Corporate Governance and the Firm's Behaviour towards Stakeholders

Reimo Juks

To my wife, Violeta

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Stockholm, May 2010
Reimo Juks

Contents

Introduction

The present thesis is a collection of research papers in empirical corporate finance. The overarching theme in all these studies is to understand how the alignment of interests between shareholders and managers affects various stakeholders. These stakeholders can be firm specific parties such as customers and employees, or more general public such as the local community where the firm operates.

To understand how the alignment of interests between shareholders and managers affects various stakeholders, let me first briefly mention the classical conflict of interests between shareholders and managers. Managers tend to have their own agenda. Whenever managerial agenda does not serve shareholder interests, there is an agency problem. In a rational world, this agency problem does not necessarily affect adversely rational, forward-looking shareholders, but it leads to a suboptimal outcome in terms of aggregate welfare.

Managerial discretion towards stakeholders can be viewed in this standard agency setup. If shareholders tend to optimally internalize the effects on stakeholders, inefficient outcome is a direct result of the agency problem. This is the approach taken in the existing literature in corporate governance. Yet, inefficient outcome can also result when managerial interests are aligned with those of shareholders. This is the case when shareholders do not internalize the effects on other stakeholders. Ideally, it is the role of government to force the proper internalization. In practice, governmental intervention has its own drawbacks and might face the same limitations as shareholders (e.g. information asymmetry).

To determine which stakeholder related managerial activities tend to lead to aggregate inefficiencies is a complicated task. Ideally, one would like to have an objective measure of corporate governance, an exogenous variation in corporate governance and an objective measure of stakeholders' welfare. Unfortunately, neither the quality of corporate governance nor the welfare of stakeholders are easily measurable. Moreover, an exogenous variation in corporate governance is difficult to obtain. Due to these complications, this thesis uses three different settings to tackle the task.

The first paper obtains stakeholder related data from KLD rating agency and provides evidence on how firms' stakeholder orientation is associated with standard measures of corporate governance. KLD ratings are used to construct two binary

indicators, one measuring stakeholder hostility and the other stakeholder friendliness. Based on these indicators, a novel classification of firms is obtained. Firms are divided into four groups: stakeholder hostile, neutral, friendly and "friendly and hostile". This classification captures the multi-dimensionality of firms' stakeholder orientation by allowing firms to be simultaneously stakeholder hostile as well as friendly. For instance, a firm can have a detrimental effect on the natural surrounding of the local community, but at the same time contribute positively to that local community via educational and housing programs. Aggregation of these two effects into a single measure would be subjective and misleading.

The results show that both stakeholder friendly and hostile firms tend to have significantly lower insider ownership, smaller option grants, lower pay-performance sensitivities, larger boards, older executive officers and directors, lower institutional ownership and a larger number of anti-takeover defenses than the firms with neutral stakeholder orientation. There is also some evidence that the probability of belonging to stakeholder hostile group is positively related to the strength of corporate governance, but the effect is insignificant except in areas related to local and global community. A possible explanation is that in these areas stakeholders are protected mainly by ethics and social norms rather than by various regulations that is commonplace in labour, environment and customer related areas. All in all, the evidence in this paper lends support for the idea that shareholders tend to internalize the effects on stakeholders who are protected by various regulations.

The second paper examines how the weakening in corporate governance affects workers via workplace safety. We use the anti-takeover regulation in the 1980s as a natural experiment to obtain an exogenous variation in corporate governance. Our measures of workplace safety come from the Occupational Safety & Health Administration in US. These include the number of violations of workplace safety regulation, penalties paid for these violations, the number of accidents and employees' complaints about their workplace safety. We find that firms presented significantly more workplace safety violations and penalties than otherwise similar firms that were not affected by the regulation. Accidents and complaints tend to decrease as a result of the anti-takeover regulation, but the results are not entirely robust. We also document that the increase in workplace safety violations was significantly smaller in unionized firms.

Our findings have important implications for stakeholder-shareholder debate. First, an increase in managerial discretion can harm rather than benefit certain stakeholders. In other words, there is a natural alignment between shareholders and stakeholders in some areas. In addition, to the extent that unions limit managerial discretions, union and shareholders' preferences are congruent in some areas. Second, our results cast doubt over the popular view that regulatory wrong-doing is the result of shareholders' extensive pressure on managers. At least with respect to workplace safety violations, this pressure is beneficial rather than harmful. Finally, our results also have important policy implications about how to protect

stakeholders. If workplace safety is a major concern, the policy that limits managerial discretion and strengthens shareholder power vis-a-vis manager is likely to yield positive results.

The third paper uses leveraged buyouts by private equity funds as a natural setting to study the implications of strong corporate governance on stakeholders. For a sample of 373 leveraged buyout (LBO) targets, we obtain KLD stakeholder ratings before or after the private equity (PE) activity. Using difference-in-difference setting, we examine the selection and treatment effect of PE ownership. We find that PE funds do not target firms with exceptional social responsibility performance. Instead, LBO targets are characterized by weak stakeholder relations across a number of measures compared to their peers, in terms of corporate governance, transparency, employee relations and community relations. Controlling for this selection, we do not find systematic evidence in favor of the idea that private equity funds gain at the expense of other stakeholders. Private equity ownership alters targets in the direction of higher pay, improved work-life benefits, increased charitable giving, and decreased concerns related to retirement benefits, adverse economic impact, tax disputes, unfair marketing practices and antitrust problems.

