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Labor Laws and Corporate Governance: International Evidence from Restructuring Decisions

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Abstract

We investigate how labor laws and investor protection jointly affect restructuring decisions of firms suffering sharp performance declines in 41 countries. In weak investor protection countries, major asset sales are followed by inferior operating performance. These asset sales are more frequent and poorly performing top managers are more likely to be retained as labor-union laws get stronger. We explore several explanations and conclude that a management-labor collusion to maintain status quo is most consistent with our data. By contrast, in strong investor protection countries major asset sales are followed by superior operating performance. Poorly performing firms also are more likely to force top-management turnover and large scale layoffs. Other related findings include (1) financial leverage weakens the deterrent effect of strong union laws on layoffs and (2) rigid employment contract laws are associated with more asset sales during distress. Our results highlight the importance of interaction among labor, management, and investors in shaping corporate governance.

I. Introduction

Much of the research in law and finance has focused on the role of legal protection of investors in shaping corporate governance¹. However, investors are but one of many stakeholders. Other stakeholders also provide important inputs to the production process and participate in governance. One such stakeholder is labor, which also receives legal protection with substantial variation across countries (Botero et al., 2004). Workers' self-interests often conflict with those of investors, at least in the short-run. Another stakeholder is management. Although in most countries management is supposed to represent shareholder interests, their actions may be dictated by self interests that often conflict with those of shareholders.

How firms respond to these conflicting interests depends on the stakeholders' relative influence on the decision making process, which varies across countries due to political and social factors (Roe, 2003). When investors have greater influence, a higher priority is given to the enhancement of capital value. When labor has greater influence, the value-enhancement objective may be compromised (Tirole, 2001). We proxy the two stakeholders' relative influence at the country level by the relative strength of legal protection of investors and labor, using measures developed by La Porta et al. (1998), Djankov et al. (2005), and Botero et al. (2004). The relative legal strength may affect corporate governance. For example, if labor unions enjoy stronger legal protection than shareholders, managers may form an alliance with workers and weaken their allegiance to shareholders, making firms more responsive to worker demands.

¹See for example, La Porta et al. (2000, 2002) and Durnev and Kim (2005), and Denis and McConnell (2003) for a survey of the literature.

In this paper we investigate how labor laws, investor protection laws, and firm-specific variables interact in affecting restructuring decisions when firms suffer a sharp deterioration in operating performance. We examine firms at the onset of declining performance and study their initial reaction to a distress situation. Conflicts among stakeholders tend to become more acute when the size of the economic pie shrinks, making restructuring decisions more divisive than usual. However, it is not obvious how the conflicts affect the nature and the likelihood of restructuring. On one hand, conflicts may lead to further deterioration of the firm; on the other hand, the stakeholders may rally around the crisis to enhance the firm's chance of survival.

We consider three types of restructuring measures: large scale employee layoffs, major asset sales, and top management turnover: These restructuring measures are generally considered value enhancing. Indeed, previous studies suggest that they improve stock price and subsequent operating performance.² However, part or all of the shareholder gains may arise at the expense of other stakeholders (Shleifer and Summers, 1988).

How workers and top managers react to these restructuring measures may depend on how their job security and compensations are affected. One restructuring measure, worker layoffs, is a cost saving measure resulting in job losses, at least in the short run. Employees are likely to react negatively, making the relative power of investors and labor an important determinant in this restructuring decision.

A second measure, replacing top management, is an attempt by investors (or by workers) to change the direction of the firm by bringing in new leadership. If the current

² See for example, Weisbach (1988), Ofek (1993), Kaplan (1994), Kang and Shivdasani (1997), and Denis and Kruse (2000)

management is responsible for the poor performance and a change is necessary for value enhancement, stronger investor rights would increase the likelihood of top management turnover. Workers will not resist if the new management is expected to get the firm out of trouble without requiring any sacrifice from employees. However, poor performance may be due partly to managers' tendency to overpay workers (Bertrand and Mullainathan, 1999) and their reluctance to trim unproductive workforce because of their desire for quiet life (Bertrand and Mullainathan, 2003). Employees will be protective of such labor friendly management because a new management team brought in to fix the problem is likely to cut wages and layoff workers. Managers may also collude with employees and receive protection from workers (Pagano and Volpin, 2005).³

The third type of restructuring, asset sales, is generally considered value enhancing. If a firm sells assets in an attempt to redeploy under-utilized resources to higher valued uses or to take advantage of its superior knowledge of the true value, the asset restructuring should increase the shareholder value. Workers may resist such asset sales if they lead to layoffs or lower wages.

Asset sales also can be value destroying. They could be a part of a delaying tactic to maintain status quo. For example, if management is reluctant to lay off workers and/or cut wages, due to either the quiet life syndrome or management-worker collusion, it may sell off assets to maintain the current payroll. Because poorly performing firms are typically cash constrained, selling underperforming assets may not be sufficient. They may sell assets even if it leads to further deterioration in operating performance. Such sales are more likely when investor protection is weak and labor laws are strong enough to prevent layoffs and wage concessions.

³ See Rauh (2006) for empirical evidence in an anti-takeover context.

The cause for asset sales can be more devious than quelling workers. What appears to be asset sales may be diversion of corporate resources by management or controlling shareholders for their own private benefits. These types of asset reductions are more likely to be observed in weak investor protection countries (Johnson et. al, 2000; Shleifer and Wolfenzon, 2002; and Durnev and Kim, 2005).

Our sample consists of 9,923 firms at the onset of sharply declining operating performance in 41 developed and emerging economies over the period 1993 – 2004. We find that firms located in stronger investor protection countries are more likely to undertake large scale employee layoffs and force top management turnover. The relation between investor protection and major asset sales is more intriguing. We observe more asset sales when investor protection is very strong and very weak. Major asset sales in strong investor protection countries are followed by superior operating performance in comparison to companies without asset sales. We observe the opposite for firms in weak investor protection countries: firms with asset sales show inferior subsequent performance relative to firms without asset sales.

The likelihood of asset sales in weak investor protection countries increases as collective relations laws grant more power to labor unions, suggesting that these asset sales are countenanced by workers. Furthermore, management turnover is lower when union laws are stronger, with the relation being significant only for firms located in low investor protection countries. The presence of strong union power, coupled with poor investor protection, seems to help poorly performing managers retain their jobs and encourage asset sales harmful to investors but countenanced by workers.

We explore several possibilities to explain these results and find that a management-worker collusion to maintain the status quo is most consistent with the data. When top managers face potential dismissal for poor performance, they may form an alliance with labor by refraining from worker layoffs or from wage cuts. Workers, in turn, may support retaining the managers who exercise such restraint. Top managers are more likely to keep their jobs if the government bails out the firm or, in the event of default, if the firm is reorganized rather than liquidated or taken over by another firm. Employees paid above-market wages may take industrial and/or political actions to lobby for bailouts or to oppose liquidation or a merger in favor of reorganization that keeps current management intact. These lobbying efforts should be more effective in countries with strong collective relations laws and poor investor protection. For such collusion to work, management needs funds to minimize layoffs and wage cuts. Lacking other means to raise the necessary funds, poorly performing firms may resort to selling assets even when it hurts subsequent operating performance.

Benevolent interpretations of our results include underdeveloped asset markets in weak investor protection countries, fire sales to pay off creditors, or poorly performing managers avoiding accountability by blaming strong unions for poor performance. Although these stories explain parts of our results, none is fully consistent with the data. We also show that our results concerning layoffs and asset sales are not due to differences in conditions existing prior to performance declines.

When we examine the general impacts of labor laws, we find that strong union laws protect jobs by reducing the incidence of both large scale layoffs and major asset sales, but only in high investor protection countries. In low investor protection countries,

the strength of union laws is unrelated to the likelihood of layoffs in spite of its positive relation with major asset sales mentioned above. It appears the strength of union power offsets potential large scale layoffs stemming from asset sales in these countries.

Another important facet of labor laws is employment contracts (Botero et al., 2004). When these laws are inflexible, hiring/firing workers and reducing wages are costly. We find that more rigid employment laws are associated with more major asset sales. This is consistent with Besley and Burgess (2004) who find that Indian states with stronger labor regulations have attracted less investment. For poorly performing firms, the negative impact of rigid employment laws manifests as more major asset sales.

Firm-specific variables also are related to restructuring decisions. Both financial leverage and ownership concentration are associated with a higher likelihood of all three types of corporate restructuring. Consistent with Ofek (1993) and Kang and Shivdasani (1997), leverage increases investors' ability to force large scale layoffs and management turnover.⁴ In addition, we find that leverage's disciplining role has more bite when investor protection is stronger. Perhaps more interesting, leverage negates strong union laws' preventive effect on large scale layoffs.

Ownership concentration is positively related to management turnover and asset sales only when top managers are not large shareholders. We find fewer management dismissals when top managers hold substantial ownership stakes, consistent with Volpin's (2002) evidence on Italian top executives. A similar pattern extends to asset sales: Large-shareholder-managers are less likely to sell assets, perhaps because of their reluctance to reduce private benefits associated with a larger asset base.

⁴ It is also consistent with Harvey et al. (2004) who demonstrate that leverage mitigates agency problems in emerging economies.

The rest of the paper is organized as follows. Section II describes the sample construction and data. Section III presents empirical results and robustness checks, followed by concluding remarks in Section IV.

II. Sample Construction and Data

A. Sample Construction

The primary source of our firm level data is Worldscope. We identify poorly performing companies by looking for initially healthy firms that suffer a sharp drop in operating performance. We select firms at the onset of poor performance in order to avoid firms that have suffered poor performance and already have undertaken restructuring measures.

Operating performance is measured by operating income before depreciation and amortization divided by total assets (EBITDA/TA). We use an accounting-based measure rather than a stock price based measure, because stock markets are forward looking and market values reflect the likelihood to undertake restructuring measures. For example, a more shareholder value oriented company may experience a smaller drop in valuation for the same decline in operating performance because the stock market anticipates value-enhancing restructuring.

Two different definitions of sharply declining performance are used. For management turnover, we measure operating performance relative to industry; for layoffs and asset sales, we use a percentage drop in operating profits. Consider a firm suffering from an industry-wide shock. If the firm's operating loss is smaller than the industry median, it may not reflect badly upon management; however, the firm may still need to save costs through employee layoffs and asset sales.

We identify 25,698 industrial companies from 41 countries over the period 1993-2004 that have sufficient data to conduct our tests⁵. From these firms we construct a sample of firms by following Denis and Kruse (2000); the EBITDA/TA is above the industry median in year t-1, the base year, and falls to the bottom quartile of its industry in year t, the distress year⁶. This yields 6,988 poorly performing firms to analyze management turnover.

For layoffs and asset sales, we follow Kang and Shivdasani (1997) and require that the company initially has a positive, above-industry median EBITDA/TA in the base year and experiences a drop of more than 50% in EBITDA in the following year. This selection procedure yields 8,493 companies. As a robustness check, we also use this sample to analyze management turnover and find similar results.

