Does Corporate Governance Impact the Probability and Resolution of Financial Distress?

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Abstract

This study examines the relation between firm-level governance and financial distress using a sample of 127 bankruptcies between 1990 and August 2004. Consistent with previous research, our results indicate that, relative to a size and industry matched control group, the distressed firms exhibit higher leverage and lower profitability. In addition, we find (1) more entrenched management increases the likelihood of experiencing financial distress and (2) more entrenched management firms are less likely to emerge from bankruptcy and re-file in the following years. Overall, our findings are consistent with the contention that a relation exists between the governance practices of the firm and financial distress. These results help fill a large gap in the extant literature and complement previous research that has focused on the firm's *ex post* response to distress. To our knowledge, these results represent the first documented linkage between financial distress and firm-level governance.

Does Corporate Governance Impact the Probability and Resolution of Financial Distress?

I. Introduction

Bankruptcy and the resolution of financial distress is one of the most researched and important areas in financial economics. This study contributes to this literature by examining the relationship between corporate governance and financial distress of publicly traded firms. The increase in bankruptcy activity from the 1980s to the present has brought significant innovation on how firms resolve financial distress. However, most studies examine a limited number of factors to explain the debt restructuring decision of distressed firms, such as the degree of financial leverage, the degree of the firm's liquidity problems, the nature and complexity of the firm's debt structure, and the extent of the firm's economic distress (Chatterjee, Dhillon and Ramirez (1996)). The main contribution of this study is to examine additional variables to proxy for firm-specific corporate governance structures and to investigate whether these variables have consequences for the firm's financial distress and resolution. Specifically, we address two questions:

(1) Does the firm's governance structure contribute to the probability of financial distress and

(2) Does the firm's governance structure allow for more efficient resolution of financial distress?

To our knowledge, this is the first attempt to explicitly examine the influence of corporate governance on the occurrence and resolution of financial distress.

The extant literature relating governance to financial distress is sparse. Gilson (1990) reports that distressed firms are more likely to remove their CEOs, increase the proportion of outside directors and increase the presence of outside blockholders on the board. Gilson and Vetsuypens (1993) document the systematic adjustment in CEO compensation after financial distress. Clearly, firms behave *ex post* as if governance policies are important. However, the *ex ante* effect of governance on financial distress is yet unstudied and herein lies the primary contribution of our research.

Our sample includes 127 firms filing for protection under Chapter 11 from 1990-August 2004. Our empirical findings are consistent with previous research. Distressed firms are smaller in size, more highly leveraged and less profitable relative to a size and industry matched control sample. Using the Governance Index (*G* Index), a simple additive index tracking 24 unique corporate chartered bylaws and takeover provisions and laws (Gompers, Ishii and Metrick (2003)), as well as firm-specific corporate governance variables, including composition and ownership of board of directors, and firm leadership structure, the empirical results provide support for our main hypotheses. Specifically, poorly governed firms are more likely to experience financial distress relative to the control sample. This result is robust to several model specifications. We also document the effect of firm governance on the resolution of financial distress. Multinomial logit analysis indicates that less entrenched management is associated with a higher likelihood of emergence from bankruptcy.

Our findings are consistent with the contention that a relationship exists between the governance practices of the firm and financial distress. These results help fill a large gap in the extant literature and complement previous research that has focused on the firm's *ex post* response to distress. To our knowledge, these results represent the first documented linkage between financial distress and firm-level governance.

The remainder of the paper proceeds as follows. Section II reviews the relevant literature and develops testable hypotheses. Section III describes the sample selection procedure and summarizes the data. Section IV presents our empirical results, and the final section concludes and offers suggestions for further research.

II. Literature Review and Hypotheses

The literature on bankruptcy is large and the vast majority of earlier research on this topic focuses on using a set of financial ratios as predictors of financial distress. Altman (1968) pioneered the use of a multivariate tool, called the Z-score that forecasts the probability of bankruptcy. Ohlson (1980), Zmijewski (1984) and Lau (1987) and other studies (see Altman (1993) for a survey) have developed similar predictive models using different sets of financial ratios. Researchers, such as Grice and Dugan (2001), Shumway (2001), Begley, Ming, and Watts (1996) and Theodossiou (1993), point out the deficiencies of existing bankruptcy models. In particular, Shumway (2001) argues that the use of static models in forecasting corporate distress produces inconsistent estimates of probabilities due to the nature of the bankruptcy data, and he introduces a simple hazard model as an improvement over the often-used static models.

Another strand of bankruptcy research focuses on how firms resolve financial distress. Traditionally, debt restructuring takes one of the following forms (see Chatterjee, Dhillon, and Ramirez (1996) for a detailed description):

- Private workouts – these involve private negotiations between a firm and its debtholders.
- Public workouts – the distressed firm makes a tender offer of cash for debt or an exchange offer of other types of securities for debt.
- Reorganization through Chapter 11 – existing debt contracts are negotiated while distressed firms continue operations.
- Prepackaged Bankruptcy Plan (prepack) – a hybrid of a public workout and Chapter 11 whereby the reorganization of the firm's debt contracts is accepted by creditors prior to the start of the bankruptcy proceedings.

Asquith, Gertner and Scharfstein (1994) focus on the differences between Chapter 11s and workouts. Gilson, John, and Lang (1990) investigate a sample of firms that attempt workouts, while Franks and Torous (1994) examine a sample of large firms that undergo Chapter 11 proceedings or a successful public workout. Chatterjee, et. al. (1996) analyze the choice of restructuring methods and study a sample of firms that attempt Chapter 11s, prepacks, and private and public workouts. Tashjian, Lease, and McConnell (1996) complement the above research by focusing on firms that restructured via prepacks.

In stark contrast, the literature is surprisingly silent on the relationship between corporate governance and financial distress. This finding is all the more surprising given the recent bankruptcies, legislation and public outcry resulting from corporate scandals at Enron, WorldCom and others. A much smaller body of research has examined limited aspects of the role of governance in distress situations including Gilson (1990), Gilson and Vetsuypens (1993) and Eckbo and Thorburn (2002). For example, Gilson (1990) documents the tendency of firms to adjust their governance structure after restructuring

their debt or filing for Chapter 11. Specifically, distressed firms were more likely to remove their CEOs, increase the proportion of outside directors and increase the presence of outside blockholders on the board.

Gilson and Vetsuypens (1993) study the compensation policies of CEOs after entering financial distress. Their results indicate that CEOs with ties to the firm, experienced a significant reduction in remuneration while independent hires earn significantly more than their predecessors. In addition, the pay-performance sensitivity increases dramatically relative to the results reported in Jensen and Murphy (1990). In a study of Swedish bankruptcies, Eckbo and Thorburn (2002) argue that the existence of CEO private control benefits helps counteract costly shareholder risk-shifting incentives during severe financial distress.

Impending bankruptcy is clearly an event that accentuates the divergent interests of shareholders and managers. The timely trading of insiders around Chapter 11 filings (Seyhun and Bradley (1997)) further indicates the potential for managerial opportunism, reinforcing the important role of governance in distress situations. In addition, Charitou, Lambertides and Trigeorgis (2004) document increased earnings management preceding bankruptcy for firms with insufficient monitoring, i.e. low levels of institutional ownership.

The work of Khanna and Poulsen (1995) is the most similar in spirit to this research. The authors study the managerial decisions of distressed firms relative to non-distressed firms operating in the same industry. Based on market reactions to activities such as asset sales, plant closings, and managerial turnover, they find little difference between the two samples. As a result, the authors conclude that the managers are unfairly

characterized as the causes of distress. However, it is not possible to observe all managerial behavior and stock price reactions capture only unanticipated corporate decisions. Therefore, a broader examination of the firm's overall governance structure provides additional evidence on the possible cause of financial distress.

The findings of Gilson (1990) and Gilson and Vetsuypens (1993) clearly demonstrate that firms change elements of their governance structure *after* experiencing financial distress. These findings beg the question of whether a more optimal governance structure could have prevented the onset of distress. Our viewpoint is that governance may *a priori* affect the incidence and resolution of financial distress. By examining a matched sample of firms that do not experience financial distress, we can directly test the impact of firm governance on financial distress.

The primary hypothesis posits that firms with better governance, i.e. closer alignment between shareholder and manager interests, are less likely to experience financial distress. The second hypothesis is that, conditional on distress, firms exhibiting superior governance structures will more efficiently resolve their distress.