Papers

PAPER 1

Obey the Law and Do a Little Bit Extra?

ABSTRACT. The paper provides evidence on how firms' stakeholder orient-
ation is associated with standard measures of corporate governance using a
panel of 1778 US companies during the period of 1995-2006. We construct two
binary indicators, one measuring stakeholder hostility and the other stake-
holder friendliness using data from KLD ratings agency. Based on these
indicators, we classify firms into four groups representing stakeholder hostile,
neutral, friendly and "friendly and hostile" firms. Our results show that both
stakeholder friendly and hostile firms tend to have significantly lower insider
ownership, smaller option grants, lower pay-performance sensitivities, larger
boards, older executive officers and directors, lower institutional ownership
and larger number of anti-takeover defenses than the firms in the neutral
group. We also find that the probability of stakeholder hostile activity is
positively related to the strength of corporate governance, but the effect is
insignificant except in local and global community areas. A possible explan-
ation is that in these areas stakeholders are protected mainly by ethics and
social norms rather than by various regulations that is commonplace in la-
bour, environment and customer related areas. These findings lend support
for the idea that stakeholders are best protected by various regulations.
Keywords: Corporate Governance, Stakeholders, Regulation
JEL codes: G32, G34

1. Introduction

Managers take frequently decisions that have a direct consequence on stake-
holders other than shareholders. For instance, a decision to participate in charity,
housing or education supporting programs has a direct effect on local community,
a choice of health and safety programs affects workers in their workplace, a type
of technology firm uses determines its environmental impact. In this paper, we
study the role of managerial incentives in various stakeholder related activities by
providing evidence on how these activities associate with standard measures of
corporate governance. The main finding is that weak managerial incentives are

associated with activities that can be characterized as stakeholder friendly or hostile, while strong managerial incentives are associated with stakeholder activities that can be viewed as stakeholder neutral.

The traditional finance literature focuses on shareholders. Firms should be managed in the interests of its shareholders, while other stakeholders are protected from managerial decisions via complete contracts or the existence of outside options.[1] In this setup, the alignment of interests between managers and shareholders would be a matter of indifference to various stakeholders. In reality, contracts are incomplete, outside options are imperfect and stakeholders are affected by the conflict of interests between shareholders and managers.

In this light, the relationship between managerial incentives and stakeholder related corporate activities provides an interesting setting to learn about shareholder interests and managerial preferences. We address two questions. First, what are shareholder interests with respect to other stakeholders or to put differently, what are the consequences of strong alignment of interests between shareholders and management on various non-shareholder stakeholders. This question is important since the existing finance literature has strongly argued that firms should be managed in the interests of its shareholders. Yet, it is unclear what exactly are the interests of shareholders. Even if one takes the conventional view that shareholders are interested in maximizing shareholder value, there is no agreement on what corporate activities serve this goal. In theory, both stakeholder friendly and hostile corporate activities can be consistent with shareholder value maximization.[2] A sound empirical knowledge of stakeholder related corporate activities that serve shareholder interests is an essential element in the rational design of stakeholder related regulations.

A second question concerns managerial preferences with respect to non-shareholder stakeholders: what stakeholder related activities does management pursue under a weak alignment of interests between shareholders and management? Agency theory states that in the absence of strong corporate governance managers pursue their own agenda.[3] However, how does the managerial agenda affect specific stakeholder related corporate activities such as the choice of environmentally friendly technology, hazardous waste management, workplace health and safety conditions, product quality, for example?

Empirical research on shareholder interests and managerial preferences with respect to various stakeholders is challenging. First, data on corporate activities related to various stakeholders is not readily available. We deal with this data issue by using corporate social responsibility ratings offered by KLD. These ratings

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[1] See Williamson (1984), Shleifer and Vishny (1997), Becht, Bolton, and Roell (2003), Kraakman and Hansmann (2000).

[2] Both the theory of firm (see Zingales (2000)) and stakeholder theory (see Tirole (2001)) argue that the interests of shareholders and other parties are not always convergent.

[3] See Jensen and Meckling (1976), Fama and Jensen (1983), Friedman (1970) for the theoretical argument.

reflect firms' annual performance with respect to various non-shareholder stakeholders and are available for S&P 500 and Domini 400 Social Index in 1995-2000, Russell 1000 Index in 2001-2002 and Russell 3000 Index in 2003-2006. Using these detailed ratings about company's strengths and concerns in various stakeholder areas, we construct two binary indicators, one measuring stakeholder hostility and the other stakeholder friendliness. Based on these indicators, we classify firms into four groups: stakeholder hostile, neutral, friendly and "friendly and hostile" firms.

A second problem concerns the endogeneity of corporate governance. The ideal analysis of shareholder interests and managerial preferences with respect to various stakeholders includes a controlled experiment in which weak and strong corporate governance mechanisms are randomly assigned to firms. Shareholder interests and managerial preferences would then be easily obtained by comparing various stakeholder related corporate activities among firms with weak and strong corporate governance.

In absence of such an experiment, the task is to find circumstances where corporate governance is as if randomly assigned. In corporate governance, where even small scale experiments are infeasible, regulatory changes provide a credible source of identification.[4] Anti-takeover regulation in the 1980s, for example, can be used to obtain credible estimation results.[5] However, data on social responsibility ratings starts from the 1990s and therefore limits the use of anti-takeover regulation in this paper.