Table I presents the total number of firm-years with available data for each of the 41 countries and the number of poorly performing firms with at least a 50% drop in EBITDA. The proportion of distressed firms is fairly evenly distributed across countries with a mean of 11%. Two-thirds of the distressed firms are observed between 2000 and 2004 because the number of firms and countries covered by Worldscope increase dramatically after 2000.

⁵ We exclude the firm-years with missing data for any of the relevant variables. We also exclude firm-years when sales, total assets, and number of employees are zero and leverage ratios are greater than one or negative.

⁶ Because Worldscope covers an insufficient number of firms in the traditional definition of industry groupings for some countries, for the sample selection procedure we use a more flexible definition of industry groupings. If more than five firms have the same three-digit SIC code in a given country in a given year, we use the three-digit SIC group. Otherwise, we use the two-digit SIC group if there are more than five firms with the same two-digit SIC code. Likewise, we use the one-digit SIC group if there are less than five firms in the two-digit group, and the rest of the companies in the same country when there is insufficient number of firms in the one-digit group. Finally, if there are less than five firms in a given country in any given year, we drop that country from the sample for that year.

Direct comparisons of the accounting based data may be difficult because accounting standards differ across countries. However, a key distinguishing characteristic in legal environments across countries is accounting standards; thus, to some extent, our use of legal measures concerning investor and labor protection controls for such differences. Additionally, industry dummies help control for different accounting practices across industries. Any remaining noise would weaken the power of our tests. Nevertheless, we conduct a robustness check by using different cut-off points in constructing the sample (i.e., 30% and 40% instead of the 50% drop in EBITDA/TA). The main results are robust to different cut-off points.

B. Measures of Corporate Restructuring

Following the literature, we use three measures of restructuring: top management turnover, large scale employee layoffs, and major asset sales⁷. They are not as refined as those in single-country studies because of our inability to read news articles concerning our sample of firms encompassing 41 countries.

We construct the *management turnover* variable from the data on top executive names provided by Worldscope. This variable takes the value of one for year t if the top two executives in year t-1 do not appear as executives in year t or year t+1, and zero otherwise, where year t is the distress year. We include year t+1 because replacing top management may take time. We use the removal of the top two officers rather than only the top officer for two reasons. First, top management turnover is more likely to be forced

⁷ We exclude financial restructuring such as debt renegotiation, debt forgiveness, or debt equity swaps because they represent restructuring of claims between investors with relatively little direct involvement by workers. We also exclude bankruptcies and mergers because of unavailability of data for the 41 countries. The impact of these omissions is likely to be very small. Only 1.58% of our sample firms disappear during the year of distress and the following year, which can be due to bankruptcy, mergers, or Worldscope's decision to stop covering them for other reasons.

rather than voluntary if the two top executives leave the company. Second, Worldscope provides only officer titles, which are not uniform across countries. Because it is sometimes difficult to identify the top officer by title alone, we take this more conservative approach. For a robustness check, we require all three top executives in year $t-1$ do not appear as executives in year t or year $t+1$. The results are similar.

The data for employee layoffs and asset sales also come from Worldscope. The variable *Layoffs* takes a value of one if a company experiences a drop in the number of employees from year $t-1$ to year t or $t+1$ by more than 20%. The variable *Asset sales* takes a value of one if a company experiences a drop in its net property, plant, and equipment (NPPE) from year $t-1$ to year t or $t+1$ by more than 15%. These somewhat arbitrary cutoff points are based partially on previous findings⁸. For robustness we use different cutoff levels for layoffs (15% or 25% decline in the number of employees) and asset sales (10% or 20% reduction in NPPE) and find similar results. Because NPPE is measured in local currency, the changes are not due to changes in exchange rates.

There are other sources of noise in *Layoffs* and *Asset sales*. Hallock (1998) observes that the Compustat database does not record the changes in employment numbers as frequently as changes in financial variables, because personnel information is subject to looser reporting and auditing requirements than financial variables. Because other countries may have a similar problem, our *Layoffs* may underestimate the true extent of employee reduction. This problem is somewhat mitigated by our inclusion of year $t+1$ in defining *Layoffs*. Any remaining underestimation weakens the power of our

⁸ Kang and Shivdasani (1997) identify layoffs and asset sales through newspaper articles, and report a mean (median) layoff of 20.9% (20%) of their total workforce and a median asset sales of 7.5% of total assets. We use a 15% cutoff rate for asset sales because Denis and Kruse (2000) report a higher reduction in total assets for their sample (28.2%).

tests. It is also possible that accounting write-offs may lead to an overestimate of *Asset sales*. Our use of changes in NPPE, instead of total assets, to measure asset sales mitigates this problem because inventories and account receivables, which are often subject to write offs, are excluded from the definition of NPPE. Write-offs due to a plant closure or scrapping equipment would also reduce NPPE; however, such actions are precisely what we want to capture as asset restructuring. The potential underestimation of *Layoffs* and overestimation of *Asset sales* is one of the reasons we choose a slightly higher cutoff point for *Layoffs* (20%) than for *Asset sales* (15%).

C. Legal variables

Our measure of investor protection considers both the *de jure* and *de facto* aspects of regulation. The *de jure* measures come from Djankov et al. (2005) and La Porta et al. (1998). We define the variable *Shareholder* equal to the sum of normalized value of the revised anti-director index and the anti-self-dealing index. The anti-director index, originally constructed by La Porta, et al. (1998), was revised by Djankov et al. (2005). It is composed of six sub-indices that assess the possibility of proxy voting by mail, blocking shares before a shareholder meeting, cumulative voting, oppressed minority, preemptive rights, and the percentage of share capital required to call an extraordinary shareholder meeting. The anti-self-dealing index consists of sub-indices that assess the amount of disclosure before and after the transaction has occurred, the need for approval by disinterested shareholders, and litigation governing a specific self-dealing transaction. Both indices measure minority shareholder protection against management/controlling shareholders' actions that would hurt shareholder value.

We also define a variable, *Creditor*, equal to the La Porta, et al. (1998) creditor index, which evaluates whether there is no automatic stay on assets, whether secured creditors are paid first, whether there are restrictions on going into reorganization, and whether management stays in the reorganization. These legal protection indices measure formal rules but enforcement of these rules varies across countries.

The proxy for *de facto* regulation is based on the *Law and Order* variable constructed by the International Country Risk Guide. It is an assessment of the strength and impartiality of the legal system and of the popular observance of the law. The *Law and Order* score is updated monthly. We take yearly averages of this index and lag it by two years from the distress year.

These four legal variables are normalized on a scale of zero to one and are reported in Table I for each country⁹. All four are significantly correlated with each other, as reported in Table II. To combine their different attributes and mitigate potential multicollinearity problems, we take the sum of their normalized values to create a single measure of investor protection, *Financier*, which also is reported in Table I. For a robustness check, we use only the revised *Anti-director* index or only the *Anti-self-dealing* index with *Creditor* and *Law and Order*. We also use the product of the four variables instead of their sum. The results remain unchanged.

The data for labor regulations come from Botero et al. (2004), who classify labor laws into three major indices. The first index, the rigidity of employment contracts, *Emp_Cont*, measures the difficulty and the costs of reducing wages and working hours and covers regulations concerning over time and use of temporary workers. This index

⁹ *Law and Order* reported in Table I is the average of the yearly averages over the period 1991-2002, using the same value for both 2001 and 2002.

measures more than the formal rules. It includes measures of economic costs of worker protection such as the cost of increasing working hours and the cost of firing workers.

The second index, *Union*, assesses the legal protection of labor unions and the regulation of collective disputes. Strong collective relations laws strengthen union power, in turn making it easier for workers to prevent or discourage layoffs and wage reductions. The third index, *Soc_Sec*, measures the strength of social security laws. Botero et al. (2004) show that social security laws are closely related to GDP per capita that reflects a country's level of economic development. We consider the effects of social security laws only in the robustness section.

These labor law indices and their correlations with other legal variables are reported in Tables I and II. All labor indices are positively correlated with each other and are negatively correlated with all measures of investor protection (except for the correlation between *Soc_Sec* and *Law and Order*). Countries with strong investor protection tend to have weak labor laws and vice versa.

D. Firm-specific variables

Data for firm-specific variables also come from Worldscope. We use the logarithm of sales to measure the size of the firm. Large firms are more likely to be unionized, have a better chance to be bailed out by the government in the event of financial distress, and may be slow to react to external shocks. They also receive more public attention and are more likely to be covered by Worldscope. It also may be easier for smaller firms to layoff 20% of their employees and sell 15% of their assets than it is for larger firms. Financial leverage is measured by the ratio of short term plus long term debt divided by total assets.

Ownership data come from Worldscope, Amadeus, the ISI Emerging Markets Database, local stock exchanges, and company websites. We proxy the ownership concentration variable, *Own*, by the sum of the equity stakes of the three largest shareholders each with more than 5% of the firm shares. None of the firms in our sample list the government as a direct owner with more than 5%. The ownership data for top executives is available only for 2002-2004. We average the three years and use it as a proxy for the actual managerial ownership for the rest of the period. All firm specific explanatory variables are winsorized at the 1% level, because firm-level data for countries as diverse as ours are susceptible to outlier problems.

Table III provides summary statistics for the sample of firms with a drop in EBITDA greater than 50%. Panel A reports the mean and median of firm level variables for the base and distress years, which show that all measures concerning size, profitability, number of employees, and dollar amount of outstanding debt drop significantly from the base year to the distress year.¹⁰ *Layoffs*, *Asset sales*, and *Management turnover* all increase significantly from the base year to the distress year¹¹. These statistics indicate that companies tend to respond to performance declines.

Panel B cross-tabulates the three different measures of corporate restructuring. It shows a significant correlation between asset sales and layoffs: of 1,988 major asset

¹⁰ The number of observations is greater than the number of firms because some firms enter our sample more than once. The number of observations for *layoffs*, *asset sales*, and *management turnovers* is smaller than the total number of observations because of missing data for employees, NPPE, and officer names for two consecutive years in Worldscope. In addition, *management turnovers* come from a sample based on a different definition of performance decline.

¹¹ The management turnover ratio of 8.32% during the distress year is smaller than the average CEO turnover ratio reported by previous studies. For example, Ofek (1993) reports an average ratio is 21% for his sample of US firms; Kaplan (1994), a mean rate of 14.86% for Japanese firms and 10.35% for US firms; and Kang and Shivdasani (1997), a mean rate of 14.3% for Japanese firms and 7.9% for US firms. The turnover ratio for our sample is lower because our definition of turnover requires the removal of the top two officers instead of the CEO only and our sample covers a much broader cross section of countries.

sales, 659 involve layoffs of more than 20% of employees. In contrast, the fraction of companies with management turnover does not change whether firms sell assets or layoff employees. This confirms our conjecture that management turnovers are distinct events from layoffs or asset sales, each of which requires separate analysis.