III. Data and Methodology

A. Sample Selection

The initial sample of distressed firms is obtained from LoPucki's Bankruptcy Research Database[1]. The database is a comprehensive list of large, public companies filing for protection under Chapter 11 of the US bankruptcy code from 1979 to the present. We limit our sample to the period 1990 – August 2004, due to restrictions imposed by the availability of corporate governance data (G Index) through Metrick's

[1] Lynn M. LoPucki's Bankruptcy Research Database (http://lopucki.lawlib.ucla.edu)

website[2]. We apply several data screens. First, we exclude firms operating in regulated industries[3]. Next, we delete firms with missing COMPUSTAT data. Finally, we exclude firms with no G Index data (see Table 1).

The LoPucki database has 605 firms that filed for Chapter 11 protection during this period. Eliminating firms operating in regulated industries reduces the sample by 15 firms. Availability of COMPUSTAT data further reduces the sample by 85 firms. Finally, coverage of firms by the IRRC to compute the G Index reduces the sample further by 378 firms[4]. Collectively, the above conditions yield a final sample of 127 firms. This represents a fairly large bankruptcy sample. By comparison, Gilson (1990) and Gilson and Vetsuypens (1993) study 63 and 77 firms, respectively.

We create a matched sample of non-distressed firms following the procedure of Khanna and Poulsen (1995). To control for industry-specific factors, each firm is matched with a control firm in the same industry as defined by 2-digit SIC code on COMPUSTAT. The closest in size firm, to each of the 127 distressed firms that did not experience distress in the prior three years is then chosen as the control firm. Following Gilson (1997), firms that appear more than once in the sample are treated as independent observations, if their distress situation is at least one year apart.[5]

The industry distribution of the final distressed sample is displayed in Table 2. All industries comprising at least 2% of the sample are listed separately with the remaining

[2] Andrew Metrick: Governance Index Data (http://finance.wharton.upenn.edu/~metrick/data.htm)
[3] SIC codes 4911-4941 (utilities), 6000-6081 (banks) and 6722, 6726 and 6792 (funds and investment companies)
[4] The G Index covers approximately 1500 firms that are tracked by the IRRC. The IRRC only reports the data for the years 1990, 1993, 1995, 1998, 2000 and 2003. Clearly the G Index is the limiting factor in the sample selection. As such,, we use the closest observation (going backwards in time) from the distress event. In most cases, the observed G Index is lagged 1-3 years. Due to the stability of the index over time, we expect no measurable bias from this procedure.
[5] We also performed a match on firm size, two and one years prior to bankruptcy and obtained similar results, although these are not reported here.

firms aggregated into the "Others" category. It is clear from Table 2 that the final sample represents a wide distribution of industries with no obvious sample selection bias imparted by our selection criteria. In fact, the final sample contains firms from 40 different two-digit SIC codes.

Table 2, Panel B shows the frequency distribution of bankruptcies by year of filing. We see a decreasing trend in the Chapter 11 filings during the early 1990s up until 1997, when bankruptcies increase with the largest number observed during the high-tech bubble burst in 2000 and 2001. Year 2004 contains incomplete data, since it only goes as far as August of that year, therefore the number is not representative for the large Chapter 11 filings during that year.

B. Explanatory variables

Accounting Variables. We control for a number of accounting and corporate performance variables that have been found in the literature to have a relationship with financial distress (see Baxter (1967), Opler and Titman (1994), Altman (1968, 2003)). Table 3 presents the variables used, their definition and computation.

We obtain all accounting and corporate performance variables through S&P *Compustat*. We focus on the following controls, which are defined in Table 3: EBIT, Market Value of Equity, Working Capital, Net Equity Issue, Net Debt Issue, Gross Debt Issue, Book Leverage, Market Leverage, Market-to-Book, Asset Tangibility, EBITDA, the Natural Log of Firm Size, Depreciation and Amortization, Capital Expenditure and R&D Expenditure. All variables, with the exception of log of firm size, are scaled by total assets.

Corporate Governance Index. The Governance Index (G Index) calculated by Gompers, Ishii and Metrick (2003), is used as a proxy for the degree of shareholder alignment. The index uses data on corporate charter bylaws and anti-takeover provisions as tracked by the Investor Responsibility Research Center for 1400 - 1800 large firms. The IRRC publishes information on corporate governance arrangement and, more specifically, tracks 28 different charter and bylaw provisions, firm-level rules and state takeover laws. Because of the duplication between firm-level provisions and state laws, the number of unique provisions is reduced to 24.

Table 4 provides a detailed description of the different provisions that are tracked by IRRC and make up the G Index. The G Index assumes that all 24 IRRC provisions have an equal, negative relationship with Tobin's *q*, as well as stock returns, in the 1990s, with two exceptions: Secret Ballots and Cumulative Voting. These two provisions are positively related to shareholders rights and therefore their ***absence*** increments the index positively. The sum of all such factors represents the G Index. Gompers, Ishii and Metric (2003) report that the G Index is inversely related to firm performance as measured by Tobin's *q*.

Other Corporate Governance Variables. We also include firm-specific corporate governance variables, such as composition of the board of directors, leadership structure of the firm, board size and ownership. A growing body of research documents the impact corporate governance imparts on the firm. For example, prior research identifies outside directors as an important factor in monitoring management, particularly in corporate events where management interests may be at odds with shareholder preferences. Rosenstein and Wyatt (1990, 1997) document a positive (negative) market reaction to

management's appointment of outside (inside) directors to the board of directors. Similarly, Shivdasani (1993) concludes that outside directors serve the interests of shareholders by reducing the likelihood of a hostile takeover attempt of the firm, an event which signals a breakdown in the firm's internal control mechanisms. Brickley, Coles and Terry (1994) examine a corporate event that has measurable wealth effects on shareholders, namely, the adoption of shareholder rights plans, i.e. poison pills. Overall, the market reaction to poison pill adoptions increases with the proportion of outside directors on the board. Furthermore, firms with a majority of outside directors are rewarded by the capital markets with a significant increase in share price while firms that are insider dominated experience a significant decrease in share price.

Recent research by Brickley, Coles and Jarrell (1997) examines the separation of the CEO position from the Chairman of the Board. Contrary to popular views in the financial press, the authors do not conclude that the combined leadership position adversely impacts the firm. On the other hand, Goyal and Park (2002) find that firms with the combined leadership positions increase the difficulty in removing the CEO in poorly performing firms.

The accumulation of anecdotal evidence from Eisenberg and Sundgren (1996) and Jensen (1993) portrays large boards as unwieldy, slower decision makers and less apt to voice disapproval or control managerial behavior. Accordingly, Yermack (1996) tests the hypothesis that smaller boards should increase the efficiency of oversight and imply greater market valuation. Regressions explaining Tobin's *q* find an inverse relation with board size. That is, smaller boards increase firm value after controlling for firm specific characteristics such as firm size, past performance and CEO characteristics. Eisenberg,

Sundgren and Wells (1998) reach similar conclusions for a group of small and medium-sized Finnish firms. However, another stream of literature finds a positive relationship between large outside-director-dominated boards and value. Several arguments support these claims. Also, recently there has been a trend to increase the board size of larger companies. For example, a survey of more than 1,000 CEOs and directors of large US corporations reports that the typical board has eleven directors, nine of whom are outsiders (Ferry (1999)). Other board studies show that larger boards composed of outside directors with diverse backgrounds have problem-solving advantages, and hence could be more efficient advisors to top management (Finkelstein and Hambrick (1996)).

The presence of large blockholders on the board is often viewed as a monitoring device to constrain managerial opportunism. Brickley, Lease and Smith (1988) find that unaffiliated blockholders are more likely to vote against management-sponsored proposals. Gordon and Pound (1993) reach similar conclusions for shareholder-sponsored proposals.

We obtain the discussed firm-specific governance variables through the annual proxy statements of the sample and matching firms from *Thompson Research* and *Lexis Nexis.* Since all other accounting and financial performance variables, as well as the G Index (to the extent possible) are for 3 years prior to the bankruptcy filing date, we correspondingly record data from the proxies that are filed 3 years before the Chapter 11 filing.

