The variable "CEO replace through acquisition" indicates whether the CEO in office two years prior to acquisition date is still in office at the time of announcement.

Table 3
Transaction characteristics for bankrupt and distressed firms

Variable	All bankrupt firms acquired (n=278)		Bankrupt firms acquired by investors (n=77)		Bankrupt firms acquired by creditors (n=72)		Bankrupt firms acquired by another operating company (n=129)		All distressed firms acquired (n=264)		Distressed firms acquired by investors (n=89)		Distressed firms acquired by creditors (n=11)		Distressed firms acquired by another operating company (n=164)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Panel A: Firm and deal valuations																
Deal value ($mill)	428.98[b]	58.25[a]	185.39[b]	58.42[a]	1136.12[b]	266.80	163.11	41.75	195.22	24.34	88.80	13.10	347.57	197.70	260.60	33.06
Enterprise market value ($mill)	1,097.19	327.30[a]	640.50	292.04[b]	1,890.44	927.57	595.81	195.97	868.13	116.32	1,124.64	116.30	1,298.17	1,182.84	678.11	91.76
Ent. value based on financials ($mill)	1,164.00	354.46[a]	659.31	292.02[b]	1994.84[c]	927.57	714.59	160.00	925.83	121.15	1,216.74	157.82	1,266.00	1,182.84	764.81	93.63
Deal value/sales	0.946[a]	0.297[a]	0.782[b]	0.213[c]	0.789	0.369[b]	1.088[a]	0.308[a]	2.509	0.602	1.677	0.313	3.176	0.841	3.108	0.827
Deal value/total assets	0.302[b]	0.218	0.247	0.188	0.319	0.255	0.333[a]	0.219[a]	0.907	0.270	0.805	0.102	0.275	0.226	1.005	0.538
Enterprise value/sales	2.351	0.930	2.318	0.930	2.144	0.860[c]	2.727	0.990	3.427	1.010	1.757	0.670	4.179	1.130	4.422	1.220
Enterprise value/total assets	0.753[a]	0.640[a]	0.669[a]	0.636[b]	0.792	0.648	0.789[a]	0.533[b]	1.653	0.911	1.348	0.865	1.055	0.659	1.880	0.975
Deal value/common equity	2.040[a]	1.086[a]	1.767[a]	1.086[c]	3.033	1.255	1.991[a]	0.979[a]	5.732	2.074	5.683	1.599	7.689	0.882	5.682	2.390
Offer price/book value	1.740[a]	1.027[a]	1.655[b]	0.997[c]	2.287	1.255	1.647[a]	0.962[a]	4.893	1.814	3.960	1.286	7.011	0.882	5.291	2.055
Panel B: Price paid versus value based on benchmark																
Premiums (+) and discounts (-) calculated based on:																
industry median ent. value/sales	-15%[a]	-29%[a]	-19%[a]	-26%	5%	-19%	-27%[a]	-38%[a]	20%	-12%	18%	-14%	12%	-45%	21%	-9%
industry median ent. value/total assets	-27%[a]	-37%[a]	-29%[b]	-37%[c]	-16%	-28%	-33%[a]	-50%[a]	6%	-20%	-1%	-27%	19%	-39%	9%	-17%

This table reports transaction related data. The data reported here comes from Thompson Financial Services SDC Platinum and COMPUSTAT. Panel A presents firm and deal values. Enterprise values are reported as of announcement of acquisition. Panel B includes transaction premiums (+) and discounts (-) in percentages for two multiples calculated as industry median enterprise value divided by sales and industry median enterprise value divided by book value of total assets. In parenthesis, n is a number of bankrupt and distressed targets for which data is available.