This paper deals with potential endogeneity problems in the following ways. First, we make sure that our results are robust to alternative measures of corporate governance. We employ pay-performance sensitivities obtained from the ownership and options data to proxy for explicit incentives. We use the mean age of the management to account for implicit incentives and career concerns. We consider board size, the fraction of outsiders in the board together with the concentration of institutional investors to account for the control structure, active and passive monitoring. Finally, we use anti-takeover defences to account for external forces as disciplining devices. Second, we rely on "selection on observables" assumption. The comparison of stakeholder orientation between strong and weak corporate governance firms is made controlling for year, industry and size effects. And finally, we use fixed effect models to control for unobservable, but time-invariant factors affecting stakeholder related corporate activities.

Our results show that stakeholder friendly and stakeholder hostile firms are characterized by weak corporate governance, while stakeholder neutral firms are characterized by strong corporate governance. The results from the descriptive analysis show that stakeholder friendly and stakeholder hostile firms tend to

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[4] IV and 2SLS are other frequently employed indentification strategies. However, the exogeneity of instruments hold by assumption.

[5] See Bertrand and Mullainathan (2003) and more recently in Giroud and Mueller (2007).

have significantly lower insider ownership, smaller option grants and lower pay-performance sensitivities than firms in the neutral group. They have on average larger boards and older executive officers and directors. They also have lower institutional ownership and larger number of anti-takeover defenses than the firms in the neutral group.

The estimation results show that the probability of a firm belonging to stakeholder friendly group is decreasing in pay-performance sensitivity and increasing in the number of anti-takeover defenses controlling for size, industry and other firm characteristics. The probability that a firm belongs to hostile or "friendly and hostile" is not affected by pay-performance sensitivity, but is increasing in the number of anti-takeover defenses. We also find that the probability of stakeholder hostile activity is positively related to the strength of corporate governance, but the effect is insignificant except in local and global community areas. A possible explanation is that in these areas stakeholders are protected mainly by ethics and social norms rather than by various regulations that is commonplace in labour, environment and customer related areas.[6]

Our study emphasizes that there is a significant share of firms that engage simultaneously in stakeholder friendly and stakeholder hostile activities. We show that these firms are also characterized by weak corporate governance mechanisms. We provide two possible reasons for the existence of "friendly and hostile" group. First, firms are likely to use stakeholder friendly activities to cover their stakeholder hostile activities. For instance, a firm that consistently violates environmental regulations has a direct motive to engage in generous charity programs to manipulate its public image. Second, firms do not do what they say they do. If social ratings are based on annual reports that tend to overstate the engagement of companies in different stakeholder areas, both positive and negative stakeholder ratings are likely to result.

Our study is related to the empirical literature that links firm value to the measures of stakeholder friendliness. These studies typically compare financial performance of stakeholder friendly or stakeholder hostile firms with some control group. For instance, a typical study of stakeholder friendly firms compares firm value and profitability between stakeholder friendly and non-friendly firms. This paper differs from the earlier studies in important ways. First, we study stakeholder hostile and friendly corporate activities together, not separately. We argue that stakeholder friendliness is not one-dimensional variable. Firms can simultaneously be friendly and hostile even with respect to the same stakeholder. For instance, a firm that launches an investment with adverse effects on local community can simultaneously engage in generous charity programs to manipulate its public image. Second, we focus on corporate governance instead of firm value or

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[6] Note, however, that in some other context external regulation with lax enforcement or monitoring leads to lower cooperation and less internalization of negative externalities (see Ostrom (2000))

profitability. We believe that focus on corporate governance is useful in designing practical corporate governance rules and stakeholder regulations. To illustrate this, consider the sale of outdated minced meat in some Swedish shops in 2008. This incident could have originated from the managers' lack of effort to monitor their employees and their compliance with the elementary health standards. In other words, the incident could have taken place due to weak managerial incentives to serve shareholder interests. Alternatively, it could reflect the owners' profit motive and ex ante cost-benefit analysis. The knowledge of shareholders' interests and managerial preferences would help design effective regulation by determining which alternative is more likely. Clearly, improving the alignment of interests between shareholders and managers would be desirable in the first case, while in the second case it is likely to be detrimental.

2. Related Literature

Empirical studies presenting systematic evidence on the effect of corporate governance on stakeholder related corporate activities are relatively scarce. The literature can be divided into three broad categories: studies of corporate crime, studies of takeovers and studies of corporate social performance. The first category lends support for the idea that corporate wrongdoing is an agency cost. Alexander and Cohen (1999) study the relationship between corporate crime and managerial ownership in a sample of 52 publicly traded corporations convicted of Federal crimes in 1984-1990. They find that crime occurs less frequently among firms in which management has a larger ownership stake. Karpoff and Lott (1993) examine the reputation costs of corporate crime. They find that formal court-imposed sanctions for committing fraud often represents a small fraction of the damage produced to a firm by the fraud. Their finding is an indirect evidence that corporate crime does not serve the interests of shareholders (see also Frooman (1997)). While informative, these studies of corporate crime often rely on small, hand collected data sets. Moreover, they focus exclusively on corporate crime and use relatively few corporate governance measures.