Bankruptcy Variables. In our second line of inquiry, we use several bankruptcy process and resolution-related variables that are obtained through the LoPucki Bankruptcy Research Database, which is publicly available online. Description of the

variables used is provided in the Bankruptcy controls section of Table 3. More specifically, to what extent forum shopping, defined as "filing the bankruptcy case in a filing city other than the filing city for the court district or division that includes the debtor's headquarters" (LoPucki (2004)) contributes to financial distress resolution. We also analyze days to disposition ("the number of days from petition filing to confirmation or other disposition of the case" (LoPucki (2004)), prepackaged and prenegotiated bankruptcies and the type of the bankruptcy resolution.

C. Descriptive Statistics

The categorical variable *RESOLVE* denotes the resolution outcome of the bankruptcy of the sample firm and is summarized in Table 5. The five mutually exclusive and exhaustive categories are: liquidation, emerge more than five years after filing, emerge and re-file, emerge and not re-file, pending as of August 2004. More specifically *RESOLVE* is defined as:

RESOLVE = 1, if no company emerged (Liquidation)

= 2, if company emerged in more than five years after the filing

= 3, if company emerged and re-filed subsequently in the following years

= 4, if company emerged and didn't re-file

= 5, if bankruptcy was pending as of August 2004.

Using the above classification scheme, 38 percent of the sample falls under the liquidation designation; 29 percent of the firms emerge more than five years after filing, while 15 percent of the sample emerges successfully without subsequent refiling.

Descriptive statistics for the combined bankrupt and matching firms (N=254) by Governance Index Quintile are presented in Table 6. The values of the G Index for the sample and matching firms are between 2 and 16. By construction, the G Index is an increasing function of management entrenchment. However, the additive nature of the index implies that adding one more shareholder restriction to the corporate charter will have the same marginal impact on the level of entrenchment. For example, the implied change in G is the same regardless if the index is incremented from 2 to 3 or 19 to 20. Similarly, the G Index ignores differences in management teams and industries with natural takeover defenses so it is best used as a rough guideline for shareholder rights. Accordingly, we create five quintiles of the G Index (*GIMS*) to capture different ranges of managerial entrenchment. This approach follows the procedure used by Gompers, Ishii and Metrick (2003) to isolate extreme "democracy" and "dictatorship" portfolios. We quintile for the G Index as follows:

GIMS	G Index
1	2-6
2	7-8
3	9
4	10-11
5	12-15

We base our initial analysis on the G Index quintiles, which we call *GIMS*.

Table 6 reveals distinct differences between low *GIMS* and high *GIMS*. We notice that the relation between accounting variables and *GIMS* is not always linear. It also appears that firms in the fifth quintile tend to be bigger firms and with higher leverage. Book and market leverage, net sales and R&D expenses generally increase from low to high entrenched management firms, while net debt, net equity and gross debt issues consistently decrease.

Table 7 sorts the 127 bankrupt firms by Governance Index quintile. The general patterns observed in Table 6 are repeated here, but the gap between the accounting variable values for *GIMS* = 1 and *GIMS* = 5 increases even further. For example, *MVE_TL* decreases from 3.56 for *GIMS* = 1 to only 0.70 for *GIMS* = 5. *MTOB* decreases correspondingly from 1.81 to 1.15. Variables related to bankruptcy process and resolution also show interesting relationship with *GIMS*. For example Days to Disposition exhibit a quadratic relationship with *GIMS* – decreasing initially with the increase of *GIMS*, and then increasing monotonically for *GIMS* larger than 3.

Table 8 presents summary statistics for both, bankrupt and matching firms. The computed leverage and profitability ratios are consistent with prior studies. T-tests for differences in means clearly indicate that the distressed sample is more levered and less profitable than their non-distressed counterparts. The leverage results hold whether book or market leverage is used. For example, the book leverage ratio, BL, is approximately 69% for the distressed firms and 57% for the control group. This difference is significant at the 1% level. The market leverage ratio, ML, is 59% for distressed firms and 42% for the control group. This difference is significant at less than the1% level.

Similar results are found from analyzing the profitability ratios. The Net Sales-to-Total Assets, EBIT-to-Total Assets and EBITDA-to-Total Assets measures are economically meaningful and statistically lower than the corresponding ratios of the control firms.

Summary statistics for corporate governance variables are presented in Panel B of Table 8. We observe a smaller board size for the bankrupt firms, with their means difference being significant at the 5% level. This is consistent with the stream of

literature supporting large boards as beneficial to the firms (Eisenberg and Sundgren (1996), Yermack (1996)). CEO age for bankrupt firms is lower. While there is no discussion in the literature that relates to the relationship between probability for financial distress and CEO experience, intuitively we expect young CEOs to have less experience, to be less risk averse and less conservative. When examining the CEO = Chairman of the Board, we do not a notice large difference between the two groups. The number of outside directors in bankrupt firm is significantly smaller than for the control group. When scaled by board size, the percentage of outside directors also tends to be smaller for the bankrupt firms, which is consistent with the literature (Shivdasani (1993)). Finally, the boards of distressed firms tend to meet significantly more frequently, which may be related to bureaucracy and less efficient decision making.

D. Empirical Model

We estimate (1) a probit model between distressed and control groups and (2) a multinomial logit model where the dependent variable denotes the resolution outcome of the bankruptcy (Liquidation, Emerge in more than 5 years, Emerge and Re-file, Emerge and Not Re-file). We include a variety of accounting and corporate governance controls, as regressors. In the second stage we include the bankruptcy process related variable forum shopping (*FORUMS*) as an additional control. Additionally, we account for potential selection bias by employing a Two-Step Heckman Procedure and using the Inverse Mills Ratio in the second stage. At both stages, the models are estimated using White (1980) robust standard errors to account for potential heteroskedasticity.

IV. Results

The first line of inquiry is to determine if the governance structure of the firm is a determinant of impending distress. To address this question, a probit model is utilized where the dependent variable equals one for distressed firms and zero for control firms. The coefficient estimates of several model specifications are displayed in Table 9. Overall, the results are consistent with the univariate findings. The coefficients on leverage and profitability ratios all exhibit statistical significance and enter the model in the anticipated direction. Hence, the greater the debt burden the more likely the firm is to experience financial distress. Similarly, the profitability measures move inversely with the likelihood of impairment.

The variables of most interest are G Index (*GINDEX*) and the additional governance variables. All models indicate that there is a strong negative relationship between board size, CEO age, outside director percentage and probability of distress. Level of managerial entrenchment, although increasing in the probability of financial distress, exhibits in Models 2-4 a non-linear relationship with bankruptcy probability. Initially, for low G Index values increase in governance index is related to reduced probability of distress. High levels of G Index are related to high financial distress probability. In Models 3- 5 we account for classified boards.

More recent literature states that some of the 24 governance variables, including staggered board in fact have higher influence for managerial entrenchment. We also reduce the value of *GINDEX* accordingly, when staggered board is present. To avoid confusion we name the modified index *GINDEX_SB*. *STAGBOARD* is not significant, but carries a negative sign, which is opposite to what we expect, based on documented relationship between classified boards and firm performance. In Model 5 we use dummy

variables to further identify bankruptcy probabilities for different levels of *GINDEX*. Dummy variables are based on quintiles of the *GINDEX_SB*. *GIND_SBDUM2* has a negative coefficient, significant at the 10% level, implying reduced bankruptcy probability for low levels of *GINDEX*. *GIND_SBDUM5* has a positive coefficient, significant at the 1% level, implying increased bankruptcy probability for very high levels of GINDEX

We also include *CEOCBD* as a control. While this variable is not significant, it enters all models with a positive sign suggesting a weakly increased bankruptcy probability for firms where the CEO is also chairman of the board. We include *ALLPCT* and *ALLPCT2,* expecting a quadratic relationship between insiders' ownership of the firm and firm value, hence the probability for distress. When ownership percentage is low, there is a weak alignment of manager and shareholder incentives. As the insider ownership percentage increases, so does the alignment of interests. Once it reaches a critical level, high insider ownership can result in entrenched management and thus be harmful for shareholders. Insider ownership, *ALLPCT*, is not significant in our models, but contributes positively to the better fit of the model. In Model 5 the pseudo-R^2 is about 36%.