Table 4
Stock price effects on targets and acquirers around announcement of acquisition

Panel A: Acquisitions of Chapter 11 firms

Day	Target (n=107)				Acquirer (n=48)			
	Mean daily abnormal returns	P-values	Mean CMAR	P-values	Mean daily abnormal returns	P-values	Mean CMAR	P-values
-10	-0.28%	(0.7202)	-0.28%	(0.7202)	0.44%	(0.4450)	0.44%	(0.4450)
-9	0.27%	(0.8362)	-0.01%	(0.9166)	1.52%	(0.1751)	1.96%	(0.0998)
-8	-0.42%	(0.6325)	-0.43%	(0.7701)	-1.05%	(0.0203)	0.92%	(0.9797)
-7	-1.40%	(0.1298)	-1.82%	(0.1623)	1.31%	(0.0474)	2.23%	(0.2139)
-6	-0.33%	(0.7358)	-2.15%	(0.2097)	0.98%	(0.2929)	3.20%	(0.0845)
-5	1.96%	(0.1048)	-0.20%	(0.8438)	-0.06%	(0.9043)	3.14%	(0.0793)
-4	-1.24%	(0.1700)	-1.44%	(0.4622)	-0.28%	(0.5084)	2.86%	(0.1858)
-3	-1.18%	(0.2200)	-2.62%	(0.2395)	0.05%	(0.9224)	2.90%	(0.1669)
-2	2.12%	(0.1557)	-0.50%	(0.5868)	0.29%	(0.5758)	3.20%	(0.1411)
-1	-1.36%	(0.2459)	-1.86%	(0.3168)	-0.65%	(0.1355)	2.54%	(0.3067)
0	-8.50%	(0.0130)	-10.36%	(0.0221)	3.85%	(0.0042)	6.39%	(0.0165)
1	-1.09%	(0.7039)	-11.45%	(0.0332)	1.21%	(0.0504)	7.60%	(0.0036)
2	-3.54%	(0.0382)	-14.99%	(0.0774)	0.19%	(0.4927)	7.79%	(0.0047)
3	-0.94%	(0.7738)	-15.93%	(0.0965)	0.65%	(0.1963)	8.44%	(0.0037)
4	-0.81%	(0.6295)	-16.75%	(0.0567)	1.13%	(0.3468)	9.57%	(0.0044)
5	0.66%	(0.6819)	-16.09%	(0.0577)	0.47%	(0.5284)	10.04%	(0.0047)
6	0.13%	(0.9158)	-15.96%	(0.0729)	0.27%	(0.7222)	10.31%	(0.0021)
7	-0.77%	(0.5439)	-16.73%	(0.0872)	-1.07%	(0.0326)	9.24%	(0.0055)
8	2.16%	(0.2639)	-14.57%	(0.0820)	0.61%	(0.0862)	9.84%	(0.0044)
9	0.70%	(0.6038)	-13.88%	(0.0937)	0.51%	(0.2742)	10.35%	(0.0049)
10	1.28%	(0.3699)	-12.60%	(0.0978)	-0.42%	(0.3596)	9.93%	(0.0052)

(Table 4 continues)