The second group of literature concentrates on takeovers and the impact on stakeholders. The pioneering work of Shleifer and Summers (1989) argues that hostile takeovers provide means for shareholders to break the implicit trust-based contracts with various stakeholders. These implicit contracts are needed to induce stakeholders to undertake welfare increasing relationship specific investments. Their empirical evidence based on case studies support the wealth transfer hypothesis. However, the subsequent literature on takeovers does not find conclusive support for stakeholder wealth transfer hypothesis. Kaplan (1989a) analyzes 76 management buyouts (MBOs) during the period of 1980-1986. He documents that MBOs are followed by significant increases in operating performance, but the changes in employment are insignificant. The follow up papers have analyzed the effects of takeovers on bondholders, banks, pension funds and suppliers

with some support for suppliers' wealth transfers hypothesis (see Brown, Fee, and Shawn (2007)). Takeovers and especially leverage buyouts (LBOs) provide a fruitful ground for studying the conflicts of interests between shareholders and stakeholders, since LBOs are usually accompanied by strengthening of corporate governance. Our paper focuses on public companies, and thus helps understand whether the results from takeover studies can be generalized to a larger subset of companies.

The last group of literature focuses on the benefits and costs of corporate social responsibility on shareholders. The aim is to determine whether companies serve the interests of shareholders by acting socially responsibly. Griffin and Mahon (1997) survey the literature and conclude that no consistent relationship exists between firms' financial performance and social performance. Barnea and Rubin (2006) study the relationship between corporate social responsibility ratings and managerial ownership. They use a cross-sectional sample of 3000 US firms that were rated by KLD in 2003. They find that strength ratings are negatively associated with inside ownership. They conclude that corporate social responsibility is a private benefit that improves management's reputation of being good corporate citizens (see also Friedman (1970) for the similar argument). Faleye and Trahan (2006) study whether labour friendly firms serve the interests of shareholders or represent agency costs. They find that labour friendly firms outperform a group of control firms on productivity, profitability and firm value. Dowell, Hart, and Yeung (2000) study whether compliance with global environmental standards benefits shareholders. They find that firms which adopt global environmental standards have higher Tobin's Q than those which do not. In the managerial literature, Graves and Waddock (1994) and Johnson and Greening (1997) argue that corporate social performance reflects the preferences of different shareholders. Graves and Waddock (1994) study whether institutional investors invest more in firms with high social performance. They find that past social performance is positively associated with the number of institutional owners and the percentage of shares held by institutions. They conclude that institutional investors are not short term profit oriented and invest in firms with high social performance. Johnson and Greening (1997) argue that there is a trade-off between short and long term profit maximization. Mutual funds seek short term, while pension funds, outside directors and managers with high insider ownership are concerned with long term profit. They find that higher institutional ownership by pension funds and higher proportion of outside directors are associated with higher social performance. While the findings of the papers in the last group are important, these papers fail to explain the causes of corporate misbehaviour.

In general, the existing literature has focused on two extremes: socially responsible firms and crime firms. Moreover, the two are usually analyzed separately. However, poor corporate governance may be a common root of both of these extremes. In addition, firms that engage in corporate crime may also be actively

involved in corporate social responsibility to mislead the public image and reduce the likelihood of crime discovery. Our study sheds some light on these further issues.

3. Corporate Governance and Stakeholders

How corporate governance affects stakeholders other than shareholders can be explained by tabulating shareholders' interests and managerial preferences with respect to different stakeholders (see Figure 1). If shareholders and managers have similar preferences with respect to a certain stakeholder, corporate governance is irrelevant in determining corporate activities related to that stakeholder. Notice that these corporate activities can be either stakeholder neutral, hostile or friendly. For instance, if the adoption of environmentally friendly or hostile technology corresponds to both shareholder interests and managerial preferences, the quality of corporate governance has no effect on the firm's choice of technology.

The quality of corporate governance becomes instrumental only if managers and shareholders have divergent interests. There are two possibilities. The first one is that it is not in the interests of shareholders to undertake various stakeholder friendly corporate activities, but these activities serve managerial interests. In addition, this possibility also includes the case where it is in the interests of shareholders to undertake various stakeholder hostile corporate activities, but these activities do not serve managerial interests. In other words, under this hypothesis we would expect the probability of stakeholder friendliness to be decreasing and/or the probability of stakeholder hostility to be increasing in the strength of corporate governance.

The alternative possibility is that it is in the interests of shareholders to undertake various stakeholder friendly corporate activities, but these activities are such that they do not serve managerial interests. In addition, this possibility also includes the case where it is in the interests of shareholders to avoid various stakeholder hostile corporate activities, but management fails to prevent it unless properly motivated. Under this hypothesis, we would expect the probability of stakeholder friendliness to be increasing and/or the probability of stakeholder hostility to be decreasing in the strength of corporate governance.

4. Data

The basis for the sample is KLD social rating data. The ratings are available for Standard and Poor's 500 and Domini 400 Social Index for the period of 1995-2000, Russell 1000 Index for the period of 2001-2002 and Russell 3000 Index for the period of 2003-2006. For these firms, we extract balance sheets from Compustat, executives' and directors' compensation and ownership from the Standard and Poor's ExecuComp and IRRC directors databases, anti-takeover defenses and institutional ownership from Investor Responsibility Research Center (IRRC) governance and Thomson Financial CDA/Spectrum databases. The final sample size

FIGURE 1: Why corporate governance matters for stakeholders?