The probit analysis provides evidence on which firm characteristics are most closely tied to the probability of financial distress. Our second line of inquiry examines the hypothesized relationship between firm-level governance and resolution of financial distress, *conditional* on bankruptcy. Accordingly this stage of the analysis focuses solely on the sample of distress firms. To address this question we employ a multinomial logit model where *RESOLVE*, denoting the resolution of the Chapter 11 filing, is the

dependent variable. The results for three outcomes, *LIQUIDATE*, *EMERGE5*, and *EMERGE_NOREFILE*, are displayed in Table 10. We choose the cases of firms that emerge and re-file as the comparison category.

As shown in Table 10, the results agree well with our a priori expectations. Firms that emerge from bankruptcy tend to be bigger in size and also have less leverage. Note that Inverse Mills Ratio calculated using Model 5 in the first stage, is significant for group 3, which is evidence that without taking it into consideration our model specifications will suffer from selection bias. In Models 1 and 2, we control for firm specific corporate governance variables, *BRDSIZE, CEOCBD, OUTDIRMAJ.* The data reveal that less entrenched management firms are more likely to resolve their distress and emerge from bankruptcy. In all three models *GINDEX* is significant and negative for *EMERGE5* and *EMERGE_NOREFILE*, and positive for *LIQUIDATE*. The positive *GINDEX* coefficient in *LIQUIDATE* indicates that relatively poorly governed firms are less likely to achieve successful bankruptcy resolution. We notice that larger board size firms are more likely to liquidate. Similarly, *BRDSIZE* enters with a negative coefficient for both emerging groups, although not significant. This is consistent with the story that smaller boards are more efficient and faster decision-makers. *CEOCBD* is also positively related to liquidations, i.e. firms in which the CEO is also chairman of the board are likely to liquidate. In both emerging groups the ownership control variable *LRGBHBD* (large block-holder on the board of directors) is positive, indicating that having a large blockholder on the board of directors increases the chances for successful turnaround of the firm. *OUTDIRMAJ* is negative and significant in the *LIQUIDATE* and *EMERGE5*

groups. This shows that lack of outside director majority can either lead to a quick liquidation or to a long bankruptcy process, both of which hurt shareholders.

The location of the court filing is also an important factor in the firm's distress resolution. The *FORUMS* variable, i.e. forum shopping, is defined as 1 if the filing is a location other than the district or locality for its headquarters, 0 otherwise. The expectation is that, if the firm is forum shopping, it must have reasonable expectations of a more favorable court venue. When controlling for *FORUMS*, we note that this variable has a positive sign in each group. However, it is significant for the *EMERGE5* sub-sample.

V. Conclusion

This paper empirically examines the relationship between firm-level governance provisions and financial distress in large, publicly traded corporations. In contrast to the limited research on this topic, our viewpoint is *ex ante* as opposed to the previous *ex post* studies. The main research questions we address are twofold. First, we investigate the impact of firm-level governance on the likelihood of the firm experiencing financial distress. Using a variety of firm-specific corporate governance variables, we find evidence that firms with weak shareholder rights are more likely to enter financial distress. These same firms are also more highly leveraged and less profitable compared to a size- and industry-matched control sample.

Our second line of inquiry examines how firm-level governance influences the resolution of financial distress. We find evidence that less entrenched management firms are more likely to resolve successfully their bankruptcies. This result is consistent with

creditors discounting the intentions of management teams that display little regard for shareholder rights.

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Table 1: Sample Selection for Firms that Filed for Bankruptcy Protection under Chapter 11 during 1990 – August 2004

Initial Database	605
Less Data Screens	
Regulated industries	(15)
Missing COMPUSTAT data	(85)
Missing G-Index data	(378)
Sample Firms	127
Matching group	127
Final Sample	254

The table indicates the screening criteria to arrive at a final sample of firms under financial distress starting with Lynn M. LoPucki's Bankruptcy Research Database (LoPucki's WebBRD) (http://lopucki.lawlib.ucla.edu) as of 2003. Firms operating in regulated industries (SIC codes 4911-4941 (utilities), 6000-6081 (banks) and 6722, 6726 and 6792 (funds and investment companies)) are excluded from the sample. Firms with missing G Index or COMPUSTAT data are eliminated.

Table 2 Panel A: Industry Concentration of the Sample of 127 Firms that Filed for Bankruptcy Protection under Chapter 11 during 1990 – August 2004

Two-digit SIC codes for the major industries represented in the sample and the actual number of firms from that industry are displayed below. Only industries with 2% or greater representation are presented. The SIC codes are taken from COMPUSTAT.

SIC Code (2-digit)	Industry Description	Number of Firms	(%)
48	Communications	9	7.09%
73	Business Services	9	7.09%
22	Textile Mill Products	7	5.51%
35	Industrial And Commercial Machinery And Computer Equipment	7	5.51%
36	Electronic Equipment And Components (Excl. Comp. Equipment)	7	5.51%
33	Primary Metal Industries	5	3.94%
80	Health Services	5	3.94%
23	Apparel And Products Made From Fabrics	4	3.15%
32	Stone, Clay, Glass, And Concrete Products	4	3.15%
49	Electric, Gas, And Sanitary Services	4	3.15%
50	Wholesale Trade-durable Goods	4	3.15%
53	General Merchandise Stores	4	3.15%
56	Apparel And Accessory Stores	4	3.15%
13	Oil And Gas Extraction	3	2.36%
20	Food And Kindred Products	3	2.36%
37	Transportation Equipment	3	2.36%
45	Transportation By Air	3	2.36%
51	Wholesale Trade-non-durable Goods	3	2.36%
54	Food Stores	3	2.36%
57	Home Furniture, Furnishings, And Equipment Stores	3	2.36%
63	Insurance Carriers	3	2.36%
78	Motion Pictures	3	2.36%
83	Social Services	3	2.36%
	Others	24	18.90%
	Total	**127**	**100%**

Table 2 Panel B: Frequency Distribution of Bankruptcies by Year of Filing for Sample of 127 Firms that Filed for Protection under Chapter 11 during 1990 – August 2004

Year Filed	Number of Bankruptcies
1990	6
1991	8
1992	5
1993	5
1994	2
1995	2
1996	1
1998	6
1999	11
2000	21
2001	26
2002	17
2003	14
2004	3

Table 3: Definition of Variables Used in the Study of 127 Firms that Filed for Bankruptcy Protection under Chapter 11 during 1990 – August 2004 and a Matching Sample

VARIABLE	DESCRIPTION	COMPUTATION	SOURCE
Main Variables			
EBIT_TA	EBIT scaled by Total Assets	COMPUSTAT data (item #13 – item#14)/item #6	COMPUSTAT
MVE_TL	Market Value of Equity to Total Liabilities	COMPUSTAT data (item #25*item #199)/item #6	COMPUSTAT
WC_TA	Working Capital to Total Assets	COMPUSTAT data item #179/item #6	COMPUSTAT
NETEQ	Net Equity Issue – Sale of common & preferred stock less purchase of common & preferred stock, scaled by Total assets	COMPUSTAT data (item #108 – item #115)/item #6	COMPUSTAT
NETDEBT	Net Debt Issue -- Long-term debt issuance less long term debt reduction, scaled by Total Assets	COMPUSTAT data (item #111 – item#114)/item #6	COMPUSTAT
GDEBTISSUE	Gross Debt Issue - Long-term debt issuance, scaled by Total Assets	COMPUSTAT data item #111/item #6	COMPUSTAT
BL	Book Leverage – Book Debt scaled by Total Assets	(COMPUSTAT data item #6 – Book Equity)/item #6 = [item#6 – (item #6 – item #181– item #10-+item #35+– item #79)]/item #6	COMPUSTAT
ML	Market Leverage – Book Debt divided by Total Assets less Book Equity plus Market Equity	(COMPUSTAT data item #6 – Book Equity)/[(item #6 – Book Equity +(item #25*item #199)]	COMPUSTAT
MTOB	Market-to-Book Ratio – Total Assets less Book Equity plus Market Equity, divided by Total Assets	[COMPUSTAT data item #6 – Book Equity +(item #25*item #199)]/ item #6	COMPUSTAT
PPE_A	Asset Tangibility – PPE scaled by Total Assets	COMPUSTAT data item #8/item #6	COMPUSTAT
EBITDA_TA	Profitability – EBITDA scaled by Total Assets	COMPUSTAT data item #13/item #6	COMPUSTAT
LNSIZE	Natural Log of Firm Size defined by Total Assets	LN(COMPUSTAT data item #6)	COMPUSTAT
DEPR_TA	Depreciation and Amortization scaled by Total Assets	COMPUSTAT data item #14/item #6	COMPUSTAT
CAPEX_TA	Capital Expenditure scaled by Total Assets	COMPUSTAT data item #128/item #6	COMPUSTAT
RD_TA	R&D Expenditure scaled by Total Assets	COMPUSTAT data item #46/item #6	COMPUSTAT
Governance Variables			