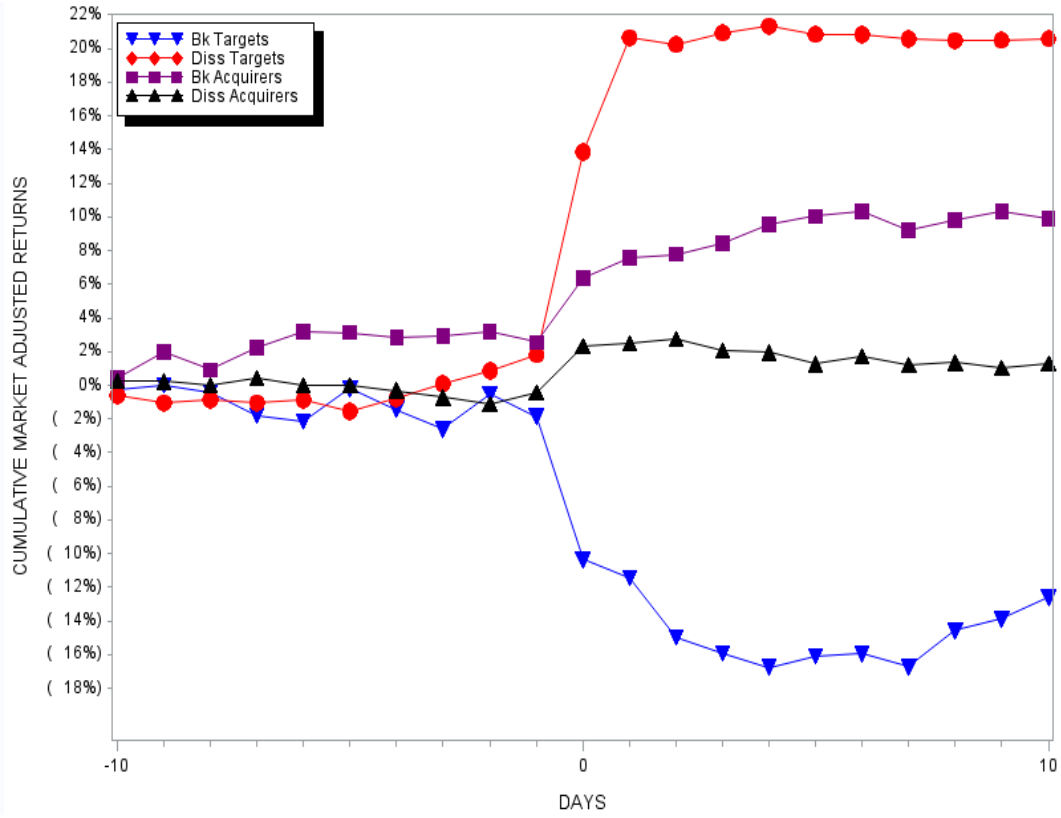
Panel B: Acquisitions of distressed firms

Day	Target (n=202)				Acquirer (n=125)			
	Mean daily abnormal returns	P-values	Mean CMAR	P-values	Mean daily abnormal returns	P-values	Mean CMAR	P-values
-10	-0.60%	(0.0805)	-0.60%	(0.0805)	0.27%	(0.3523)	0.27%	(0.3523)
-9	-0.45%	(0.1866)	-1.04%	(0.0190)	-0.04%	(0.8695)	0.23%	(0.5037)
-8	0.18%	(0.6359)	-0.86%	(0.1262)	-0.22%	(0.2650)	0.01%	(0.9791)
-7	-0.20%	(0.5371)	-1.06%	(0.0959)	0.41%	(0.2052)	0.42%	(0.3294)
-6	0.20%	(0.5724)	-0.86%	(0.2328)	-0.41%	(0.0635)	0.01%	(0.8185)
-5	-0.69%	(0.1686)	-1.55%	(0.1000)	-0.01%	(0.9660)	0.00%	(0.9630)
-4	0.79%	(0.0159)	-0.76%	(0.4654)	-0.30%	(0.2484)	-0.30%	(0.6397)
-3	0.86%	(0.0324)	0.10%	(0.7860)	-0.42%	(0.1148)	-0.73%	(0.1667)
-2	0.77%	(0.0810)	0.87%	(0.2731)	-0.38%	(0.3972)	-1.10%	(0.1426)
-1	0.98%	(0.0177)	1.85%	(0.0602)	0.68%	(0.0546)	-0.42%	(0.7578)
0	12.02%	(<.0001)	13.87%	(<.0001)	2.74%	(<.0001)	2.32%	(0.0203)
1	6.78%	(<.0001)	20.65%	(<.0001)	0.18%	(0.8293)	2.49%	(0.0424)
2	-0.40%	(0.1374)	20.25%	(<.0001)	0.28%	(0.4469)	2.78%	(0.0348)
3	0.69%	(0.0218)	20.95%	(<.0001)	-0.73%	(0.0335)	2.05%	(0.1267)
4	0.38%	(0.2408)	21.33%	(<.0001)	-0.10%	(0.7111)	1.95%	(0.1229)
5	-0.46%	(0.1254)	20.87%	(<.0001)	-0.68%	(0.0070)	1.27%	(0.2974)
6	-0.04%	(0.8558)	20.83%	(<.0001)	0.43%	(0.1186)	1.71%	(0.1786)
7	-0.25%	(0.4212)	20.58%	(<.0001)	-0.49%	(0.0937)	1.21%	(0.3483)
8	-0.12%	(0.6250)	20.46%	(<.0001)	0.14%	(0.6914)	1.35%	(0.3209)
9	0.06%	(0.7913)	20.53%	(<.0001)	-0.30%	(0.1442)	1.05%	(0.4554)
10	0.08%	(0.7997)	20.61%	(<.0001)	0.27%	(0.3954)	1.31%	(0.3332)