III. Empirical Results

A. Univariate analysis

To see how corporate restructuring decisions vary across legal environments, we divide the countries into quartiles in terms of legal protection of investors and labor. Table IV compares the average proportion of poorly performing firms undertaking layoffs, asset sales, and management turnover between the top and bottom quartiles. It reveals several noteworthy patterns. First, large scale layoffs and major asset sales are more frequent in countries with more rigid employment laws. Workers appear worse off with highly protective employment laws during corporate distress.

Second, when collective relations laws are strong, we observe significantly fewer employee layoffs and management turnovers, indicating that strong union laws increase job security not only for employees but also for underperforming managers. Strong union laws are also associated with more asset sales, a surprising revelation that calls for further investigation.

Third, strong investor protection is associated with more employee layoffs and management turnovers, consistent with the notion that layoffs and management turnovers are in general value enhancing. However, we also observe significantly fewer asset sales in strong investor protection countries. This counters the perception of asset sales being

value-enhancing because we should observe more, not less, value-enhancing decisions when investors enjoy strong legal protection. The negative relation between investor protection and asset sales holds when the sample is divided based on only the anti-director index, anti-self-dealing index, or creditor protection index¹².

B. *Multivariate Analysis*

The univariate results reveal several surprising patterns. To better understand the nature of the three restructuring measures, we investigate how the likelihood of each type is related to the legal variables, leverage, and ownership concentration, which we hypothesize affect the relative influence of investors and workers. We first report results concerning employee layoffs and management turnover, followed by asset sales.

B.1. *Employee layoffs and management turnover*

Table V reports the results of country random effect logit regressions where the dependent variable is equal to one if there are large scale layoffs or management turnover. The independent variables include: *Financier*, the legal protection of shareholders and creditors; *Labor*, labor laws; *Lev*, financial leverage; and *Own*, ownership concentration. We also account for the interaction between leverage and the legal variables by adding interaction terms, *Lev*Financier* and *Lev*Labor*. Control variables include firm size and last year's operating performance.

¹² Conflicts may arise between shareholders and creditors regarding the timing of restructuring because shareholders have convex claims on the cash flows whereas creditors have concave claims. Therefore, we separate *Financier* into shareholder (the sum of anti-director index and the anti-self-dealing index) and creditor protection and examine whether the frequency of asset sales is different between different configurations of bottom and top quartiles by shareholder and creditor protection (i.e., a 2 by 2 analysis, where the rows represent top and bottom quartiles of creditor protection and the columns represent the top and bottom quartiles of shareholder protection). There is no difference between firms that are in the top creditor and bottom shareholder protection quartiles and firms that are in the top shareholder and bottom creditor quartiles, while the top quartiles for both creditor and shareholder protection have significantly less asset sales than the bottom quartiles for both creditor and shareholder protection.

Labor consists of two components: *Union*, measuring the strength of collective relations laws; and *Emp_Cont*, the rigidity of employment laws. Regressions are estimated separately for the two variables to mitigate multicollinearity problems stemming from their correlation (0.3264). The variance inflation factor (VIF) increases to 3.16 when we use *Emp_Cont* and *Union* together. The VIF is 2.23 with *Emp_Cont* only and 2.45 with *Union* only.

For all specifications we perform the Breusch-Pagan (1980) test, which suggests the presence of unobserved country level heterogeneity. Because some of our explanatory variables are at the country level, precluding the use of country fixed effects, we use country random effects. To account for possible omitted variable bias, we include several country level variables that may be correlated with the explanatory variables in the robustness section. The results are similar. We also use time fixed effects to control for possible macroeconomic factors (e.g., financial crises and recessions) and industry fixed effects at the two-digit SIC level to control for industry-wide factors that may affect the likelihood of restructuring. Following Norton et al. (2004), we correct the coefficients on the interaction terms for the non-linearity of the logit specification. All multivariate estimations are performed with robust standard errors, clustered at the country level.

Panel A reports results for layoffs; Panel B, for management turnover. The effects of legal variables are largely consistent with the univariate results. Stronger investor protection is associated with a higher likelihood of both layoffs and management turnover. Apparently, when investors have greater influence they are more likely to force the firm to undertake cost cutting measures and bring in new leadership. According to our estimates, a firm in the lowest quartile of investor protection has a 6.0% (7.0%)

likelihood of employee layoffs (management turnover); while an otherwise similar firm in the top quartile has a 10.0% (9.6%) likelihood of employee layoffs (management turnover). Also as expected, the strength of collective relations laws (*Union*) is associated with a lower likelihood of employee layoffs. A firm in a bottom-quartile country in *Union* has a 10.5% likelihood of large scale employee layoffs, while an otherwise similar firm in the top quartile has a 5.5% likelihood.

The interaction term of *Union* with leverage is significantly positive for *Layoffs*, indicating that the deterrent effect of strong union laws on layoffs is reduced when firms have more debt. Perhaps the increased threat of bankruptcy stemming from higher leverage increases shareholders' bargaining position vis-à-vis labor, making it easier to extract concessions from workers. This is consistent with Bronars and Deere (1991) who find that US firms with stronger unions have higher leverage and argue that firms use leverage as a bargaining tool against unions.

The coefficient on *Union* for management turnover is negative in all four specifications, and three are significant, suggesting that management is also protected by strong labor union laws. A firm in a bottom-quartile country in *Union* has a 9.9% likelihood of management turnover, while an otherwise similar firm in the top quartile has a 6.8% likelihood of turnover.

The results on the firm specific variables are consistent with those documented by Ofek (1993) and Kang and Shivdasani (1997). Leverage and poor performance increase the likelihood of both layoffs and management turnover. Size also matters: Smaller firms are more likely to undertake large scale layoffs whether *Emp_Cont* or *Union* is included in the regression. Larger firms are more likely to force management turnover, perhaps

because top managers of larger firms tend to have smaller ownership stakes in the firm. This relation between management turnover and size is significant only when we control for the negative correlation between management turnover and *Union*.

The interaction terms between leverage and *Financier* are positive and significant for three of the four specifications. Apparently, leverage has more bite in forcing layoffs and management turnover when investor protection is strong. Strong creditor rights make the threat of bankruptcy more credible, while strong shareholder rights make it more likely for firms to take advantage of the threat of bankruptcy.

The interaction terms between *Financier* and *Performance* are negative and significant in two of the four specifications. This is not surprising because firms are more likely to react to poor performance when investors have stronger legal protection.

Ownership concentration is positively related to layoffs. More concentrated ownership helps shareholders internalize the benefits of taking actions by lessening the free-rider problem. It also reduces coordination problems by reducing the per share cost of attempting to influence restructuring decisions. Ownership concentration also is positively related to management turnover; however, the coefficients are significant in only two of the eight specifications. This weak result may be due to the fact that some of the largest shareholders are also managers, who are unlikely to dismiss themselves (Volpin, 2002).

To control for such a top-manager-large-shareholder effect, we add a dummy variable, equal to one if any of the top three managers own more than 5% of the firm or share the same last name and first initial with any of the major shareholders who own more than 5%. Table VI shows the regression estimates. Columns (3) and (4) indicate

that the likelihood of management turnover is significantly lower if top officers are also major stockholders. The coefficient on *Own* becomes significant with both the management/ownership dummy and *Union* (controlling for the negative correlation between *Union* and management turnovers), implying that ownership concentration helps removing underperforming top managers unless they are also large shareholders¹³.

B.2. Asset sales

Table VI also shows a significant negative relation between asset sales and the management ownership dummy in the last two columns. Just as a major-shareholder-manager would not fire her, she also seems reluctant to reduce asset size, perhaps because she derives more private benefits of control from a larger asset base. For example, studies find that one of the most important explanatory variables for managerial compensation is firm size (Murphy, 1999; Bertrand and Mullainathan, 2001).

The surprising negative relation between asset sales and investor protection from the univariate analysis is also confirmed in the last two columns of Table VI. We entertain three possibilities. First, assets are sold in weak investor protection countries to finance the current payroll in order to maintain management-labor collusion. Second, asset sales represent expropriation of minority shareholder and creditor wealth by managers or controlling shareholders. For example, Siegel (2005) documents substantial illegal asset grabbing in his study of Mexican firms during economic downturns. Such illegal asset grabbing is more likely to occur in countries with weak investor protection.

Third, firms in poor investor protection countries may be smaller and therefore more likely to sell off assets during performance declines. However, this is an unlikely

¹³ The managerial ownership data is unavailable for a number of firms, reducing substantially the number of observations for the regressions using this manager/owner dummy.

explanation because we control for firm size in the regression. Furthermore, our data tell a different story. The median (mean) total assets during the distress year is \$200,500 (\$5,546,947) and \$430,936 (\$214,000,000) for the highest and lowest quartile investor protection countries, respectively. The corresponding sales figures are \$156,014 (\$6,418,417) and \$344,154 (\$72,400,000); and the numbers of employees, 675 (3,282) and 727 (4,014)¹⁴. Although these somewhat surprising results may be due to the way Worldscope selects companies from different countries, the point is that size cannot explain the negative relation between asset sales and investor protection.

Thus, we investigate the liquidation and grabbing hypotheses by comparing the post-asset sales performance of companies in the top and bottom quartile countries in investor protection. If these motives are important in weak investor protection countries, the performance of companies with asset sales should be inferior to those of companies without asset sales.

Panel A of Table VII compares the subsequent performance of firms with asset sales to those without, for countries in the top and bottom quartile in investor protection. Subsequent performance is measured by subtracting the distress year's performance from that of the two-year period following the year of distress. The table shows the median changes for EBITDA/TA and Sales/TA, with rows 3 and 6 showing the difference between firms with asset sales and firms without. We report the median because of high skewness. Comparing the means leads to the same conclusions.

¹⁴ When we break the sample into two groups instead of quartiles, the median (mean) numbers for total assets are 762,229 (258,000,000) and 2,640,269 (281,000,000) for countries above and below the median of financier protection, respectively. The corresponding sales numbers are 581,943 (96,900,000) and 1,524,405 (140,000,000); and the number of employees, 796 (3,574) and 731 (3,696). In addition, we find that total assets and sales are significantly negatively correlated with our measure of financier protection.

The results are striking. In terms of operating profit (EBITDA/TA) firms with asset sales ($ASales = 1$) in the top quartile countries show significant improvement in their post-distress performance, which is significantly greater than those without asset sales ($ASales = 0$). For the bottom quartile countries the results are the opposite. Those with asset sales show further deterioration, whereas those without asset sales show significant improvement in their post-distress performance.

Comparing asset turnover (Sales/TA) yields similar patterns. Selling assets improves the utilization of assets (relative to firms without asset sales) in the top investor protection countries, whereas asset sales worsen asset utilization in the bottom quartile countries. Apparently, firms in top-quartile investor-protection countries tend to sell underutilized assets during times of distress, whereas the managers or controlling shareholders in the bottom-quartile countries tend to liquidate or grab good assets at the expense of investors.