GINDEX	Governance index by Gompers, Ishii and Metrick (2003).	The G Index counts the presence of 24 anti-takeover, voting, compensation-related and anti-takeover state law provisions present in the corporate charter of a firm.	Andrew Metrick's Governance Index Data (http://finance.wharton.upenn.edu/~metrick/data.htm)
BRDSIZE	Variable describing the size of the Board of Directors		Annual Proxy Statements from Thompson Research and Lexis Nexis
CEO_AGE	Age of the Chief Executive Officer of the Company		Annual Proxy Statements from Thompson Research and Lexis Nexis
CEOCBD	Dummy variable, signifying whether the Chief Executive Officer is also Chairman of the Board of Directors of the Company.		Annual Proxy Statements from Thompson Research and Lexis Nexis
OUTDIRS	Number of directors, outsiders to the company. Outside directors are not employees of the firm and usually do not have any ties to the firm aside from their directorship. In contrast, inside directors are employees or former employees of the firm About 10% of a firm's directors fall into the category of "affiliated", such as attorneys or people that have some long-term relationship with the firm.		Annual Proxy Statements from Thompson Research and Lexis Nexis
OUTDIRSPCT	Percentage of outside directors, as defined by *OUTDIRS* to the board size	*OUTDIRS* divided by *BRDSIZE*	Annual Proxy Statements from Thompson Research and Lexis Nexis
MEETS	Number of meetings of the board of directors during the fiscal year		Annual Proxy Statements from Thompson Research and Lexis Nexis
STAGBOARD	Dummy variable, signifying whether the board of directors is classified or not. Classified boards typically have three classes of directors, with directors from one class standing for election every three years.		Annual Proxy Statements from Thompson Research and Lexis Nexis
ALLPCT	Percentage of stock ownership by all directors and executives of the company. When classified stock structure exists, voting power relative to all outstanding shares is used.		Annual Proxy Statements from Thompson Research and Lexis Nexis
LRGBHBD	Dummy variable, signifying whether there is a large blockholder on the board of directors		Annual Proxy Statements from Thompson Research and Lexis Nexis
Bankruptcy Controls			
FRAUD	Dummy variable, signifying whether the bankruptcy is caused by fraud claims (including securities fraud claims)		WebBRD (Lynn M. LoPucki's Bankruptcy Research Database)
NOT_TORT	Dummy variable, signifying whether the bankruptcy is caused by claims that are not tort cases		WebBRD

OTHER_TORT	Dummy variable, signifying whether the bankruptcy is caused by claims that are not product, fraud, pension, environment or patent related	WebBRD
FORUMS	Dummy variable, signifying whether there is a forum shopping, whereby forum shopping is defined as "filing the bankruptcy case in a filing city other than the filing city for the court district or division that includes the debtor's headquarters" (LoPucki, 2004)	WebBRD
DAYS_TO_DIS	Continuous variable signifying "the number of days from petition filing to confirmation or other disposition of the case" (LoPucki, 2004)	WebBRD
NOPREP_NEG	Dummy variable, signifying whether the bankruptcy is not prepackaged and not prenegotiated	WebBRD
PRENEG	Dummy variable, signifying whether the bankruptcy is prenegotiated, where prenegotiated is defined as when "the debtor negotiated the terms of the plan with some, but not all creditor groups before filing - even if no prefiling vote was taken on the plan" (LoPucki, 2004).	WebBRD
PREPACK	Dummy variable, signifying whether the bankruptcy is prepackaged, where prepackaged is defined as when "debtor drafted a plan and successfully solicited votes on it before filing the case" (LoPucki, 2004).	WebBRD
EM_REF	Dummy variable, signifying whether the firm emerged from bankruptcy and re-filed subsequently	WebBRD
EM_NOREF	Dummy variable, signifying whether the firm emerged from bankruptcy and did not re-file subsequently	WebBRD
EM_NOT5Y	Dummy variable, signifying whether the firm emerged in more that five years after the bankruptcy filing	WebBRD
NO_EM	Dummy variable, signifying whether no firm emerged after the bankruptcy filing	WebBRD

Table 4: Description of the Provisions tracked by IRRC and used in the creating of Governance Index by Gompers, Ishii and Metrick (2003).

PROVISIONS				
Tactics to Delay Hostile Bidders	**Director/Officer Protection**	**Voting Rights**	**Other Takeover Defences**	**State Laws**
Blank Check	Compensation Plan	Limits to Amend Bylaws	Antigreenmail	Antigreenmail Law
Classified Board	Contracts	Limits to Amend Charter	Directors' Duties	Business Combination Law
Special Meeting	Golden parachutes	Cumulative Voting	Fair Price	Cash Out Laws
Written Consent	Indemnification	Secret Ballot	Pension Parachutes	Directors' Duties Law
	Liability	Supermajority	Poison Pill	Fair Price Law
	Severance	Unequal Voting	Silver Parachutes	Control Share Acquisition Law

Table 5: Resolution Outcomes of Sample of 127 Firms that Filed for Bankruptcy Protection under Chapter 11 during 1990 – August 2004

	Disposition	Number of Firms	(%)
1	No company emerged (Liquidation)	48	37.80%
2	Company emerged in more than five years after the filing	37	29.13%
3	Company emerged and re-filed subsequently in the following years	4	3.15%
4	Company emerged and did not re-file	19	14.96%
5	Bankruptcy pending as of August 2004	19	14.96%
	Total	**127**	**100%**

Table 6: Summary Statistics of 254 Bankrupt and Matching Firms by Governance Index Quintile

	GIMS = 1			*GIMS* = 2			*GIMS* = 3			*GIMS* = 4			*GIMS* = 5		
Variable	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***
EBIT_TA	51	0.06	0.12	81	0.04	0.11	29	0.05	0.09	52	0.07	0.07	36	0.10	0.10
NSALES_TA	52	1.06	0.72	82	1.16	0.86	29	1.19	0.81	53	1.34	1.15	37	1.39	1.05
MVE_TL	52	3.37	5.46	82	3.38	7.77	29	1.91	2.63	51	4.93	15.42	37	1.71	4.81
WC_TA	48	0.23	0.20	78	0.18	0.19	27	0.21	0.14	47	0.17	0.19	31	0.18	0.16
NETEQ	42	0.03	0.11	66	0.02	0.08	25	0.02	0.08	48	0.01	0.07	32	-0.01	0.02
NETDEBT	46	0.04	0.11	78	0.04	0.11	27	0.08	0.17	52	0.00	0.12	35	0.00	0.12
GDEBTISSUE	48	0.22	0.57	80	0.13	0.16	29	0.29	0.45	53	0.14	0.24	36	0.09	0.13
BL	51	0.50	0.24	81	0.68	0.53	29	0.59	0.22	51	0.66	0.26	36	0.69	0.22
ML	51	0.43	0.28	81	0.53	0.30	29	0.47	0.25	50	0.53	0.27	36	0.57	0.23
MTOB	51	1.66	1.69	81	1.63	1.00	29	1.57	0.96	50	1.62	1.13	36	1.60	1.95
PPE_A	51	0.37	0.24	81	0.38	0.22	29	0.36	0.23	50	0.32	0.24	37	0.30	0.20
EBITDA_TA	52	0.12	0.09	81	0.09	0.10	29	0.10	0.12	52	0.11	0.08	36	0.14	0.11
LNSIZE	52	6.65	0.86	82	6.91	1.04	29	6.84	0.95	53	7.23	1.20	38	7.35	1.20
DEPR_TA	51	0.06	0.09	81	0.05	0.05	29	0.05	0.06	52	0.04	0.03	36	0.04	0.02
CAPEX_TA	51	0.11	0.14	79	0.09	0.11	29	0.10	0.11	51	0.08	0.09	36	0.06	0.04
RD_TA	26	2.95	4.52	39	3.35	5.03	10	1.98	4.38	25	5.20	8.20	22	5.22	10.07