CMAR: cumulative market adjusted returns

This table describes market reaction to acquisition announcements for both targets and acquirers. Day 0 is the day of acquisition announcement. We present market adjusted and cumulative returns for days -10 through +10 surrounding the announcement day. We use equally weighted market return, including dividends, for expected return. We utilize CRSP to gather market related data. P-values presented in parenthesis. In parenthesis, n is a number of targets and acquirers for which market data is available. Panel A reports abnormal returns for bankrupt firms and their acquirers and Panel B reports those for distressed firms that their acquirers.

Figures 2
Cumulative market adjusted returns for bankrupt and distressed targets and their acquirers



This figure describes market reaction to acquisition announcements for both targets and acquirers. We present cumulative abnormal returns for bankrupt and distressed firms and their acquirers for days -10 through +10 surrounding the announcement day. We use equally weighted market returns, including dividends, for determining market abnormal returns. We utilize CRSP to gather market related data. X-axis plots number of days with Day 0 being day of acquisition announcement. Y-axis plots CMARs.

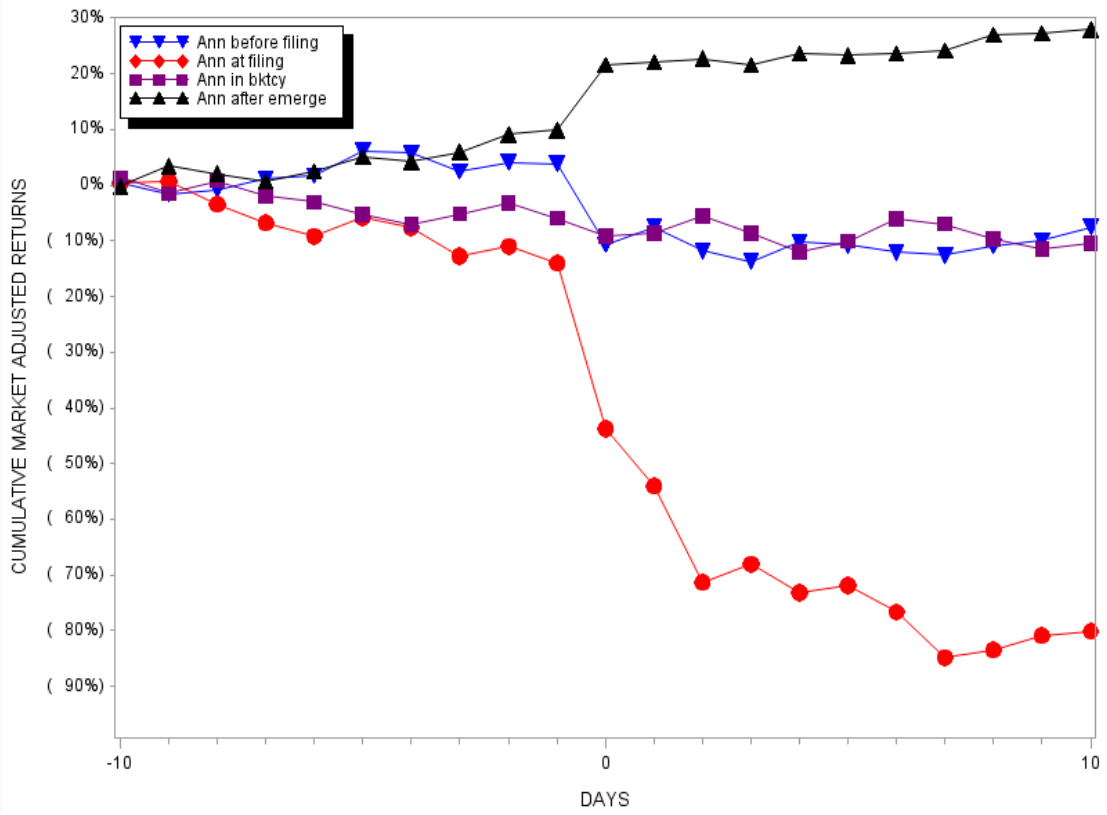
Table 5
Stock price effects on bankrupt targets around announcement of acquisition, categorized based on timing of the announcement