Finally, these differences in subsequent performance seem to be related to the frequency of firms' disappearance from the sample. The last three rows show that in the bottom quartile countries significantly more firms with asset sales disappear from the sample than those without asset sales. In contrast, the top quartile countries show no difference between firms with and without asset sales. The last column also shows that among the firms with asset sales, a significantly larger fraction of firms in the bottom quartile disappear from the sample than those in the top quartile countries. These disappearances from the sample could be due to bankruptcy or mergers, although it is possible that Worldscope discontinues their coverage for other reasons.

To check whether these results on asset sales are robust to controlling for other firm characteristics, we conduct multivariate analysis for changes in post-distress performance

in terms of EBITDA/TA and Sales/TA for countries with low-investor protection (below the median) separately from countries with high-protection (above the median). The main variable of interest is asset sales, while we control for firm size, performance during the distress year, ownership concentration, and leverage. Unlike the other regressions, we report regression results with country fixed effects because none of the explanatory variables is measured at the country level.

Panel B of Table VII reports results consistent with those in Panel A. The coefficient on asset sales is significantly negative for low investor protection countries whether the dependent variable is operating profit or asset turnover, confirming that these asset sales hurt the subsequent operating performance. By contrast, the coefficient is significantly positive for high investor protection countries for both dependent variables¹⁵.

Of the four control variables, the most noticeable is size, which has a significantly negative effect regardless of how post-distress performance is measured and of the strength of investor protection. Perhaps smaller firms are more flexible and better able to undertake more value-enhancing restructuring. They also may be less subject to management-labor collusion because smaller firms tend to have higher managerial ownership and less unionized workforces. We estimate similar regressions with layoffs and management turnover as independent variables (not reported). In contrast to asset sales, both layoffs and management turnover have positive effects on post-distress performance regardless of the strength of investor protection.

Whether the inferior operating performance subsequent to asset sales in weak investor protection countries is due to asset sales to pay off workers and/or to asset

¹⁵ The sample size is substantially smaller than other regressions because we require at least four consecutive years of data per company and a large fraction of our sample firms appear for the first time during the last three years of our sample period.

grabbing/tunneling is difficult to disentangle with our data. What our data do show is that these asset reductions are value destroying regardless of whether the diversion of corporate resources is used to pay off workers or the controlling shareholders/managers.

There may be benevolent interpretations of our results concerning asset sales in weak investor protection countries. First, asset markets are less developed in low investor protection countries, making it difficult to meet cash demands without a fire sale. Fire sales would lead to further deterioration, especially if they involve crown jewels. According to this story, as investor protection gets weaker, asset sales become more costly and will be undertaken only as the last resort, resulting in fewer asset sales. But this prediction is the opposite of the results reported in Tables IV and VI, both of which show more asset sales as investor protection gets weaker. Another possible explanation is that creditors in weaker investor protection countries are more likely to refuse rolling over debt at maturity when firms suffer poor performance, leading to more fire sales. We investigate this possibility in the robustness section (Table XI) and find no support for it.

To investigate how asset sales are related to legal and firm-specific variables, we divide the sample by the median strength of investor protection because of the sharply contrasting results between the two sets of countries. The results are reported in Table VIII. Employment contract laws are significantly positively related to asset sales for both sets of countries, suggesting that inflexible employment laws encourage asset sales during distress. Since asset sales are negative investments, our finding is consistent with Besley and Burgess (2004) who find that Indian states with stronger labor regulation have attracted less investments over time. When poor operating performance sharpens

conflicts between investors and workers, the negative impact of rigid employment laws on corporate investments manifests as more asset sales.

The relation between investor protection and asset sales differs sharply between the two sets of countries. It is significantly positive in high investor protection countries, but negative in low investor protection countries. There are more asset sales when investor protection is either very strong or very weak.

The interaction term between leverage and *Financier* switches signs depending on whether investor protection is high or low. In high investor protection countries, leverage gives investors more bite to force value-enhancing asset restructuring as investor protection becomes stronger. In low investor protection countries, the leverage effect seems to work to the detriment of investors. As leverage makes poorly performing firms more financially constrained, it reinforces the greater likelihood of asset sales in weaker investor countries that Table VII shows are followed by inferior operating performance.

B.3. Effects of collective relations laws in weak investor protection countries.

Table VIII also shows that the relation between union laws and asset sales depends on the strength of investor protection. In high investor protection countries strong union laws seem to discourage asset sales. This is expected because asset sales tend to reduce employment opportunities. However, the significantly positive relation between *Union* and asset sales in low investor protection countries is surprising. It is difficult to explain why unions would favor asset sales, unless employees derive benefits from them, such as when management uses the proceeds to reduce wage cuts and worker layoffs.

If strong union power in low investor protection countries indeed leads to more asset sales, employment opportunities within the firm would decline, making it difficult to

prevent layoffs. To examine this possibility, we repeat our analysis for *Layoffs* by dividing the sample into high- and low investor protection countries. The results are reported in Table IX. Consistent with our conjecture, the negative relation between layoffs and *Union* is significant only in high investor protection countries. For low investor protection countries, signs of the coefficient vary, showing no relation.¹⁶

Thus far our results show that in low investor protection countries strong legal union power is associated with a higher likelihood of major asset sales that are harmful to investors and are countenanced by unions. Why does management engage in these asset sales? To shed light on this question, we again split the sample by the median investor protection and relate *Union* to management turnover. The results are reported in Table X. The negative relation between union power and management turnover is significant only in low investor protection countries.¹⁷ In these countries, a poorly performing firm in the bottom-quartile country in *Union* has a 15.7% chance of replacing management, but an otherwise similar firm in a top-quartile *Union* country has only a 7.8% chance of changing its management.

The most plausible explanation for these findings is collusion between management and workers to maintain the status quo, whereby top managers rely on strong unions to retain their jobs by paying off workers through asset liquidations that lead to further deterioration in operating performance. Such liquidations should be easier in weak investor protection countries.

¹⁶ As an alternative test of whether the coefficients on *Union* are significantly different between the two sets of countries, we re-estimate the same regression for the total sample with an additional interaction term between *Union* and a dummy variable for above-the-median investor protection. The coefficient on the interaction term is negative and significant, and the rest of the coefficients are qualitatively similar.

¹⁷ We also re-estimate the same regression for the total sample with an additional interaction term between *Union* and a dummy variable for above the median investor protection. The coefficient on the interaction term is positive and significant, and the rest of the coefficients are qualitatively similar.

An alternative, less sinister interpretation is that with strong labor union laws it might be easier for managers to avoid dismissal by blaming strong unions for poor performance. Unions have a reputation for refusing to adapt to technological changes that reduce labor costs. A potential buyer is likely to demand a large discount to deal with uncooperative unions, forcing poorly performing firms to sell mainly the corporate crown jewels. This may explain the low management turnover when labor unions are strong and the inferior performance following asset sales. However, this story also predicts that stronger unions will lead to less asset sales because of the greater discount demanded by buyers. But this prediction contradicts the positive relation we find between the strength of union laws and asset sales in weak investor protection countries.

C. Robustness.

We conduct numerous additional tests to examine whether our results are robust to different model specifications, alternative explanations, sample selection criteria, and variable definitions. For brevity, we describe most of our results without reporting them.

First, we investigate whether the omission of important variables affecting both the legal protection of labor and financiers and the probability of corporate restructuring can explain or diminish the importance of our findings, although controlling for country random effects should alleviate some of the concerns. A possible candidate for such an omitted variable is a country's level of economic development. Our results remain unchanged if we control for the logarithm of GDP per capita in our regressions. Similarly, the business cycle may jointly affect the probability of restructuring and legal protection of investors. For example, the *Law and Order* quality, which is a component of *Financier*, may be reduced during recessions, when the frequency of asset sales may

also increase. Although we control for macroeconomic factors by including time fixed effects, we additionally include the change in the logarithm of GDP per capita as a control variable. Our results remain unaffected. Controlling for inflation and using the change in unemployment level instead of the change in GDP per capita do not affect our results.

Second, it is possible that our results concerning asset sales and layoffs are due to systematic pre-distress differences across countries. For example, companies may invest more (less) and employ more (less) workers in countries with strong financier (labor) protection during normal times (i.e. in the base year), leading to a positive (negative) spurious relation between financier (labor) protection and asset sales or layoffs during distress year. To check this possibility, we estimate country random effects regressions relating NPPE scaled by sales in the base year and the number of employees scaled by sales in the base year to *Financier*, *Emp_Cont* and *Union*, with industry and year fixed effects. We find no significant relations for any of the legal variables (not reported).

Third, we check whether our results on *Asset sales* are affected by asset liquidations to payoff debt. Creditors may refuse rolling over poorly performing firms' debt at maturity, forcing asset liquidations. We do not find a significant correlation between changes in NPPE and changes in short term or total debt. However, *Asset sales* are correlated with changes in short term debt (correlation coefficients of -0.03 and -0.09 for high- and low-creditor protection countries, respectively.) and with changes in total debt only for low-creditor protection countries (correlation coefficient of -0.09).

Because of these correlations, we re-estimate the base model for *Asset sales* while replacing leverage with the change in short term or total debt. The results are reported in

Table XI. The coefficients on the changes in both short term and total debts are insignificant for all specifications. Furthermore, comparing the rest of the results in Table XI with columns (4) and (10) in Table VIII reveals that all coefficients are very similar both in magnitude and significance.

Fourth, we examine the potential impact of financial crises in Mexico, Thailand, Malaysia, Philippines, Indonesia, Korea, Brazil, and Argentina during our sample period. Our sample includes only 57 observations from these countries during the year of the crisis and the following year because, as mentioned earlier, two thirds of our observations are after 2000. Removing the 57 observations from analyses does not affect our results.

Fifth, we use different criteria to define our restructuring measures. For layoffs, two alternative definitions are used: a drop in the number of employees by more than 15% and by more than 25%. We also use two alternative cutoff points to define major asset sales: a decrease in NPPE by 10% and a decrease by 20%. Management turnover is redefined as the change in all top three officers. The results are robust to these alternative measures of restructuring.

Sixth, instead of conducting our regression analyses on two sub-samples based on the strength of *Financier* protection, we use the entire sample and interact the legal variables with a dummy variable equal to one if the country is above the median in terms of *Financier* and zero otherwise. Our conclusions do not change.

Seventh, we obtain similar results when we define *Financier* as the product of the normalized values of the anti-director index, anti-self-dealing index, the creditor index, and the Law and Order index, instead of their sum. For robustness we replace *Law and Order* with the judicial efficiency measure from Djankov et al. (2003) which assesses the

efficiency of the judicial system by measuring the number of procedures from the moment a lawsuit is filed to the time of payment, the number of days to resolve a dispute, and the cost of attorney or administrative fees. The results are similar.