Notes

Summary statistics for 127 Firms that Filed for Chapter 11 during 1990 – 2003 and 127 matching firms by two-digit SIC code and total assets by governance index quintile. All variables are lagged three years from the year of Chapter 11 filing and are obtained from COMPUSTAT Database available through WRDS. GIMS - Governance Index quintiles based on the index introduced by Gompers, Ishii, Metrick (2003); *EBIT_TA* is EBIT scaled by Total Assets; *MVE_TL* is Market Value of Equity to Total Liabilities; *WC_TA* - Working Capital to Total Assets; *NETEQ* - is Net Equity Issue– Sale of common & preferred stock less purchase of common & preferred stock, scaled by Total assets; *NETDEBT* - Net Debt Issue – Long-term debt issuance less long term debt reduction, scaled by Total Assets; *GDEBTISSUE* - Gross Debt Issue – Long-term debt issuance, scaled by Total Assets; *BL* - Book Leverage – Book Debt scaled by Total Assets; *ML* - Market Leverage – Book Debt divided by Total Assets less Book Equity plus Market Equity; *MTOB* - Market-to-Book Ratio – Total Assets less Book Equity plus Market Equity, divided by Total Assets; *PPE_TA* – PPE scaled by Total Assets; *EBITDA_TA* - Profitability – EBITDA scaled by Total Assets; *LNSIZE* - Natural Log of Firm Size defined by Total Assets; *DEPR_TA* - Depreciation and Amortization scaled by Total Assets; *CAPEX_TA* - Capital Expenditure scaled by Total Assets; *RD_TA* - R&D Expenditure scaled by Total Assets.

Table 7: Summary Statistics of 127 Firms that Filed for Chapter 11 during 1990 – 2003 by Governance Index Quintile

	GIMS = 1			*GIMS* = 2			*GIMS* = 3			*GIMS* = 4			*GIMS* = 5		
Variable	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***	***Obs***	***Mean***	***Std. Dev.***
EBIT_TA	28	0.03	0.13	36	-0.01	0.12	15	0.04	0.10	22	0.03	0.05	23	0.07	0.07
NSALES_TA	29	0.94	0.75	37	1.18	0.89	15	1.25	0.82	22	0.99	0.93	23	1.26	1.00
MVE_TL	29	3.56	6.80	37	2.01	6.72	15	1.10	0.99	22	5.05	19.21	23	0.70	0.73
WC_TA	27	0.20	0.21	34	0.13	0.18	14	0.21	0.11	20	0.15	0.22	19	0.17	0.17
NETEQ	24	0.05	0.14	26	0.03	0.09	12	0.04	0.09	18	0.01	0.07	19	0.00	0.02
NETDEBT	26	0.05	0.13	34	0.04	0.12	13	0.06	0.18	22	0.05	0.12	22	0.03	0.05
GDEBTISSUE	27	0.28	0.74	35	0.12	0.14	15	0.33	0.57	22	0.17	0.21	22	0.10	0.13
BL	28	0.51	0.24	37	0.83	0.68	15	0.61	0.20	22	0.72	0.31	23	0.69	0.18
ML	28	0.47	0.30	37	0.64	0.27	15	0.54	0.25	22	0.64	0.29	23	0.65	0.21
MTOB	28	1.81	2.21	37	1.48	1.07	15	1.33	0.66	22	1.58	1.46	23	1.15	0.34
PPE_A	28	0.38	0.27	36	0.38	0.20	15	0.31	0.22	21	0.35	0.23	23	0.31	0.19
EBITDA_TA	29	0.10	0.08	36	0.06	0.10	15	0.09	0.14	22	0.07	0.07	23	0.11	0.08
LNSIZE	29	6.60	0.93	37	7.05	1.03	15	6.52	0.75	22	7.29	1.11	24	7.37	1.33
DEPR_TA	28	0.07	0.10	36	0.07	0.06	15	0.05	0.08	22	0.05	0.04	23	0.04	0.02
CAPEX_TA	28	0.11	0.14	35	0.09	0.13	15	0.08	0.10	21	0.09	0.12	22	0.06	0.04
RD_TA	14	2.79	3.65	18	3.32	6.13	4	3.48	6.95	12	5.48	7.66	13	3.32	4.01
FRAUD	25	0.12	0.33	34	0.03	0.17	14	0.00	0.00	15	0.00	0.00	20	0.05	0.22
NOT_TORT	25	0.88	0.33	34	0.94	0.24	14	1.00	0.00	15	0.87	0.35	20	0.90	0.31
OTHER_TORT	25	0.00	0.00	34	0.03	0.17	14	0.00	0.00	15	0.13	0.35	20	0.05	0.22
FORUMS	25	0.60	0.50	34	0.68	0.47	14	0.57	0.51	15	0.67	0.49	20	0.55	0.51
DAYS_TO_DIS	21	629.67	477.78	31	499.32	364.45	12	384.00	410.96	14	539.79	529.62	20	675.85	498.21
NOPREP_NEG	25	0.76	0.44	34	0.76	0.43	14	0.64	0.50	15	0.80	0.41	20	0.75	0.44
PRENEG	25	0.20	0.41	34	0.15	0.36	14	0.21	0.43	15	0.20	0.41	20	0.20	0.41
PREPACK	25	0.04	0.20	34	0.09	0.29	14	0.14	0.36	15	0.00	0.00	20	0.05	0.22
EM_REF	25	0.04	0.20	34	0.03	0.17	14	0.07	0.27	15	0.00	0.00	20	0.05	0.22
EM_NOREF	25	0.12	0.33	34	0.15	0.36	14	0.14	0.36	15	0.13	0.35	20	0.30	0.47
EM_NOT5Y	25	0.36	0.49	34	0.35	0.49	14	0.21	0.43	15	0.53	0.52	20	0.25	0.44
NO_EM	25	0.48	0.51	34	0.47	0.51	14	0.57	0.51	15	0.33	0.49	20	0.40	0.50

Notes

Accounting variables are lagged three years from the year of Chapter 11 filing and are obtained from COMPUSTAT Database available through WRDS. GIMS - Governance Index quintiles based on the index introduced by Gompers, Ishii, Metrick (2003); Bankruptcy controls are obtained from WebBRD (Lynn M. LoPucki's Bankruptcy Research Database) available online.

EBIT_TA is EBIT scaled by Total Assets; *MVE_TL* is Market Value of Equity to Total Liabilities; *WC_TA* - Working Capital to Total Assets; *NETEQ* - is Net Equity Issue – Sale of common & preferred stock less purchase of common & preferred stock, scaled by Total Assets; *NETDEBT* - Net Debt Issue – Long-term debt issuance less long term debt reduction, scaled by Total Assets; GDEBTISSUE - Gross Debt Issue – Long-term debt issuance, scaled by Total Assets; *BL* - Book Leverage – Book Debt scaled by Total Assets; *ML* - Market Leverage - Book Debt divided by Total Assets less Book Equity plus Market Equity; *MTOB* - Market-to-Book Ratio – Total Assets less Book Equity plus Market Equity, divided by Total Assets; PPE_A - Asset Tangibility – PPE scaled by Total Assets; *EBITDA_TA* - Profitability – EBITDA scaled by Total Assets; *LNSIZE* - Natural Log of Firm Size defined by Total Assets; *DEPR_TA* - Depreciation and Amortization scaled by Total Assets; *CAPEX_TA* - Capital Expenditure scaled by Total Assets *RD_TA* - R&D Expenditure scaled by Total Assets; *FRAUD* - Dummy variable, signifying whether the bankruptcy is caused by fraud claims (including securities fraud claims); *NOT_TORT* - Dummy variable, signifying whether the bankruptcy is caused by claims that are not tort cases; *OTHER_TORT* - Dummy variable, signifying whether the bankruptcy is caused by claims that are not product, fraud, pension, environment or patent related; *FORUMS* - Dummy variable, signifying whether there is a forum shopping, whereby forum shopping is defined as "filing the bankruptcy case in a filing city other than the filing city for the court district or division that includes the debtor's headquarters" (LoPucki, 2004); *DAYS_TO_DIS* - Continuous variable signifying "the number of days from petition filing to confirmation or other disposition of the case" (LoPucki, 2004); *NOPREP_NEG* - Dummy variable, signifying whether the bankruptcy is not prepackaged and not prenegotiated ; PRENEG - Dummy variable, signifying whether the bankruptcy is prenegotiated, whereby prenegotiated is defined as when "the debtor negotiated the terms of the plan with some, but not all creditor groups before filing - even if no prefiling vote was taken on the plan" (LoPucki, 2004); *PREPACK* - Dummy variable, signifying whether the bankruptcy is prepackages, whereby prepackaged is defined as when "debtor drafted a plan and successfully solicited votes on it before filing the case" (LoPucki, 2004); *EM_REF* - Dummy variable, signifying whether the firm emerged from bankruptcy and re-filed subsequently; *EM_NOREF*- Dummy variable, signifying whether the firm emerged from bankruptcy and did not re-file subsequently; *EM_NOT5Y* - Dummy variable, signifying whether the firm emerged in more that five years after the bankruptcy filing; *NO_EM* - Dummy variable, signifying whether no firm emerged after the bankruptcy filinng.