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                          ┌─────────────────┐
                          │  Stakeholders   │
                          └─────────────────┘
                    ┌───────────┴───────────┐
        ┌───────────────────┐     ┌───────────────────┐
        │   Aligned with    │     │   Misaligned with │
        │ managerial        │     │ managerial        │
        │ preferences       │     │ preferences       │
        └───────────────────┘     └───────────────────┘
         ┌──────┴──────┐             ┌──────┴──────┐
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Aligned with share-holder interests	Misaligned with shareholder interests	Aligned with share-holder interests	Misaligned with shareholder
CG does not matter.	**CG matters.**	**CG matters.**	**CG does not matter.**

| | **Strengths:** Excellent treatment of stakeholders is value decreasing, but management offers it. | **Strengths:** Excellent treatment of stakeholders is value increasing, but management fails to do so. | |

| | **Concerns:** Mistreatment of stakeholders is value increasing, but management prefers not to mistreat. | **Concerns:** Mistreatment of stakeholders is value decreasing, but management prefers not to prevent it. | |

| | **H0:** better CG leads to worse strength ratings and/or worse concern ratings. | **H0:** better CG leads to better strength ratings and/or better concern ratings. | |

may change depending on the variables used, but it has around 1800 firms and 7000 firm year observations during the period of 1995-2006.

4.1. Dependent Variables. KLD data provides a list of concerns and strengths in various stakeholder categories for a given firm and year. These concerns and strengths are presented as binary variables. The list of available concern and strength ratings is presented below.

(1) Local community. Strengths: engagement in (i) various charity, (ii) housing and education supporting programs for disadvantaged, (iii) in-kind giving programs or other notably positive community activities. Concerns: (i) investment or other economic activities that led to adverse effects on local community, (ii) major tax disputes over its tax obligations to the community and (iii) other noteworthy community controversies.

(2) Labour force and diversity. Strengths: (i) strong health and safety programs, (ii) outstanding programs addressing work-life concerns, including childcare, elder care, flextime. Concerns: (i) willful violations of employee safety and health standards, (ii) affirmative action controversies.

(3) Environment. Strengths: (i) strong pollution prevention programs, (ii) the use of renewable energy and clean fuels or promotion of climate friendly practices outside its own operations. Concerns: (i) civil penalties for waste management, (ii) other regulatory violations.

(4) Global community and human rights. Strengths: (i) strong relationships with indigenous people near firm's facilities in or outside the US, (ii) various human rights initiatives. Concerns: (i) controversies with indigenous people, (ii) labour force and human rights controversies in developing countries, (iii) economic operations with Burma.

(5) Customers. Strengths: (i) products with social benefits that are unusual for the respective industry. Concerns: (i) violations of product safety regulations, (ii) marketing controversies, (iii) violations of antitrust regulations.

Using these stakeholder specific ratings, we create two binary measures of corporate social activity.[7] A variable *concern* equals one if a firm has a concern in the list above and zero otherwise. One could name this *concern* variable also as a *crime* variable in labour, environment and customer related areas, since the concerns in these areas are based on regulatory violations. A variable *CSR* equals one if a firm has a strength and zero otherwise. The *CSR* variable is defined in an aggregated way across stakeholder areas, while the *concern* variable is defined in an aggregated way and also separately in different stakeholder areas.

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[7] An alternative is to sum strength and concern ratings within a stakeholder area. There is a high correlation between our binary measures and these alternative measures. The advantage of our binary measures is the possibility of simple categorization of firms.

Based on *concern* and *CSR* variables we divide firms into four distinct groups: hostile, neutral, friendly and hostile&friendly (see Figure 2). The hostile group includes firms that engage in activities that violate various stakeholder regulations. At the same time, these firms do not have any strength ratings. The neutral group characterizes firms that practice activities with neutral consequences on stakeholders. These firms have no positive or negative ratings. Friendly group includes firms with stakeholder friendly activities. Finally, we have "hostile and friendly" group that includes firms with some strengths, but also with some concerns.

Our classification of firms takes explicitly into account that firms can simultaneously engage in stakeholder friendly and stakeholder hostile activities. For instance, a firm could consistently violate environmental regulations and at the same time engage in generous charity programs. The presence of firms with simultaneous concern and strength ratings is also consistent with anecdotal evidence that firms do not do what they say they do.[8] If strength ratings are partly based on annual reports that tend to overstate the engagement of companies in different stakeholder areas, simultaneous strength and concern ratings are likely to result.

FIGURE 2: Classification of firms by their stakeholder activity

CSR rating

		0	1
Concern rating	0	Neutral	Friendly
	1	Hostile	Hostile & Friendly

4.2. Independent Variables. As for corporate governance and shareholder rights, there is no unique measure. Following theoretical and empirical literature in corporate governance (see e.g. Hart (1995)), we consider the following ways to align managerial interests with those of shareholders:

(1) Explicit incentives, that is managerial remuneration including managerial ownership and stock options. We calculate insiders' pay-performance sensitivities using stock ownership and option data.

(2) Implicit incentives, that is managerial career concerns. Even without explicit incentives, manager may act in the interests of shareholders to

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[8] See Aaron, Levine, and Toffel (2007) for the early empirical evidence on the validity of social ratings.

secure future employment. We use directors and executive mean age to proxy for implicit incentives.

(3) Control structure, active and passive monitoring by the major shareholders, board of directors, institutional owners. We use board size, the fraction of independent directors, directors' ownership and concentration of institutional ownership measured as the Herfindahl index (HHI) to account for monitoring.

(4) External mechanisms such as takeovers. We use Gompers, Ishii, and Metrick (2003) anti-takeover index.

In addition to corporate governance variables, we use total assets, Tobin's Q, ROA, ratio of sales to asset to control for size, growth opportunities and profitability. We also use 17 Fama-French industry classifications (see Fama and French (1997)).