Eighth, as an alternative proxy for the legal power of labor unions, we use the percentage of total work force affiliated with labor unions provided by the International Labor Organization (2005) instead of *Union*. Our results are again qualitatively similar. In addition, we investigate whether social security laws (*Soc_Sec*) affect the likelihood of corporate restructuring. We find no statistically significant relation.

Ninth, we use other measures of leverage to check robustness, including the ratio of total liabilities to total assets, long term debt to equity, and long term debt to total assets, because the definition of leverage and how it triggers bankruptcy varies across countries. For example, short term debt in one country may be regarded as long term debt in another country. Although the magnitude and the statistical significance of the coefficients on leverage and its interaction with the legal variables marginally decrease in some specifications, the main conclusions remain unchanged.

Tenth, as an alternative measure of ownership concentration, we use the sum of equity stakes of all shareholders with ownership greater than 5%. We also define ownership concentration as the percentage of shares held by the largest stockholder. Our results do not change when we use these alternative definitions of ownership concentration.

Eleventh, when Worldscope does not provide managerial ownership data, we compare the last names and the first initials of the top three officers with those of the shareholders who own more than 5% of the shares. This adds noise because unrelated

people often have the same last name, especially in East Asia. As a robustness check we drop all such matches for the East Asian companies. Our main results are unaffected.

Twelfth, for employee layoffs or asset sales, a firm enters our sample if its operating performance is above the industry median in the base year and experiences a drop in EBITDA bigger than 50% in the distress year. To ensure that the base year's performance is not a single-year phenomenon, we extend the base period for two years, i.e., the operating performance is above the industry median for two consecutive years prior to the distress year. We also use 40% and 30% cutoff points for the drop in EBITDA. Our main results are robust to these changes in sample selection criteria.

Finally, to control for possible serial correlation owing to some firms entering the sample twice, we repeat our analysis with only the first time they become distressed. The results remain unchanged.

V. Conclusion

We find that legal protection of labor and investors has systematic effects on restructuring decisions, with some surprising results. Contrary to the conventional wisdom that asset restructuring by poorly performing firms is value-enhancing, major asset sales in weak investor protection countries are followed by inferior performance. Such asset sales are more frequent when union laws are stronger. Moreover, when strong union laws are combined with weak investor protection, poorly performing managers are more likely to retain their jobs. These findings suggest that poorly performing managers collude with workers, who protect top managers through industrial and political actions and/or by voting with the management, which in turn refrain from wage cuts or from

worker layoffs by selling assets even when they hurt subsequent operating performance. Such asset sales are easier when investor protection is weak

The general theme emerging from our study is that law matters in determining the relative influence of stakeholders on corporate decision making process. More importantly, our study demonstrates that investor protection and labor laws cannot be studied in isolation. They are too closely intertwined in determining how firms respond to the conflicting interests of different stakeholders.

Our results also illustrate that laws often lead to unintended consequences. Highly protective employment contract laws that induce more major asset sales during corporate distress is one example. Strong collective relations law that help poorly performing managers retain their jobs is another.

Although these labor laws may not be optimal *ex-post*, they may represent equilibrium responses to conflicts among stakeholders in countries subject to different political and social environments. Furthermore, laws concerning antitrust, consumer protection, environment, and taxes are intended to protect other stakeholders. These laws may also have important intertwining influences on firm behavior during distress, or more broadly, in shaping corporate governance.. Perhaps the biggest challenge facing corporate governance researchers is to understand the interplay among the various political, social, and legal factors to prescribe appropriate policies for countries and companies that are subject to different environments.

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Table I: Number of sample firms and legal variables by country.

The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Law and Order* is the average value over the period 1990-2001, while the *Anti-director*, *Anti-self-dealing*, and *Creditor* indices are constant over time. *Emp_Cont* measures the rigidity of employment contracts, *Union* measures the strength of the regulation of collective disputes and labor union power, and *Soc_Sec* measures the strength of social security laws as defined by Botero et al. (2004). A firm is considered distressed if it has a ratio of operating income before depreciation and amortization to total assets (EBITDA/TA) greater than the industry median in year t-1 (base year) and there is a drop of more than 50% in EBITDA in year t (the distressed year).

| | Proportion | | | Anti- | Anti- | Law and | | | Union | Emp_Cont | Soc_Sec |
|----------------|------------|------------|------------|-----------|---------|----------|-------|-----------|-------|----------|---------|
| | Number of | Number of | of | director | self- | Creditor | Order | Financier | | | |
| | all firm- | distressed | distressed | (revised) | dealing | | | | | | |
| | years | firm-years | firms | | | | | | | | |
| Argentina | 112 | 13 | 0.12 | 0.5 | 0.45 | 0.25 | 0.54 | 1.74 | 0.58 | 0.34 | 0.72 |
| Australia | 2176 | 287 | 0.13 | 0.67 | 0.79 | 0.25 | 1 | 2.71 | 0.37 | 0.35 | 0.78 |
| Austria | 846 | 131 | 0.15 | 0.42 | 0.21 | 0.75 | 1 | 2.38 | 0.36 | 0.5 | 0.71 |
| Belgium | 1183 | 148 | 0.13 | 0.33 | 0.54 | 0.5 | 1 | 2.37 | 0.42 | 0.51 | 0.62 |
| Brazil | 699 | 116 | 0.17 | 0.83 | 0.29 | 0.25 | 0.63 | 2 | 0.38 | 0.57 | 0.55 |
| Canada | 2444 | 247 | 0.10 | 0.67 | 0.65 | 0.25 | 1 | 2.57 | 0.2 | 0.26 | 0.79 |
| Chile | 579 | 36 | 0.06 | 0.67 | 0.63 | 0.5 | 0.7 | 2.5 | 0.38 | 0.47 | 0.69 |
| Colombia | 169 | 16 | 0.09 | 0.5 | 0.58 | 0 | 0.21 | 1.29 | 0.49 | 0.34 | 0.81 |
| Denmark | 1703 | 180 | 0.11 | 0.67 | 0.47 | 0.75 | 1 | 2.89 | 0.42 | 0.57 | 0.87 |
| Finland | 1141 | 169 | 0.15 | 0.58 | 0.46 | 0.25 | 1 | 2.29 | 0.32 | 0.74 | 0.79 |
| France | 6383 | 811 | 0.13 | 0.5 | 0.38 | 0 | 0.9 | 1.78 | 0.67 | 0.74 | 0.78 |
| Germany | 6650 | 832 | 0.13 | 0.42 | 0.28 | 0.75 | 0.92 | 2.37 | 0.61 | 0.7 | 0.67 |
| Greece | 1147 | 223 | 0.19 | 0.33 | 0.23 | 0.25 | 0.62 | 1.43 | 0.49 | 0.52 | 0.74 |
| Hong Kong | 2149 | 292 | 0.14 | 0.83 | 0.97 | 1 | 0.82 | 3.62 | 0.46 | 0.17 | 0.81 |
| India | 587 | 54 | 0.09 | 0.83 | 0.55 | 1 | 0.42 | 2.8 | 0.38 | 0.44 | 0.4 |
| Indonesia | 836 | 104 | 0.12 | 0.67 | 0.69 | 1 | 0.4 | 2.76 | 0.39 | 0.68 | 0.18 |
| Ireland | 616 | 79 | 0.13 | 0.67 | 0.79 | 0.25 | 0.78 | 2.49 | 0.46 | 0.34 | 0.71 |
| Israel | 207 | 27 | 0.13 | 0.67 | 0.72 | 1 | 0.48 | 2.87 | 0.31 | 0.29 | 0.81 |
| Italy | 2242 | 292 | 0.13 | 0.42 | 0.39 | 0.5 | 0.83 | 2.14 | 0.63 | 0.65 | 0.76 |
| Japan | 21923 | 2154 | 0.10 | 0.58 | 0.48 | 0.5 | 0.9 | 2.46 | 0.63 | 0.16 | 0.64 |
| South Korea | 3014 | 367 | 0.12 | 0.58 | 0.46 | 0.75 | 0.54 | 2.33 | 0.54 | 0.45 | 0.68 |
| Malaysia | 1765 | 280 | 0.16 | 0.83 | 0.95 | 1 | 0.68 | 3.46 | 0.19 | 0.19 | 0.2 |
| Mexico | 369 | 38 | 0.10 | 0.5 | 0.18 | 0 | 0.54 | 1.22 | 0.58 | 0.59 | 0.51 |
| Netherlands | 1756 | 219 | 0.12 | 0.5 | 0.21 | 0.5 | 1 | 2.21 | 0.46 | 0.73 | 0.63 |
| New Zealand | 217 | 28 | 0.13 | 0.67 | 0.95 | 0.75 | 1 | 3.37 | 0.25 | 0.16 | 0.72 |
| Norway | 1292 | 166 | 0.13 | 0.58 | 0.44 | 0.5 | 1 | 2.52 | 0.65 | 0.69 | 0.83 |
| Pakistan | 302 | 37 | 0.12 | 0.67 | 0.41 | 1 | 0.3 | 2.38 | 0.31 | 0.34 | 0.47 |
| Peru | 299 | 52 | 0.17 | 0.58 | 0.41 | 0 | 0.25 | 1.24 | 0.71 | 0.46 | 0.42 |
| Philippines | 609 | 81 | 0.13 | 0.5 | 0.24 | 0 | 0.27 | 1.01 | 0.51 | 0.48 | 0.49 |
| Portugal | 551 | 78 | 0.14 | 0.42 | 0.52 | 0.25 | 0.87 | 2.06 | 0.65 | 0.81 | 0.74 |
| Singapore | 1186 | 201 | 0.17 | 0.83 | 1 | 1 | 0.86 | 3.69 | 0.34 | 0.31 | 0.46 |
| South Africa | 1605 | 185 | 0.12 | 0.83 | 0.82 | 0.75 | 0.44 | 2.84 | 0.54 | 0.32 | 0.58 |
| Spain | 1452 | 161 | 0.11 | 0.83 | 0.37 | 0.5 | 0.78 | 2.48 | 0.59 | 0.74 | 0.77 |
| Sweden | 2146 | 220 | 0.10 | 0.58 | 0.34 | 0.5 | 1 | 2.42 | 0.54 | 0.74 | 0.84 |
| Switzerland | 1679 | 215 | 0.13 | 0.5 | 0.27 | 0.25 | 1 | 2.02 | 0.42 | 0.45 | 0.82 |
| Taiwan | 888 | 111 | 0.13 | 0.5 | 0.56 | 0.5 | 0.85 | 2.41 | 0.32 | 0.45 | 0.75 |
| Thailand | 1078 | 163 | 0.15 | 0.67 | 0.85 | 0.75 | 0.63 | 2.9 | 0.36 | 0.41 | 0.47 |
| Turkey | 599 | 39 | 0.07 | 0.33 | 0.43 | 0.5 | 0.52 | 1.78 | 0.47 | 0.4 | 0.48 |
| United Kingdom | 14984 | 1428 | 0.10 | 0.83 | 0.93 | 1 | 0.86 | 3.62 | 0.19 | 0.28 | 0.69 |
| United States | 13787 | 647 | 0.05 | 0.5 | 0.65 | 0.25 | 1 | 2.4 | 0.26 | 0.22 | 0.65 |
| Zimbabwe | 41 | 5 | 0.12 | 0.67 | 0.44 | 1 | 0.37 | 2.48 | 0.44 | 0.25 | 0.16 |
| Mean Values | 2522 | 267 | 0.11 | 0.6 | 0.54 | 0.53 | 0.73 | 2.4 | 0.45 | 0.46 | 0.64 |
| Median Values | 1147 | 163 | 0.13 | 0.58 | 0.47 | 0.5 | 0.82 | 2.41 | 0.44 | 0.45 | 0.69 |
| St Deviation | 4426 | 405 | 0.03 | 0.15 | 0.24 | 0.34 | 0.26 | 0.65 | 0.14 | 0.19 | 0.18 |

Table II: Piece-wise correlation between the legal variables.