Day	Ann. date<Filing date (n=26)		Ann. date=Filing date (n=25)		Filing date<Ann. date <Emerg. date (n=30)		Ann. date>=Emerg. date (n=26)	
	Mean daily abnormal returns	Mean CMAR	Mean daily abnormal returns	Mean CMAR	Mean daily abnormal returns	Mean CMAR	Mean daily abnormal returns	Mean CMAR
-10	0.36%	0.36%	-2.93%	0.36%	1.32%	1.32%	-0.23%	-0.23%
-9	-1.98%	-1.63%	3.52%	0.59%	-2.82%	-1.50%	3.61%[b]	3.39%[c]
-8	0.80%	-0.83%	-3.98%	-3.39%	2.28%	0.78%	-1.33%	2.06%
-7	1.92%	1.09%	-3.36%	-6.75%	-2.81%	-2.03%	-1.37%	0.69%
-6	0.66%	1.76%	-2.50%	-9.25%	-1.03%	-3.06%	1.80%	2.49%
-5	4.44%	6.20%	3.42%	-5.83%	-2.16%[c]	-5.22%	2.52%	5.02%
-4	-0.45%	5.75%	-1.78%	-7.61%	-1.84%	-7.06%[c]	-0.83%	4.19%
-3	-3.27%	2.48%	-5.14%[b]	-12.75%[c]	1.90%	-5.16%	1.73%	5.92%
-2	1.62%	4.10%	1.75%	-11.01%[c]	2.04%	-3.12%	3.19%[b]	9.11%[b]
-1	-0.23%	3.87%	-2.92%	-13.93%[b]	-2.80%	-5.93%	0.74%	9.85%[b]
0	-14.53%[b]	-10.66%	-29.81%[a]	-43.74%[a]	-3.12%	-9.05%	11.81%[c]	21.66%[a]
1	3.16%	-7.50%	-10.23%	-53.96%[a]	0.49%	-8.56%	0.51%	22.17%[a]
2	-4.35%	-11.85%	-17.35%[b]	-71.32%[a]	3.01%	-5.55%	0.53%	22.70%[a]
3	-1.82%	-13.66%	3.20%	-68.12%[a]	-3.05%[c]	-8.60%[c]	-1.15%	21.55%[a]
4	3.37%	-10.30%	-5.03%	-73.15%[a]	-3.38%[b]	-11.98%[b]	2.06%	23.61%[a]
5	-0.47%	-10.76%	1.27%	-71.88%[b]	1.91%	-10.06%[c]	-0.30%	23.31%[a]
6	-1.30%	-12.06%	-4.78%	-76.66%[b]	3.97%[b]	-6.10%	0.38%	23.68%[a]
7	-0.52%	-12.58%	-8.22%	-84.88%[b]	-0.85%	-6.95%	0.52%	24.20%[a]
8	1.60%	-10.98%	1.46%	-83.42%[b]	-2.73%	-9.69%	2.77%	26.97%[a]
9	1.11%	-9.87%	2.60%	-80.82%[b]	-1.83%	-11.52%	0.27%	27.24%[a]
10	2.39%	-7.48%	0.78%	-80.04%[b]	1.10%	-10.41%	0.70%	27.93%[a]

CMAR: cumulative market adjusted returns
[a,b,c] denote statistical significance at the 1, 5, and 10% level, respectively.

The table presents similar market return data to that reported in the previous table, categorizing the data by acquisition announcement timing as follows: announcement date is before bankruptcy filing date, announcement and filing dates are the same, announcement date is between filing and emergence dates, and announcement date is after emergence date. In parenthesis, n is a number of bankrupt targets for which market return data is available.