We lag our independent variables three years for the following three reasons. First, the ratings published at the end of the year may still be partly based on the information published last year. Second, and more importantly, the time difference between the occurrence of corporate misbehavior, its discovery and public announcement may be considerable. Lastly, the effect of corporate governance on corporate misbehavior is not necessarily immediate and is likely to take time.

5. Presentation of the Data

5.1. Descriptive Statistics. Descriptive statistics of the sample data is presented in Table 1. The average firm in the sample is large both in terms of assets and the number of employees. It has about 14 million dollars of total assets and 25 thousands workers. Tobin's Q is on average around two and the ratio of debt to assets ca. 20%. The average CEO owns 1.8% of equity and a package of options including options granted and options held, respectively 0.2% and 0.9% of outstanding shares. The corresponding figures are substantially lower for the median CEO indicating that CEO compensation is right-skewed. Directors' combined equity and option holdings are around 0.8%. The combined pay-performance sensitivity for CEO and directors is around 40 units, that is the insiders' wealth changes 40 units when the value of the company changes 1000 units. The average board has 10 directors, of which 66% are independent. The average age of the insiders is around 60. The fraction of equity held by 20 largest institutional investors is on average 44%, while the mean Herfindahl index of ownership concentration is 215. Finally, the average anti-takeover index is around 9.6.

A u-shape relationship emerges when we compare corporate governance mechanisms across different social groups. The quality of corporate governance tends to be high in firms with neutral position towards stakeholders and low in firms that are either stakeholder friendly, hostile or both. Tables 2 and 3 illustrate this finding. First, stakeholder friendly, hostile and "hostile and friendly" firms tend

to have significantly lower insider ownership, smaller option grants and lower pay-performance sensitivities than firms in the neutral group. Second, they have on average larger boards and larger fraction of independent directors.[9]. Third, they also have older executive officers and directors. Forth, they have lower institutional ownership both measured as a fraction of outstanding shares and HHI. Finally, they adopt more anti-takeover measures than the firms in the neutral group.

The findings above hold in local community, labour force, environment and customer related areas, and to the lesser degree also in global community related areas.

5.2. Is Corporate Governance Randomly Assigned? Interpreted in a causal way, the analysis above suggests that strong corporate governance leads to stakeholder neutral firms and weak corporate governance leads to stakeholder friendly or stakeholder hostile firms. This interpretation is valid in a controlled experiment where weak and strong corporate governance mechanisms are randomly assigned across firms. However, theory as well as casual observations confirm that the determination of corporate governance is complicated and is likely to depend on various characteristics. Below we provide evidence how both stakeholder orientation and corporate governance vary across firm characteristics.

Table 4 shows that firms in different social groups also differ significantly in terms of size, leverage, profitability and growth opportunities. First, large firms are more likely to belong to stakeholder friendly and "friendly and hostile" groups. Firms with stakeholder neutral orientation tend to be small. Second, high leverage, small growth opportunities and low return on assets are significant characteristics of stakeholder hostile firms, while low leverage, large growth opportunities and high return on assets are significant characteristics of stakeholder friendly firms. Firms with stakeholder neutral orientation tend to be profitable, have low leverage and large growth opportunities. Finally, note that the majority of firms belongs to stakeholder neutral and friendly groups. The share of firms in stakeholder hostile and "friendly and hostile" groups is relatively small.

Table 5 shows that there is a large variation in managerial incentives across firm size and industry. Managerial incentives tend to decrease as firm size increases. Also, the amount of explicit incentives varies from 13 units in utilities to 55 units in clothing.

This descriptive evidence suggests that corporate governance is not randomly assigned across firm size and industry. In the regression analysis which follows, we control for year, size and industry effects.

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[9] Higher proportion of independent directors is considered to be a good corporate governance mechanism. However, given that it is not hard to find seemingly independent directors, this mechanism has lost its merit.

6. Regression Analysis

6.1. Model Specification. Let y_{it} denote the social group of firm i at time t, where $y_{it} \in \{0, 1, ..., J\}$. Let the probability that a firm i belongs to the social group j at time t follow a multinomial logit model:

(6.1) $\quad P[y_{it} = j | CG, Z] =$

$$\frac{\exp(\alpha_j + \beta_j * CG_{it-3} + \delta'_j * Z_{it-3})}{1 + \Sigma_{h=1}^{J} \exp(\alpha_h + \beta_h * CG_{it-3} + \delta'_h * Z_{it-3})}, \ \ j = 1, ..., J$$

where CG is the strength of corporate governance and Z is a matrix of control variables. We consider four different social groups defined previously: hostile, neutral, friendly, friendly&hostile groups. Our focus is on the response probabilities: how does the probability of being in social group j change as corporate governance changes. These corporate governance response probabilities are given by the following expression[10]:

(6.2) $$\frac{\partial P(y_{it} = j)}{\partial CG_{it}} = P(y_{it} = j)\{\beta_j - \Sigma_{h=1}^{J} P(y_{it} = h)\beta_h\}$$

Note that the direction of a given response probability is not determined entirely by β_j. To facilitate the direct interpretation of the estimates, we treat the neutral group as a base group[11], and transform equation 6.1 to obtain the following equation:

(6.3) $$\log[\frac{P(y_{it} = j)}{P(y_{it} = neutral)}] = \alpha_j + \beta_j * CG_{it-3} + \delta'_j * Z_{it-3}, \ j = 1, ..., J$$

Thus, the estimates of β_j show how the log-odds ratio between the social group j and the neutral group changes as corporate governance changes. Moreover, this transformation also illustrates that the estimates of multinomial logit can be obtained through a list of pairwise logit regressions.