The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Law and Order* is the average value over the period 1990-2001, while the *Anti-director*, *Anti-self-dealing*, and *Creditor* indices are constant over time. *Emp_Cont* measures the rigidity of employment contracts, *Union* measures the strength of the regulation of collective disputes and labor union power, and *Soc_Sec* measures the strength of social security laws as defined by Botero et al. (2004). All the coefficients are significant at the 1% level.

| | Anti-director (revised) | Anti- self- dealing | Creditor | Law And Order | Financier | Emp_Cont | Union | Soc_Sec |
|-------------------------|----------------------------|---------------------------|----------|---------------------|-----------|----------|--------|---------|
| Anti-director (revised) | 1.000 | | | | | | | |
| Anti-self-dealing | 0.8093 | 1.000 | | | | | | |
| Creditor | 0.6032 | 0.5740 | 1.000 | | | | | |
| Law-and-Order | -0.0619 | 0.0722 | 0.0299 | 1.000 | | | | |
| Financier | 0.8139 | 0.8654 | 0.8442 | 0.2801 | 1.000 | | | |
| Emp_Cont | -0.4414 | -0.5695 | -0.2884 | -0.0697 | -0.4656 | 1.000 | | |
| Union | -0.5585 | -0.7101 | -0.4397 | -0.1363 | -0.6566 | 0.3264 | 1.000 | |
| Soc_Sec | -0.2184 | -0.2605 | -0.3362 | 0.4844 | -0.1757 | 0.3112 | 0.1828 | 1.000 |

Table III, Panel A. Summary statistics for firm level variables for base year and distress year

EBITDA is operating income before depreciation and amortization. Leverage is the ratio of (long term debt + short term debt) to total assets. NPPE is net property, plant and equipment. *Layoffs* is equal to one if there is a greater than 20% decrease in the number of employees. *Asset sales* is equal to one if there is a greater than 15% drop in the NPPE. *Management turnover* is equal to one if there is a change in the top two officers of the firm. The differences of all variables (except Leverage) from the base year to the distress year are significant at the 1% level.

| | Obs | Mean | | Median | |
|---------------------|-------|-------------|---------------|-----------|---------------|
| | | (Base Yr) | (Distress Yr) | (Base Yr) | (Distress Yr) |
| Total Assets | 10904 | 341,281,384 | 252,517,008 | 2,285,876 | 1,207,550 |
| EBITDA | 10904 | 41,117,403 | 5,329,037 | 1,731,763 | 51,970 |
| Sales | 10904 | 144,136,826 | 99,183,869 | 2,168,990 | 843,429 |
| Leverage | 10904 | 0.2373 | 0.238 | 0.2104 | 0.2135 |
| Employees | 10904 | 4,562 | 4,168 | 931 | 820 |
| NPPE | 10904 | 49,837,471 | 37,481,174 | 517,909 | 245,356 |
| Short term debt | 10904 | 37,242,789 | 26,697,060 | 79,375 | 43,258 |
| Long term debt | 10904 | 34,051,580 | 24,415,869 | 101,224 | 56,473 |
| Layoffs | 10065 | 0.0495 | 0.0714 | 0 | 0 |
| Asset sales | 10777 | 0.1196 | 0.1844 | 0 | 0 |
| Management turnover | 7,358 | 0.0629 | 0.0832 | 0 | 0 |

Table III, Panel B. Relations between the restructuring variables

Layoffs is equal to one if there is a greater than 20% decrease in the number of employees. *Asset sales* is equal to one if there is a greater than 15% drop in the NPPE. *Management turnover* is equal to one if there is a change in the top two officers of the firm.

The numbers in parentheses are the unconditional fraction of firms that undertake the respective type of restructuring.

*** indicates significance at the 1% level.

| Given there are: | Fraction of firms also undertaking | | |
|---------------------|------------------------------------|------------------------|--------------------------------|
| | Layoffs (0.0714) | Asset sales (.1844) | Management turnover (.0832) |
| Layoffs | 1.0000 | 0.5027*** | 0.0961 |
| Asset sales | 0.1916*** | 1.0000 | 0.0881 |
| Management turnover | 0.0832 | 0.2043 | 1.0000 |

Table IV: Comparison of proportions of firms by restructuring measure in countries in the top quartile and the bottom quartile by legal variable.

The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Emp_Cont* measures the rigidity of employment contracts as defined by Botero et al. (2004). *Union* measures the strength of the regulation of collective disputes and labor union power. *Layoffs* is equal to one if there is a greater than 20% decrease in the number of employees. *Asset sales* is equal to one if there is a greater than 15% drop in the NPPE. *Management turnover* is equal to one if there is a change in the top two officers of the firm.

* indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Emp_Cont | | Union | | Financier | |
|---------------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|
| | Top quartile | Bottom quartile | Top quartile | Bottom quartile | Top quartile | Bottom quartile |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Layoffs | 0.069*** | 0.045*** | 0.044*** | 0.107*** | 0.101*** | 0.062*** |
| Asset Sales | 0.333*** | 0.066*** | 0.177*** | 0.139*** | 0.144*** | 0.324*** |
| Management Turnover | 0.075 | 0.088 | 0.079** | 0.096** | 0.094*** | 0.072*** |

Table V, Panel A: Regression analysis using Employee Layoffs as the dependent variable

This table reports the results of country random effects logit regressions:

$$\Pr(R_{ik} = 1) = F(\alpha + \beta_1 \text{Financier}_k + \beta_2 \text{Labor}_k + \beta_3 \text{Lev}_{ik} + \beta_4 \text{Own}_{ik} + \beta_5 \text{Lev}_{ik} * \text{Financier}_k + \beta_6 \text{Lev}_{ik} * \text{Labor}_k + \beta_7 \text{Perf}_{ik} * \text{Financier}_k + \sum_{j=8}^9 \beta_j X_{ikj} + \varepsilon_{ik})$$

R_{ik} is *Employee Layoffs* for firm i in country k and $F(\cdot)$ is the logit specification. The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Labor* is either *Union* (columns (1)-(4)), which measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004), or *Emp_Cont* (columns (5)-(8)), which measures the rigidity of employment contracts as defined by Botero et al. (2004). *Leverage* is measured as the ratio of long term debt plus short term debt divided by total assets. *Own* is the total percentage owned by the three largest shareholders who own more than 5% of the shares. The vector of control variables X_{ijk} includes the change in operating performance (*Perf*) measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and *Size* measured by the logarithm of sales. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the 2-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Layoffs | | | | | | | |
|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Financier | 0.163** (0.038) | 0.058* (0.090) | 0.163** (0.039) | 0.168* (0.083) | 0.352*** (0.000) | 0.241** (0.017) | 0.358*** (0.000) | 0.361*** (0.000) |
| Union | -1.075*** (0.001) | -1.067*** (0.001) | -1.066** (0.016) | -1.074*** (0.001) | | | | |
| Emp_Cont | | | | | 0.066 (0.777) | 0.068 (0.770) | 0.334 (0.320) | 0.064 (0.785) |
| Leverage | 0.603*** (0.004) | 0.630 (0.443) | 0.618** (0.047) | 0.603*** (0.004) | 0.612*** (0.003) | 0.672 (0.414) | 1.027** (0.016) | 0.612*** (0.003) |
| Own | 0.415** (0.047) | 0.372** (0.038) | 0.316 (0.192) | 0.397** (0.044) | 0.337* (0.061) | 0.249* (0.074) | 0.206 (0.318) | 0.321* (0.073) |
| Size | -0.047*** (0.001) | -0.047*** (0.001) | -0.047*** (0.001) | -0.047*** (0.001) | -0.062*** (0.000) | -0.061*** (0.000) | -0.062*** (0.000) | -0.062*** (0.000) |
| Performance | -0.458*** (0.000) | -0.458*** (0.000) | -0.458*** (0.000) | -0.477** (0.043) | -0.452*** (0.000) | -0.451*** (0.000) | -0.452*** (0.000) | -0.490** (0.039) |
| Lev*Financier | | 0.457* (0.073) | | | | 0.476* (0.091) | | |
| Lev*Emp_Cont | | | | | | | 1.007 (0.264) | |
| Lev*Union | | | 0.036* (0.074) | | | | | |
| Perf*Financier | | | | -0.007 (0.133) | | | | -0.014* (0.069) |
| Observations | 10013 | 10013 | 10013 | 10013 | 10013 | 10013 | 10013 | 10013 |
| Pseudo R-squared | 0.037 | 0.038 | 0.037 | 0.037 | 0.035 | 0.036 | 0.035 | 0.036 |

Table V, Panel B: Regression analysis using Management turnover as the dependent variable

This table reports the results of country random effects logit regressions:

$$\Pr(R_{ik} = 1) = F(\alpha + \beta_1 \text{Financier}_k + \beta_2 \text{Labor}_k + \beta_3 \text{Lev}_{ik} + \beta_4 \text{Own}_{ik} + \beta_5 \text{Lev}_{ik} * \text{Financier}_k + \beta_6 \text{Lev}_{ik} * \text{Labor}_k + \beta_7 \text{Perf}_{ik} * \text{Financier}_k + \sum_{j=8}^9 \beta_j X_{ikj} + \varepsilon_{ik})$$