Table 8: Summary Statistics for 127 Firms that Filed for Bankruptcy Protection under Chapter 11 during 1990 – August 2004 and a Control Sample

	Distress Sample (N=127)			*Control Sample (N=127)*			*Means Difference*		
Variable	**Obs.**	**Mean**	**Std. Dev.**	**Obs.**	**Mean**	**Std. Dev.**	**Dif.**	**T-stat**	**P-value**
PANEL A. ACCOUNTING VARIABLES									
EBIT_TA	124	0.02	0.10	125	0.09	0.09	-0.07	-5.64	0.00
NSALES_TA	126	1.11	0.88	127	1.32	0.97	-0.21	-1.77	0.08
MVE_TL	126	2.55	9.37	125	4.01	8.28	-1.47	-1.31	0.19
WC_TA	114	0.17	0.19	117	0.21	0.18	-0.04	-1.67	0.09
NETEQ	99	0.03	0.09	114	0.01	0.07	0.02	1.42	0.16
NETDEBT	117	0.05	0.12	121	0.02	0.13	0.03	1.89	0.06
GDEBTISSUE	121	0.18	0.43	125	0.14	0.21	0.04	1.00	0.32
BL	125	0.69	0.43	123	0.57	0.26	0.12	2.67	0.01
ML	125	0.59	0.27	122	0.42	0.25	0.17	5.03	0.00
MTOB	125	1.49	1.37	122	1.76	1.31	-0.27	-1.55	0.12
PPE_A	123	0.35	0.22	125	0.35	0.23	0.00	0.09	0.92
EBITDA_TA	125	0.08	0.09	125	0.14	0.10	-0.06	-4.84	0.00
LNSIZE	127	6.99	1.09	127	6.97	1.07	0.01	0.10	0.92
DEPR_TA	124	0.06	0.07	125	0.05	0.04	0.01	1.71	0.09
CAPEX_TA	121	0.09	0.12	125	0.09	0.10	0.00	-0.07	0.94
RD_TA	61	3.63	5.55	61	4.10	7.83	-0.47	0.38	0.70
PANEL B. GOVERNANCE VARIABLES									
GINDEX	127	8.67	2.77	127	8.45	2.37	0.22	0.68	0.50
BRDSIZE	116	8.95	2.57	109	9.73	2.95	-0.79	-2.12	0.04
CEO_AGE	116	51.53	7.12	107	54.71	7.94	-3.18	-3.14	0.00
CEOCBD	116	0.70	0.46	108	0.72	0.45	-0.02	-0.39	0.70
OUTDIRS	116	4.97	2.67	108	5.66	2.75	-0.68	-1.88	0.06
OUTDIRPCT	116	0.54	0.22	108	0.58	0.21	-0.04	-1.24	0.22
MEETS	105	8.27	3.91	107	6.16	2.41	2.11	4.71	0.00
STAGBOARD	116	0.48	0.50	109	0.56	0.50	-0.08	-1.15	0.25
ALLPCT	114	0.19	0.23	108	0.16	0.20	0.03	0.89	0.37
LRGBHBD	116	0.55	0.50	109	0.54	0.50	0.01	0.16	0.88

Summary statistics and means difference tests for 127 Firms that Filed for Chapter 11 during 1990 – 2003 and 127 matching firms by two digit SIC code and total assets. All accounting variables are lagged three years from the year of Chapter 11 filing and are obtained from COMPUSTAT Database available through WRDS. G Index data is obtained from Andrew Metrick's Governance Index Data, *GINDEX* - Governance Index computed by Gompers, Ishii, Metrick (2003); *EBIT_TA* is EBIT scaled by Total Assets; *MVE_TL* is Market Value of Equity to Total Liabilities; *WC_TA* - Working Capital to Total Assets; *NETEQ* - is Net Equity Issue– Sale of common & preferred stock less purchase of common & preferred stock, scaled by Total assets; *NETDEBT* - Net Debt Issue - Long-term debt issuance less long term debt reduction, scaled by Total Assets; *GDEBTISSUE* - Gross Debt Issue - Long-term debt issuance, scaled by Total Assets; *BL* - Book Leverage – Book Debt scaled by Total Assets; *ML* - Market Leverage - Book Debt divided by Total Assets less Book Equity plus Market Equity; *MTOB* - Market-to-Book Ratio - Total Assets less Book Equity plus Market Equity, divided by Total Assets; *PPE_A* - PPE scaled by Total Assets; *EBITDA_TA* - Profitability – EBITDA scaled by Total Assets; *LNSIZE* - Natural Log of Firm Size defined by Total Assets; *DEPR_TA* - Depreciation and Amortization scaled by Total Assets; *CAPEX_TA* - Capital Expenditure scaled by Total Assets; *RD_TA* - R&D Expenditure scaled by Total Assets; *BRDSIZE* - Variable describing the size of the Board of Directors; *CEO_AGE* - Age of the Chief Executive Officer of the Company; *CEOCBD* -Dummy variable, signifying whether the Chief Executive Officer is also Chairman of the Board of Directors of the Company; *OUTDIRS* - Number of directors, outsiders to the company. Outside directors are not employees of the firm and usually do not have any ties to the firm aside from their directorship. In contrast, inside directors are employees or former employees of the firm. About 10% of a firm's directors fall into the category of "affiliated", such as attorneys or people that have some long-term relationship with the firm. *OUTDIRSPCT* -Percentage of outside directors, as defined by *OUTDIRS* to the board size; *MEETS* – number of meetings of the Board of Directors; *STAGBOARD* - Dummy variable, signifying whether the board of directors is classified or not. Classified boards typically have three classes of directors, with directors from one class standing for election every three years; *ALLPCT* - Percentage of stock ownership by all directors and executives of the company. When classified stock structure exists, voting power relative to all outstanding shares is used. *LGRBHD* – dummy variable indicating a large blockholder (>5% ownership) on the board of directors.

Table 9: Probit Regressions Results with Heteroskedastic Adjustment From Factors Influencing Bankruptcy and Corporate Governance Control Variables
Dependent Variable = 1(Firm experiences financial distress)