The estimation framework above assumes that all the determinants of corporate governance are controlled for. We relax this assumption by allowing corporate governance to be determined by unobservable but time invariant factors. The conditional logit that estimates the log odds between the social group j and the base group includes firm fixed effects and achieves the consistent estimate of β_j. A shortcoming of the conditional logit analysis is that it uses only those firms whose social group changes at least once over time. Given the short time series dimension, the latter reduces significantly the number of observations used in the estimation which in turn results in low power. In the analysis to follow, we use

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[10] See Wooldridge (2002).
[11] The coefficients of the base group are normalized to zero.

conditional logit to assess the magnitude and size of the possible endogeneity bias in multinomial logit.

6.2. Results. Tables 6-9 present the estimation results from the pooled multinomial regressions for different stakeholder areas. We use pay-performance sensitivity (Table 6) and anti-takeover index GIM (Tables 7) as our corporate governance measures. The estimation results are consistent with our earlier finding that strong corporate governance leads to stakeholder neutral firms and weak corporate governance leads to stakeholder friendly, hostile or "friendly and hostile" firms. The probability that a firm belongs to friendly group is decreasing in pay-performance sensitivity and increasing in the number of anti-takeover defenses. The probability that a firm belongs to hostile or "friendly and hostile" is not affected by pay-performance sensitivity, but is increasing in the number of anti-takeover defenses. The results also show that the probability of stakeholder friendly activity tends to be increasing in growth opportunities, while the probability of stakeholder hostile activity tends to be decreasing in growth opportunities.

These results hold in general across various stakeholder areas, though there are some differences. The probability of belonging to hostile group is positively related to the strength of corporate governance, but the effect is not statistically significant in most stakeholder areas. The effect is significant in human rights area (that is, global community) when corporate governance is measured by pay-performance sensitivity and insignificant when corporate governance is measured by the GIM index.

The economic effect of corporate governance on firm stakeholder orientation varies across different corporate governance measures. Figure 3 illustrates the effect of anti-takeover defenses and pay-performance sensitivity on different social groups based on aggregated ratings. External corporate governance is relatively more important than internal corporate governance in determining stakeholder friendly and hostile corporate activity. Estimated at sample averages, one standard deviation increase in the number of anti-takeover defenses decreases the probability that a firm belongs to the neutral group by 11.5% (from 47% to 41.6%). At the same time, one standard deviation increase in management pay-performance sensitivity increases the probability that a firm belongs to the neutral group by 3% (from 47% to 48.4%). The effect is larger in other areas amounting to ca 7% (from 47% to 50.3%).

Besides corporate governance, firm size is the single most important determinant of firm behavior towards stakeholders (see Figure 4). The probability of engaging simultaneously in stakeholder friendly and stakeholder hostile activities is monotonically increasing in firm size. However, the probability that a firm belongs to either the hostile or the friendly group is not monotonically increasing in size: the probability is increasing as firm grows from small to medium, but decreasing as firm grows from medium to big.

FIGURE 3: The effect of internal and external corporate governance on different social groups
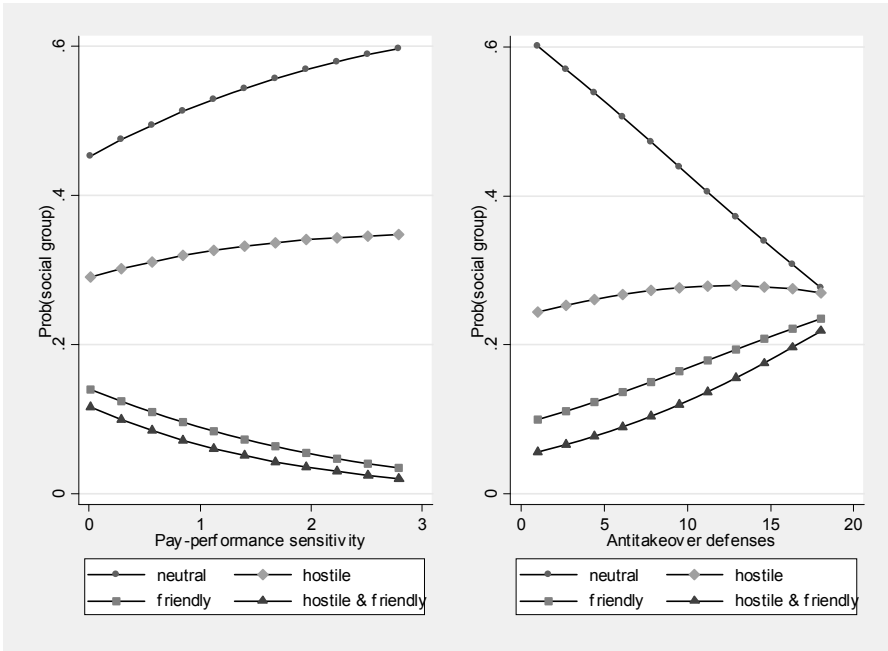
The results from the pairwise fixed effect logit are presented in Tables 10 and 15. To assess the magnitude of endogeneity bias, we also present the estimates from multinomial regressions in Tables 8 and 9. The estimates of fixed effect logit tend to be insignificant reflecting low power resulting from the reduced number of observations used in the estimation. However, those estimates that are significant in multinomial regressions tend to have the same sign as in the conditional logit regressions. This suggests that the estimates of fixed effect logit are qualitatively in line with those of multinomial logit. In addition, the positive relationship between concerns and the strength of corporate governance is statistically significant in human rights area supporting the results from the multinomial logit. The significant positive relationship also holds in local community area in the pay-performance sensitivity regression, but the relationship is insignificant in the GIM index regression. A possible explanation for the positive relationship between corporate governance and concerns in local and global community area is that these concerns are not regulatory violations as in other stakeholder areas. The result indicates that the violation of the existing stakeholder regulations is an agency