R_{ik} is *Management Turnover* for firm i in country k and $F(\cdot)$ is the logit specification. The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Labor* is either *Union* (columns (1)-(4)), which measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004), or *Emp_Cont* (columns (5)-(8)), which measures the rigidity of employment contracts as defined by Botero et al. (2004). *Leverage* is measured as the ratio of long term debt plus short term debt divided by total assets. *Own* is the total percentage owned by the three largest shareholders who own more than 5% of the shares. The vector of control variables X_{ik} includes the change in operating performance (*Perf*) measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and *Size* measured by the logarithm of sales. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the 2-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Turnover | | | | | | | |
|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Financier | 0.115** (0.018) | 0.171** (0.040) | 0.118* (0.078) | 0.107** (0.043) | 0.199** (0.016) | 0.252** (0.025) | 0.202** (0.015) | 0.193** (0.024) |
| Union | -0.627* (0.070) | -0.634* (0.067) | -0.530 (0.255) | -0.631* (0.068) | | | | |
| Emp_Cont | | | | | -0.097 (0.692) | -0.096 (0.693) | 0.033 (0.926) | -0.095 (0.697) |
| Leverage | 0.148* (0.093) | 0.831* (0.084) | 0.324* (0.061) | 0.148* (0.096) | 0.162* (0.053) | 0.805* (0.054) | 0.363* (0.063) | 0.162* (0.054) |
| Own | 0.327* (0.081) | 0.261 (0.399) | 0.237 (0.416) | 0.315* (0.077) | 0.287 (0.389) | 0.401 (0.117) | 0.371 (0.273) | 0.249 (0.451) |
| Size | 0.030** (0.037) | 0.030** (0.035) | 0.030** (0.037) | 0.030** (0.038) | 0.018 (0.215) | 0.018 (0.210) | 0.018 (0.216) | 0.018 (0.217) |
| Performance | -0.063* (0.066) | -0.063* (0.061) | -0.062* (0.068) | -0.007* (0.071) | -0.060* (0.083) | -0.061* (0.079) | -0.060* (0.081) | -0.019** (0.024) |
| Lev*Financier | | 0.261 (0.164) | | | | 0.246* (0.094) | | |
| Lev*Emp_Cont | | | | | | | -0.501 (0.606) | |
| Lev*Union | | | -0.376 (0.764) | | | | | |
| Perf*Financier | | | | -0.020 (0.772) | | | | -0.015* (0.089) |
| Observations | 7309 | 7309 | 7309 | 7309 | 7309 | 7309 | 7309 | 7309 |
| Pseudo R-squared | 0.039 | 0.040 | 0.040 | 0.039 | 0.033 | 0.034 | 0.034 | 0.034 |

Table VI. Regression analysis using Layoffs, Management turnover, and Asset sales as the dependent variables and controlling for management ownership.

This table reports the results of country random effects logit regressions:

$$\Pr(R_{ik} = 1) = F(\alpha + \beta_1 \text{Financier}_k + \beta_2 \text{Labor}_k + \beta_3 \text{Lev}_{ik} + \beta_4 \text{Own}_{ik} + \sum_{j=5}^6 \beta_j X_{ijk} + \varepsilon_{ik})$$

R_{ik} is a measure of restructuring: Employee Layoffs in columns (1) and (2), management turnover in columns (3) and (4) and asset sales in columns (5) and (6). *Layoffs* is equal to one if there is a reduction in the number of employees of more than 20%. *Turnover* is equal to one if there is a change in the top two officers. *Asset Sales* is equal to one if there is a reduction in NPPE of more than 15%. $F(\cdot)$ is the logit specification. The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Labor* is either *Emp_Cont* (columns (1), (3) and (5)), which measures the rigidity of employment contracts as defined by Botero et al. (2004), or *Union* (columns (2), (4) and (6)), which measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004). Leverage is measured as the ratio of long term debt plus short term debt divided by total assets. *Own* is the total percentage owned by the three largest shareholders who own more than 5% of the shares. *Own dummy* is an indicator variable equal to one if any of the top officers owns more than 5% of the shares. The vector of control variables X_{ijk} includes the change in operating performance measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and *Size* measured by the logarithm of sales. The number of observations is smaller because data on top officer ownership is not available for all firms in the full sample. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the two-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Layoffs | | Turnover | | Asset Sales | |
|------------------|----------------------|----------------------|---------------------|---------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Financier | 0.017** (0.036) | 0.168** (0.045) | 0.103* (0.059) | 0.109* (0.069) | -0.241** (0.029) | -0.627*** (0.000) |
| Emp_Cont | 0.137 (0.697) | | -0.248 (0.506) | | 2.669*** (0.000) | |
| Union | | -1.901*** (0.000) | | -0.215* (0.079) | | 0.382 (0.321) |
| Leverage | 0.998*** (0.001) | 1.001*** (0.001) | 0.574* (0.077) | 0.562* (0.084) | 0.343* (0.078) | 0.479* (0.050) |
| Own | 0.251** (0.044) | 0.301* (0.091) | 0.126 (0.391) | 0.207* (0.073) | 0.260* (0.059) | 0.158 (0.412) |
| Own dummy | -0.241 (0.371) | -0.255 (0.418) | -0.724** (0.027) | -0.773** (0.031) | -0.457* (0.057) | -0.389** (0.042) |
| Size | -0.113*** (0.000) | -0.056** (0.041) | -0.007 (0.744) | 0.005 (0.853) | -0.131*** (0.000) | -0.162*** (0.000) |
| Performance | -0.553*** (0.000) | -0.552*** (0.000) | -0.118* (0.089) | -0.119* (0.089) | -0.399*** (0.000) | -0.353*** (0.000) |
| Observations | 3902 | 3902 | 2914 | 2914 | 4283 | 4283 |
| Pseudo R-squared | 0.052 | 0.059 | 0.040 | 0.041 | 0.100 | 0.062 |

Table VII, Panel A. A comparison of subsequent firm operating performance and percentage of firms dropping from the sample between firms with and without asset sales for top and bottom Financier quartile countries.

The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. This table compares the performance of companies with and without asset sales (*Asales* = 1 and *Asales* = 0, respectively) for the top and bottom *Financier* quartile countries for the distress year *t* and the average performance two years after the distress year – avg (*t*+1,*t*+2). In the top three rows performance is measured by the ratio of operating income before depreciation and amortization to total assets (EBITDA/TA). In rows 4-6 performance is measured by the ratio of sales to total assets (Sales/TA). Rows 7-9 show the percentage of firms dropping from the sample from year *t* to year *t*+2. ***indicates significance at the 1% level, ** indicates significance at the 5% level, and * indicates significance at the 10% level.

| | Measure | Top financier quartile | Bottom financier quartile | Top financier – Bottom financier |
|------------------|---------------------------------|---|---|-------------------------------------|
| | | Median (<i>t</i> +1, <i>t</i> +2) –Median (<i>t</i>) | Median (<i>t</i> +1, <i>t</i> +2) –Median (<i>t</i>) | Median |
| <i>Asales</i> =1 | EBITDA/TA | 0.126*** | -0.035** | 0.161*** |
| <i>Asales</i> =0 | EBITDA/TA | 0.115** | 0.061*** | 0.054* |
| Difference | EBITDA/TA | 0.011** | -0.096*** | 0.107*** |
| <i>Asales</i> =1 | Sales/TA | 0.091** | -0.025* | 0.126*** |
| <i>Asales</i> =0 | Sales/TA | 0.027** | 0.014 | 0.013* |
| Difference | Sales/TA | 0.064** | -0.039*** | 0.113*** |
| <i>Asales</i> =1 | Percent dropping from sample | -3.2% | -8.3% | 5.1%*** |
| <i>Asales</i> =0 | Percent dropping from sample | -3.9% | -2.0% | -1.9% |
| Difference | Percent dropping from sample | 0.7% | -6.3%*** | 7.0%*** |

Table VII. Panel B. Multivariate analysis of post-asset sales performance for firms located in countries above and below the median of Financier protection.

This table reports country fixed effects regression estimates of the effect of asset sales (measured by a dummy variable) on the subsequent operating performance of companies located in countries below and above the median of *Financier* protection. The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. The dependent variable is the average performance two years after the distress year. In the first two columns performance is measured by the ratio of operating income before depreciation and amortization to total assets (EBITDA/TA). In the third and fourth columns performance is measured by the ratio of sales to total assets (Sales/TA). Observation numbers vary between tables. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the two-digit level and country fixed effects. P-values are in parentheses. ***indicates significance at the 1% level, ** indicates significance at the 5% level, and * indicates significance at the 10% level.

| | Change in EBITDA/TA | | Change in Sales/TA | |
|--------------------|----------------------|----------------------|----------------------|----------------------|
| | Fin<Median | Fin>Median | Fin<Median | Fin>Median |
| | (1) | (2) | (3) | (4) |
| Asset sales | -0.286** (0.013) | 0.048* (0.069) | -0.041* (0.090) | 0.083* (0.072) |
| Size | -0.149*** (0.000) | -0.131*** (0.000) | -0.041*** (0.000) | -0.060*** (0.000) |
| Leverage | -0.128 (0.427) | -0.194 (0.142) | 0.036 (0.513) | 0.074 (0.166) |
| Own | 0.261 (0.529) | 0.183 (0.337) | -0.047 (0.214) | -0.058 (0.472) |
| Performance | -0.066 (0.255) | -0.059* (0.052) | 0.058*** (0.003) | 0.059*** (0.000) |
| Observations | 1789 | 2807 | 1789 | 2807 |
| Adjusted R-squared | 0.118 | 0.135 | 0.052 | 0.041 |

Table VIII: Regression analysis using Asset Sales as the dependent variable for firms located in countries above and below the median of Financier protection.

This table reports the results of country random effects logit regressions:

$$\Pr(Asales_{ik} = 1) = F(\alpha + \beta_1 Financier_k + \beta_2 Labor_k + \beta_3 Lev_{ik} + \beta_4 Own_{ik} + \beta_5 Lev_{ik} * Financier_k + \beta_6 Lev_{ik} * Labor_k + \sum_{j=7}^8 \beta_j X_{ikj} + \varepsilon_{ik})$$