Figure 3
Cumulative market adjusted returns for bankrupt targets based on the timing of acquisition announcements in relation to bankruptcy filings



This figure pictorially presents 21-day window CMARs for bankrupt firms, categorized based on the timing of acquisition announcements in relation to bankruptcy filings as follows: announcement date is before bankruptcy filing date, announcement and filing dates are the same, announcement date is between filing and emergence dates, and announcement date is after emergence date. We utilize CRSP to gather market related data. X-axis plots number of days with Day 0 being day of acquisition announcement. Y-axis plots CMARs.

Table 6
Comparison of Pre- and Post-merger combined operating performance of distressed and bankrupt targets and operating firm acquirers

Panel A: Cash flow performance (EBITDA/sales) of combined target and acquirer

Year relative to merger	Bankrupt firms acquired by another operating company			Distressed firms acquired by another operating company		
	Number	Firm median	% Positive	Number	Firm median	% Positive
-3	39	0.073	54%	126	0.114	81%
-2	48	0.132	56%	125	0.093	75%
-1	46	0.081	53%	106	0.098	81%
1	46	0.141	89%	120	0.123	88%
2	37	0.179	95%	105	0.144	90%
3	36	0.135	86%	90	0.131	91%

Panel B: Change in combined cash flow performance (EBITDA/sales) relative to year prior to merger

Years	Number	Median change	Median % change	Number	Median change	Median % change
-1 to +1	46	0.096[a]	7%[c]	106	0.014	1%[c]
-1 to +2	37	0.110[a]	6%	105	0.005	2%
-1 to +3	36	0.107[b]	3%	90	0.010[b]	3%

EBITDA: Earnings before interest, taxes, depreciation and amortization.
[a,b,c] denote statistical significance at the 1, 5, and 10% level, respectively.

This table describes post-merger operating performance. We utilize COMPUSTAT to obtain necessary financial data. To measure post-acquisition performance we use pretax operating cash flow returns. Operating cash flows are earnings before interest, taxes, and depreciation and amortization (EBITDA). To provide measure comparable across sample and control firms we deflate EBITDA by sales. For three years before the acquisition, the operating cash flow ratios are calculated as the sums of target and acquirer EBITDA divided by the sums of target and acquirer sales revenues. After the acquisition, we use the acquirers' operating cash flow ratios. We analyze operating cash flow ratios only for those bankrupt and distressed firms acquired by another operating firm for which accounting data is available. In Panel A, we report median levels of bankrupt and distressed firms' operating cash flows from three years before the effective date of acquisition to three years after the effective day of acquisition. Panel B of Table 6 shows changes in bankrupt and distressed firm operating cash flows relative to the year prior to their acquisitions.

Table 7
Propensity of firms to be acquired outside of bankruptcy

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Estimates	Point estimates	Estimates	Point estimates	Estimates	Point estimates	Estimates	Point estimates	Estimates	Point estimates
Intercept	-1.456[b]	-	-1.680[b]	-	-2.605[a]	-	-3.789	-	-4.666[b]	-
LNMKTCAP	0.154[b]	1.167	0.152[b]	1.164	0.304[a]	1.355	0.235	1.265	0.261[b]	1.298
EMP	-0.032[b]	0.969	-0.034[b]	0.967	-0.040[b]	0.961	-0.064[b]	0.938	-0.014	0.986
ZSCORE	-0.010	0.990								
DEBT			-0.001	0.999	-0.001	0.999	0.003	1.003	0.008	1.008
ROA			-0.014	0.986	-0.074	0.929	-0.481	0.618	0.610[b]	1.841
OCFSL			-0.003	0.997	0.032	1.033				
CURRT			0.144[b]	1.154	0.202[b]	1.224	-0.251	0.778	0.165[c]	1.179
MB			0.080[b]	1.083	0.078[b]	1.081	0.159[c]	1.172	0.046	1.047
OFFDIR					0.044[c]	1.045	0.142[b]	1.152	0.023	1.024
IH					0.096	1.101				
SIC									0.873[a]	2.394
Number of obs.	469		432		317		118		192	
Likelihood Ratio	16.526[a]		34.450[a]		43.633[a]		22.944[b]		31.908[a]	

[a,b,c] denote statistical significance at the 1, 5, and 10% level, respectively.