Bankrupt=1	Model 1	Model 2	Model 3	Model 4	Model 5
CONST	2.89**	5.99***	6.33***	5.17***	3.50***
	2.53	*3.92*	*3.97*	*3.21*	*2.80*
LNSIZE	-0.10	-0.10	-0.13	-0.17	-0.21
	-0.97	*-0.90*	*-1.15*	*-1.44*	*-1.70*
EBITDA_TA	-3.52***	-3.65***	-3.61***	-3.31***	-3.66***
	-3.04	*-3.12*	*-3.06*	*-2.68*	*-2.86*
ML	2.31***	2.48***	2.48***	2.28***	2.32***
	5.21	*5.21*	*5.18*	*4.54*	*4.58*
DEPR_TA	8.29***	8.75***	8.78***	9.83***	11.25***
	3.67	*3.92*	*3.97*	*3.50*	*3.70*
BRDSIZE	-0.65**	-0.68**	-0.70**	-0.61**	-0.56*
	-2.18	*-2.22*	*-2.26*	*-1.93*	*-1.75*
CEO_AGE	-0.05***	-0.06***	-0.06***	-0.05***	-0.05***
	-3.21	*-3.85*	*-3.87*	*-3.53*	*-3.55*
CEOCBD	0.18	0.17	0.13	0.17	0.21
	0.81	*0.75*	*0.59*	*0.74*	*0.85*
OUTDIRPCT	-1.12**	-1.13**	-1.05**	-1.10*	-1.01
	-2.16	*-2.09*	*-1.93*	*-1.80*	*-1.56*
GINDEX	0.07*	-0.58***			
	1.76	*-2.69*			
GINDEX2		0.04***			
		3.04			
STAGBOARD			-0.17	-0.27	-0.33
			-0.79	*-1.16*	*-1.41*
GINDEX_SB			-0.63***	-0.56**	
			-2.63	*-2.11*	
GINDEX_SB2			0.04***	0.04**	
			3.04	*2.45*	
ALLPCT				0.54	1.21
				0.32	*0.69*
ALLPCT2				-1.02	-1.70
				-0.47	*-0.76*
MEETS				0.11***	0.12***
				3.22	*3.57*
GIND_SBDUM2					-0.60*
					-1.74
GIND_SBDUM3					-0.29
					-0.99
GIND_SBDUM4					0.17
					0.43
GIND_SBDUM5					1.01***
					2.71
Number of obs	**215**	***215***	**215**	**201**	***201***
Wald chi2	***56.67***	**61.07**	**63.23**	**54.30**	**65.21**
Prob > chi2	**0.000**	***0.000***	**0.000**	**0.000**	***0.000***
Pseudo R2	***0.276***	**0.307**	***0.3138***	***0.335***	**0.359**

*,**,*** - denote significance at 10, 5 and 1% levels

All accounting variables are lagged three years from the year of Chapter 11 filing and are obtained from COMPUSTAT Database available through WRDS. *LNSIZE* - Natural Log of Firm Size defined by Total Assets; *EBITDA_TA* - Profitability – EBITDA scaled by Total Assets; *ML* - Market Leverage; *DEPR_TA* - Depreciation and Amortization scaled by Total Assets; *BRDSIZE* - Size of the Board of Directors; *CEO_AGE* - Age of the Chief Executive Officer of the Company; *CEOCBD* - Dummy variable, signifying whether the Chief Executive Officer is also Chairman of the Board of Directors of the Company; *OUTDIRSPCT* - Percentage of outside directors, as defined by *OUTDIRS* to the board size; *GINDEX* - Governance Index based on the index by Gompers, Ishii and Metrick (2003); *GINDEX 2* - *GINDEX* squared; *STAGBOARD* - Dummy variable, signifying whether the board of directors is classified or not. Classified boards typically have three classes of directors, with directors from one class standing for election every three years; *GINDEX_SB – GINDEX* value when staged board is not present; *GINDEX_SB2 – GINDEX_SB* squared; *ALLPCT* - Percentage of stock ownership by all directors and executives of the company. When classified stock structure exists, voting power relative to all outstanding shares is used. *ALLPCT2* – Squared *ALLPCT*; *MEETS* - Number of meetings of the board of directors during the fiscal year; *GINDEX_SBDUM1 – GINDEX_SBDUM5* - Dummy variables equal to one when *GINDEX_SB-based* quintile is correspondingly = 1- 5; (*GINDEX_SBDUM1* is omitted in the regressions).

Table 10: Multinomial Regression Models Controlling for Corporate Governance Variables
Dependent Variable is RESOLVE Denoting the Resolution of the Chapter 11 Filing

RESOLVE (N=93)	**Model 1**		**Model 2**		**Model 3**	
	Coefficient	***z-stat***	**Coefficient**	***z-stat***	**Coefficient**	***z-stat***
LIQUIDATE						
CONST	3.24	*0.37*	6.36	*0.96*	9.01	*1.28*
LNSIZE	-1.20	*0.98*	-1.91	*-1.21*	-2.34	*-1.62*
ML	-3.69*	*-1.87*	-6.24**	*-1.99*	-6.22**	*-1.89*
BRDSIZE	0.48**	*2.17*	0.77	*1.24*	0.75	*1.29*
CEOCBD	0.88	*0.59*	0.85	*0.44*	0.45	*0.24*
OUTDIRMAJ	-2.01*	*-1.85*	-3.81***	*-2.63*	-3.68**	*-2.51*
LRGBHBD			-1.65	*-0.51*	-1.97	*-0.65*
ALLPCT			-4.85	*-0.96*	-4.33	*-0.89*
GINDEX	0.10	*0.47*	0.28	*0.60*	0.24	0.50
FORUMS					1.54	*1.14*
INVMILLS	0.11	*0.07*	0.88	*0.59*	1.08	*0.65*
EMERGE5						
CONST	-2.10	*-0.58*	-0.88	*-0.19*	1.20	*0.28*
LNSIZE	1.78***	*2.90*	1.98***	*2.96*	1.72***	*2.59*
ML	-4.94***	*-2.77*	-5.48***	*-2.96*	-5.65***	*-3.09*
BRDSIZE	-0.14	*-0.79*	-0.22	*-1.21*	-0.28	*-1.49*
CEOCBD	-0.36	*-0.43*	-0.34	*-0.38*	-0.74	*-0.81*
OUTDIRMAJ	-1.43*	*-1.66*	-2.18*	*-1.88*	-2.16**	*2.01*
LRGBHBD			0.92	*0.81*	0.44	*0.35*
ALLPCT			-4.69*	*-1.75*	-4.30*	*1.82*
GINDEX	-0.31*	*-1.77*	-0.38**	*-2.01*	-0.41**	*-2.35*
FORUMS					1.95**	*2.06*
INVMILLS	-1.37	*-1.02*	-1.61	*-1.17*	-1.60	*-1.00*
EMERGE_NOREFILE						
CONST	1.38	*0.40*	2.38	*0.53*	4.24	*1.06*
LNSIZE	0.99*	*1.71*	1.20*	*1.87*	1.00	*1.57*
ML	-3.95**	*-2.31*	-4.48***	*-2.66*	-4.71***	*-2.73*
BRDSIZE	-0.10	*-0.60*	-0.18	*-1.01*	-0.25	*-1.32*
CEOCBD	0.41	*0.49*	0.38	*0.42*	-0.03	*-0.03*
OUTDIRMAJ	0.54	*0.70*	-0.13	*-0.11*	-0.10	*-0.09*
LRGBHBD			0.55	*0.50*	0.25	*0.20*
ALLPCT			-3.42	*-1.31*	3.10	*1.36*
GINDEX	-0.29*	*-1.84*	-0.33**	*-1.94*	-0.36**	*-2.15*
FORUMS					1.48	*1.62*
INVMILLS	-2.20*	*-1.65*	-2.38*	*-1.71*	-2.25	*-1.40*
Number of obs	**84**		**84**		**84**	
Wald chi2(30)	**66.94**		**46.16**		**51.53**	
Prob > chi2	**0.000**		**0.012**		**0.009**	
Pseudo R2	**0.232**		**0.265**		**0.2843**	

Outcome *EM_REF* (Firm emerged and subsequently re-filed) is the comparison group.
*,**,*** - denote significance at 10, 5 and 1% levels
All accounting variables are lagged three years from the year of Chapter 11 filing and are obtained from COMPUSTAT Database available through WRDS.
LNSIZE - Natural Log of Firm Size defined by Total Assets; *ML* - Market Leverage; *BRDSIZE* - Size of the Board of Directors; *CEOCBD* - Dummy variable, signifying whether the Chief Executive Officer is also Chairman of the Board of Directors of the Company; *OUTDIRSPCT* - Percentage of outside directors, as defined by *OUTDIRS* to the board size; *LGRBHD* – dummy variable indicating a large blockholder (>5% ownership) on the board of directors*; ALLPCT* - Percentage of stock ownership by all directors and executives of the company. When classified stock structure exists, voting power relative to all outstanding shares is used; *GINDEX* - Governance Index based on the index by Gompers, Ishii and Metrick (2003); *FORUMS* - Dummy variable, signifying whether there is a forum shopping, where forum shopping is defined as "filing the bankruptcy case in a filing city other than the filing city for the court district or division that includes the debtor's headquarters" (LoPucki, 2004); *INVMILLS* – Inverse Mill's ratio based on Model 5, Table 9.