$Asales_{ik}$ is a measure of asset reduction for firm i in country k . It is an indicator variable that takes a value of 1 if there is a decrease in NPPE by more than 15%. $F(\cdot)$ is the logit specification. The variable $Financier$ is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. $Labor$ is either Emp_Cont , which measures the rigidity of employment contracts as defined by Botero et al. (2004), or $Union$, which measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004). Leverage is measured as the ratio of long term debt plus short term debt divided by total assets. Own is the total percentage owned by the three largest shareholders who own more than 5% of the shares. The vector of control variables X_{ikj} includes the change in operating performance measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and $Size$ measured by the logarithm of sales. Columns (1)-(6) estimate the model for the sub-sample of firms located in countries with above the median financier protection, while columns (7)-(12) estimate the model for the sub-sample of firms located in countries with below the median financier protection. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the 2-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Financier>Median | | | | | | Financier<Median | | | | | |
|------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Financier | 0.744*** (0.000) | 0.821*** (0.000) | 0.736*** (0.000) | 0.428*** (0.001) | 0.492*** (0.002) | 0.425*** (0.001) | -0.018* (0.062) | -0.123 (0.437) | 0.015 (0.888) | -0.169*** (0.001) | -0.230** (0.027) | -0.168 (0.103) |
| Emp_Cont | 2.114*** (0.000) | 2.116*** (0.000) | 1.737*** (0.000) | | | | 2.581*** (0.000) | 2.594*** (0.000) | 2.885*** (0.000) | | | |
| Union | | | | -0.383* (0.058) | -0.368 (0.376) | -0.157 (0.763) | | | | 0.629* (0.053) | 0.631* (0.052) | 0.201* (0.079) |
| Leverage | 0.023** (0.025) | 1.094** (0.022) | 0.550 (0.310) | 0.064* (0.093) | 1.007 (0.464) | 0.289 (0.607) | 0.100*** (0.003) | 1.182* (0.091) | 0.811 (0.196) | 0.167* (0.069) | 0.387 (0.709) | 0.805 (0.426) |
| Own | 0.428** (0.017) | 0.281 (0.166) | 0.198 (0.301) | 0.202* (0.069) | 0.139 (0.387) | 0.217 (0.142) | 0.241* (0.081) | 0.176 (0.219) | 0.288 (0.419) | 0.302* (0.059) | 0.174 (0.188) | 0.115 (0.354) |
| Size | -0.036* (0.062) | -0.036* (0.057) | -0.036* (0.061) | -0.064*** (0.001) | -0.065*** (0.001) | -0.065*** (0.001) | -0.175*** (0.000) | -0.175*** (0.000) | -0.175*** (0.000) | -0.259*** (0.000) | -0.259*** (0.000) | -0.259*** (0.000) |
| Performance | -0.333*** (0.000) | 0.334*** (0.000) | -0.335*** (0.000) | -0.341*** (0.000) | -0.342*** (0.000) | -0.342*** (0.000) | -0.586*** (0.000) | -0.587*** (0.000) | -0.588*** (0.000) | -0.591*** (0.000) | -0.592*** (0.000) | -0.591*** (0.000) |
| Lev*Financier | | 0.346* (0.052) | | | 0.304 (0.486) | | | -0.621* (0.052) | | | -0.266 (0.591) | |
| Lev*Emp_Cont | | | 1.472 (0.224) | | | | | | -1.191 (0.232) | | | |
| Lev*Union | | | | | | 0.914 (0.480) | | | | | | 1.692 (0.328) |
| Observations | 5327 | 5327 | 5327 | 5327 | 5327 | 5327 | 4726 | 4726 | 4726 | 4726 | 4726 | 4726 |
| Pseudo R-squared | 0.043 | 0.043 | 0.043 | 0.030 | 0.030 | 0.030 | 0.162 | 0.162 | 0.162 | 0.134 | 0.134 | 0.134 |

Table IX: Regression analysis using Employee Layoffs as the dependent variable for firms located in countries above and below the median of Financier protection.

This table reports the results of country random effects logit regressions:

$$\Pr(\text{Layoffs}_{ik} = 1) = F(\alpha + \beta_1 \text{Financier}_k + \beta_2 \text{Labor2}_k + \beta_3 \text{Lev}_{ik} + \beta_4 \text{Own}_{ik} + \beta_5 \text{Lev}_{ik} * \text{Financier}_k + \beta_6 \text{Lev}_{ik} * \text{Labor2}_k + \sum_{j=7}^8 \beta_j X_{ikj} + \varepsilon_{ik})$$

Layoffs_{ik} is a measure of layoffs for firm *i* in country *k*. It is an indicator variable that takes a value of 1 if there is a greater than 20% drop in the number of employees. F(.) is the logit specification. The variable *Financier* is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Union* measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004). Leverage is measured as the ratio of long term debt plus short term debt divided by total assets. *Own* is the total percentage owned by the three largest shareholders who own more than 5% of the shares. The vector of control variables *X_{ikj}* includes the change in operating performance measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and *Size* measured by the logarithm of sales. Columns (1)-(3) estimate the model for the sub-sample of firms located in countries with above the median financier protection, while columns (4)-(6) estimate the model for the sub-sample of firms located in countries with below the median financier protection. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the 2-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Financier>Median | | | Financier<Median | | |
|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Financier | 0.243** (0.043) | 0.302** (0.047) | 0.238 (0.155) | 0.045** (0.022) | 0.272 (0.256) | 0.048 (0.811) |
| Union | -0.094** (0.045) | -0.106** (0.047) | -0.344* (0.065) | -0.420 (0.491) | -0.415 (0.497) | 0.433 (0.681) |
| Leverage | 1.063*** (0.000) | 1.831 (0.225) | 0.728 (0.250) | 0.179** (0.021) | -1.868 (0.341) | 2.047 (0.255) |
| Own | 0.379** (0.033) | 0.352 (0.179) | 0.306 (0.418) | 0.248** (0.042) | 0.215 (0.371) | 0.189* (0.064) |
| Size | -0.080*** (0.000) | -0.081*** (0.000) | -0.081*** (0.000) | -0.013 (0.581) | -0.013 (0.579) | -0.013 (0.594) |
| Performance | -0.444*** (0.000) | -0.444*** (0.000) | -0.445*** (0.000) | -0.375*** (0.002) | -0.379*** (0.002) | -0.376*** (0.002) |
| Lev*Financier | | 0.248 (0.606) | | | 0.966 (0.298) | |
| Lev*Union | | | 0.869* (0.055) | | | 3.269 (0.293) |
| Observations | 4917 | 4917 | 4917 | 4440 | 4440 | 4440 |
| Pseudo R-squared | 0.042 | 0.042 | 0.042 | 0.013 | 0.014 | 0.014 |

Table X: Regression analysis using Management turnover as the dependent variable for firms located in countries above and below the median of Financier protection.

This table reports the results of country random effects logit regressions:

$$\Pr(\text{Turnover}_{ik} = 1) = F(\alpha + \beta_1 \text{Financier}_k + \beta_2 \text{Labor2}_k + \beta_3 \text{Lev}_{ik} + \beta_4 \text{Own}_{ik} + \beta_5 \text{Lev}_{ik} * \text{Financier}_k + \beta_6 \text{Lev}_{ik} * \text{Labor2}_k + \sum_{j=7}^8 \beta_j X_{ikj} + \varepsilon_{ik})$$

Turnover_{ik} is a measure of management turnover for firm i in country k . It is an indicator variable that takes a value of 1 if there is a change in the top two officers. $F(\cdot)$ is the logit specification. The variable Financier is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. *Union* measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004). Leverage is measured as the ratio of long term debt plus short term debt divided by total assets. *Own* is the total percentage owned by the three largest shareholders who own more than 5% of the shares. The vector of control variables X_{ikj} includes the change in operating performance measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and *Size* measured by the logarithm of sales. Columns (1)-(3) estimate the model for the sub-sample of firms located in countries with above the median financier protection, while columns (4)-(6) estimate the model for the sub-sample of firms located in countries with below the median financier protection. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the two-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Financier>Median | | | Financier<Median | | |
|------------------|--------------------|--------------------|-------------------|---------------------|---------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Financier | 0.084** (0.013) | 0.177* (0.092) | 0.082 (0.621) | 0.346** (0.015) | 0.439** (0.024) | 0.346 (0.106) |
| Union | -0.719 (0.185) | -0.744 (0.171) | -0.799 (0.263) | -1.280** (0.026) | -1.282** (0.026) | -1.086* (0.087) |
| Leverage | 0.090* (0.068) | 1.422 (0.443) | 0.030 (0.969) | 0.103** (0.047) | 0.946 (0.691) | 0.519 (0.722) |
| Own | 0.481* (0.073) | 0.402 (0.391) | 0.346 (0.413) | 0.368* (0.084) | 0.271 (0.271) | 0.189 (0.448) |
| Size | 0.024 (0.307) | 0.024 (0.317) | 0.024 (0.308) | 0.029 (0.169) | 0.029 (0.167) | 0.029 (0.168) |
| Performance | -0.067* (0.081) | -0.069* (0.072) | -0.068 (0.278) | -0.058* (0.092) | -0.058 (0.397) | -0.058 (0.392) |
| Lev*Financier | | 0.444 (0.463) | | | 0.390* (0.078) | |
| Lev*Union | | | 0.299 (0.867) | | | 0.733 (0.778) |
| Observations | 3618 | 3618 | 3618 | 3342 | 3342 | 3342 |
| Pseudo R-squared | 0.021 | 0.023 | 0.022 | 0.025 | 0.026 | 0.026 |

Table XI: Regression analysis relating Asset sales to Changes in Short term and Total debt for firms located in countries above and below the median of Financier protection.

This table reports the results of country random effects logit regressions:

$$\Pr(Asales_{ik} = 1) = F(\alpha + \beta_1 Financier_k + \beta_2 Labor_k + \beta_3 ChangeDebt_{ik} + \beta_4 Own_{ik} + \sum_{j=5}^6 \beta_j X_{ikj} + \varepsilon_{ik})$$

$Asales_{ik}$ is a measure of asset reduction for firm i in country k . It is an indicator variable that takes a value of 1 if there is a decrease in NPPE by more than 15%. $F(.)$ is the logit specification. The variable $Financier$ is the sum of the *Anti-director* index, *Anti-self-dealing* index, *Creditor* index and *Law and Order* index. $Union$ measures the strength of the regulation of collective disputes and labor union power as defined by Botero et al. (2004). $ChangeDebt$ is either Change in Short Term debt, which is measured as the difference of short term debt from year t-1 to year t or Change in Total Debt, which is measured as the difference of total debt from year t-1 to year t. Own is the total percentage owned by the three largest shareholders who own more than 5% of the shares. The vector of control variables X_{ij} includes the change in operating performance measured as the change in the ratio of operating income before depreciation and amortization divided by total assets (EBITDA/TA), and Size measured by the logarithm of sales. Columns (1) - (2) estimate the model for the sub-sample of firms located in countries with above the median financier protection, while columns (3) - (4) estimate the model for the sub-sample of firms located in countries with below the median financier protection. All specifications are estimated with robust standard errors clustered by country and include time fixed effects, industry fixed effects at the two-digit level and country random effects. P-values are in parentheses. * indicates significance at the 10% level, ** indicates significance at the 5% level and *** indicates significance at the 1% level.

| | Financier>Median | | Financier<Median | |
|-------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| Financier | 0.426*** (0.001) | 0.426*** (0.001) | -0.169** (0.011) | -0.168** (0.013) |
| Union | -0.402* (0.064) | -0.376* (0.066) | 0.622* (0.055) | 0.617* (0.058) |
| Change in ST Debt | -0.009 (0.143) | | -0.006 (0.167) | |
| Change in T Debt | | -0.008 (0.711) | | -0.009 (0.436) |
| Own | 0.285* (0.059) | 0.314 (0.371) | 0.364* (0.085) | 0.257 (0.128) |
| Size | -0.067*** (0.001) | -0.064*** (0.001) | -0.258*** (0.000) | -0.260*** (0.000) |
| Performance | -0.340*** (0.000) | -0.342*** (0.000) | -0.592*** (0.000) | -0.590*** (0.000) |
| Observations | 5327 | 5327 | 4726 | 4726 |
| Pseudo R-squared | 0.031 | 0.030 | 0.134 | 0.135 |