The table reports results of logistic regression with binary variable equaling to one if distressed firms that have not filed for bankruptcy are acquired, and zero otherwise. We use the following performance related variables, similar to those reported in Tables 2 and 3 as controls: natural logarithm of market capitalization (LNMKTCAP), number of employees (EMP), Altman's z-score (ZSCORE), debt-to-equity ratio (DEBT), return on assets (ROA), operating cash flow returns on sales (OCFSL), current ratio measured as current assets divided by current liabilities (CURRT), market-to-book ratio (MB), shareholdings of officers and directors (OFFDIR) and institutions (IH), and dummy variable (SIC) equaling one if target and acquirer operate in the same industry (based on a two-digit SIC) and zero otherwise. We partition our firms based on type of acquirer (investors in Model 4 and operating companies in Model 5) and run regressions 4 and 5 with several variables from Model 3.

Table 8
Post-merger abnormal operating performance

Panel A: Abnormal post-merger cash flow returns for firms acquired in Chapter 11 (heteroscedasticity consistent p-values in parentheses)

					Adj R^2	N
$CR_{+1,i}$	=	16.8%	+	0.22 $CR_{-1,i}$	0.37	46
		(<.0001)		(<.0001)		
$CR_{+2,i}$	=	15.2%	+	0.21 $CR_{-1,i}$	0.42	37
		(<.0001)		(<.0001)		
$CR_{+3,i}$	=	13.5%	+	0.37 $CR_{-1,i}$	0.45	36
		(<.0001)		(<.0001)		

Panel B: Abnormal post-merger cash flow returns for acquired distressed firms (heteroscedasticity consistent p-values in parentheses)

					Adj R^2	N
$CR_{+1,j}$	=	3.5%	+	0.54 $CR_{-1,j}$	0.16	106
		(0.6309)		(0.2482)		
$CR_{+2,j}$	=	0.2%	+	0.56 $CR_{-1,j}$	0.28	105
		(0.9689)		(0.0827)		
$CR_{+3,j}$	=	11.0%	+	0.07 $CR_{-1,j}$	0.02	90
		(0.0005)		(0.4275)		

This table reports results of several cross-sectional regressions. We use cash flow performance variables reported in Table 6 as independent variables and run several cross-sectional regressions of post-merger cash flow returns on sales for years 1, 2, and 3 on pre-merger returns in year -1 for both sample (in Panel A) and control (in Panel B) firms. Our intercept measures abnormal performance and captures post-merger performance influenced by economy-wide and industry factors. P-values reported in parenthesis. $CR_{+1\ through\ +3,i/j}$ is the post-merger (years 1 through 3) cash flow return on sales for bankrupt (*i*) and distressed (*j*) firms, and $CR_{-1,i/j}$ is the pre-merger (year -1) cash flow return on sales for bankrupt (*i*) and distressed (*j*) firms. The slope coefficient β measures relationship between pre- and post-merger cash flow returns or the effect of the firm performance one year prior to acquisition on post-merger cash returns one, two, and three years following the acquisition.

Table 9
Post-merger combined cumulative abnormal returns for bankrupt and distressed targets and their acquirers

Post-merger mean cumulative abnormal returns for bankrupt and distressed firms				
Month periods	All bankrupt firms (n=89)	Bankrupt firms acquired in Chapter 11 (n=63)	Bankrupt firms acquired in the first year after emergence (n=26)	All distressed firms (n=202)
3	-1.18%	-3.54%[b]	4.07%	-0.45%
6	-2.94%	-5.91%[c]	3.80%	0.52%
12	-6.26%[b]	-9.53%[b]	1.59%	-1.64%

[a,b,c] denote statistical significance at the 1, 5, and 10% level, respectively.

This table reports combined mean cumulative abnormal returns for 3-, 6-, and 12-month post-merger periods. We utilize CRSP to gather market related data. We determine combined post-merger returns for all bankrupt firms, for bankrupt firms that were acquired in Chapter 11, for bankrupt firms that were acquired during the first year after emergence, and for distressed firms. We compute the post-acquisition cumulative adjusted returns as a weighted sum of the returns for target and its acquirer. In parenthesis, n is a number of firms for which market return data is available.

Table 10
Post-merger abnormal stock market performance

Panel A: Abnormal post-merger cumulative market returns for all bankrupt firms (heteroscedasticity consistent p-values in parentheses)

					Adj R^2	N
$CR_{+3,i}$	=	-1.7%	+	-0.09 $CR_{-3,i}$	0.01	89
		(0.3611)		(0.6532)		
$CR_{+6,i}$	=	-5.1%	+	-0.48 $CR_{-3,i}$	0.05	89
		(0.1080)		(0.0457)		
$CR_{+12,i}$	=	-10.8%	+	-0.96 $CR_{-3,i}$	0.13	89
		(0.0071)		(0.0806)		

Panel B: Abnormal post-merger cumulative market returns for bankrupt firms acquired in Chapter 11 (heteroscedasticity consistent p-values in parentheses)

					Adj R^2	N
$CR_{+3,i}$	=	-5.1%	+	-0.08 $CR_{-3,i}$	0.01	63
		(0.0224)		(0.6767)		
$CR_{+6,i}$	=	-9.7%	+	-0.46 $CR_{-3,i}$	0.06	63
		(0.0292)		(0.0683)		
$CR_{+12,i}$	=	-16.9%	+	-0.97 $CR_{-3,i}$	0.14	63
		(0.0038)		(0.0932)		

Panel C: Abnormal post-merger cumulative market returns for bankrupt firms acquired in the first year after emergence (heteroscedasticity consistent p-values in parentheses)

					Adj R^2	N
$CR_{+3,i}$	=	4.2%	+	-1.39 $CR_{-3,i}$	0.08	26
		(0.1427)		(0.0082)		
$CR_{+6,i}$	=	2.6%	+	-3.17 $CR_{-3,i}$	0.38	26
		(0.3238)		(0.0106)		
$CR_{+12,i}$	=	0.6%	+	-2.51 $CR_{-3,i}$	0.30	26
		(0.7882)		(0.0984)		

Panel D: Abnormal post-merger cumulative market returns for acquired distressed firms (heteroscedasticity consistent p-values in parentheses)

					Adj R^2	N
$CR_{+3,j}$	=	-0.4%	+	-0.09 $CR_{-3,j}$	0.01	202
		(0.4891)		(0.1395)		
$CR_{+6,j}$	=	0.5%	+	0.28 $CR_{-3,j}$	0.05	202
		(0.6138)		(0.0449)		
$CR_{+12,j}$	=	-1.7%	+	0.40 $CR_{-3,j}$	0.02	202
		(0.4228)		(0.0433)		

This table reports results of several cross-sectional regressions. We use cumulative market adjusted returns as independent variables and run several cross-sectional regressions of post-merger cumulative

abnormal returns for 3, 6, and 12 month periods on 3 month pre-merger returns for both sample (in Panels A, B, and C) and control (in Panel D) firms. We utilize CRSP to gather market related data. Panel A contains regression results for all bankrupt firms. Panel B includes results for bankrupt firms with acquisition announcements either before bankruptcy filings or while in Chapter 11. Panel C includes results for bankrupt firms with acquisition announcements in the year following emergence. Panel D contains regression results for all distressed firms. Our intercept measures abnormal market performance and captures post-merger performance influenced by economy-wide and industry factors. Heteroscedasticity consistent p-values are reported in parenthesis. $CR_{+3\ through\ +12,i/j}$ is the post-merger (month 3, 6, and 12) market abnormal returns for bankrupt (*i*) and distressed (*j*) firms, and $CR_{-3,i/j}$ is the pre-merger (month -3) market abnormal returns for bankrupt (*i*) and distressed (*j*) firms. The slope coefficient β measures relationship between pre- and post-merger cumulative abnormal returns or the effect of the firm market performance three months prior to acquisition on post-merger abnormal market returns three, six, and twelve months following the acquisition.