FIGURE 4: The effect of firm size on different social groups
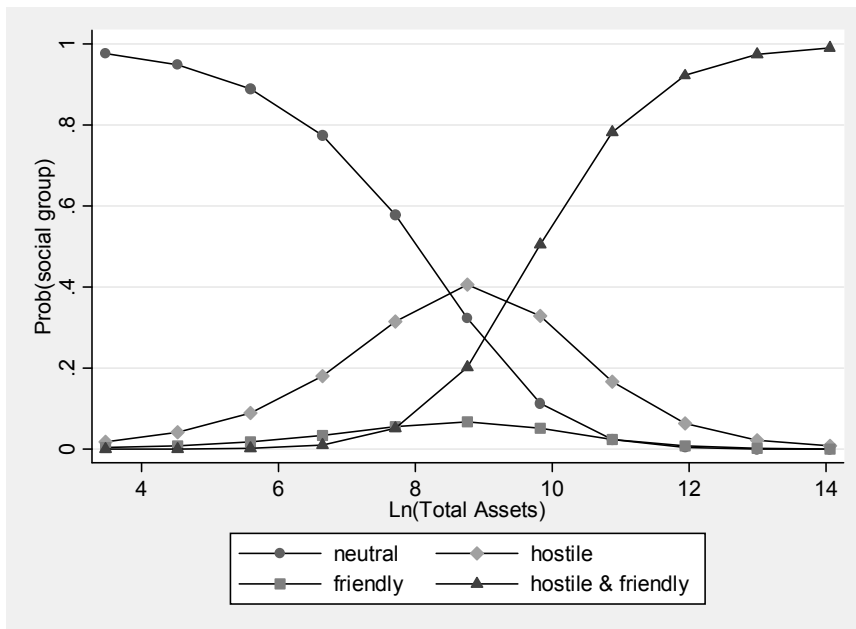
cost between inside management and outside shareholders, while the violation of ethics and social norms is not.

7. Alternative Interpretations

Due to the absence of strong identification, our results reflect association and not necessarily causality. This section discusses some alternative interpretations of our results.

Our classification of firms into four stakeholder groups is greatly affected by firm size. Larger firms are more likely to have both stakeholder friendly and hostile activities than smaller firms simply because they have more operations. Since pay-performance sensitivity is monotonically decreasing in firm size, it is plausible that pay-performance sensitivity captures some of the size effects. However, our results are robust to alternative size controls. If we divide firms into different size groups and add dummies for each group instead of adding total assets as a size control, our main results do not change.

Our results could suffer from the reverse causality problem. If corporate governance is an optimal response to stakeholder-shareholder conflicts, then it is not corporate governance that drives stakeholder related activities, but vice versa. For

instance, it is possible that firms with small potential for stakeholder-shareholder conflicts may find it optimal to have strong corporate governance, while firms with high potential for stakeholder-shareholder conflicts may find it optimal to have weak corporate governance. One example in this category is a classical breach of trust argument by Shleifer and Summers (1989). Provided that contracts are incomplete, implicit contracts are needed to motivate stakeholders to undertake welfare increasing relationship specific investments. Since these investments are inefficient ex-post, shareholders must rely on entrenched managers to provide a credible promise not to expropriate these stakeholders ex post. The fact that we use three years lagged corporate governance variables in our regressions makes this concern less plausible.

We cannot rule out that our results are not driven by omitted variables. If costs and benefits related to various stakeholder related corporate activities are firm-specific, then firms choose optimal stakeholder orientation based on their firm-specific cost-benefit analysis. If this firm-specific component is unobservable, but correlated to corporate governance, a cross-sectional analysis would results in biased estimates. This is the reason why we also check the robustness of our results with firm fixed effects regressions.

Our corporate governance measures might not reflect the true alignment of interests between shareholders and managers. There is some evidence that entrenched managers tend to determine their own compensation (see e.g. Bertrand and Mullainathan (2001)). If this is indeed the case, the interpretation of our results could differ. This concern is unlikely, however, since we also find similar results when we replace compensation based measures with GIM takeover index.

8. Conclusions

The goal of this paper is to determine whether stakeholder friendly and hostile corporate activities are consistent with the interests of shareholders. To this end, we classify firms into four different social groups representing stakeholder hostile, neutral, friendly and "friendly and hostile" firms. We then document how different corporate governance mechanisms vary across these social groups and estimate how the probability of belonging to one of these groups depends on corporate governance. We find that stakeholder friendly and stakeholder hostile firms are characterized by weak corporate governance, while stakeholder neutral firms are characterized by strong corporate governance. Our estimation results show that the probability of a firm belonging to stakeholder friendly is decreasing in pay-performance sensitivity and increasing in the number of anti-takeover defenses controlling for size, industry and other firm characteristics. The probability that a firm belongs to hostile or "friendly and hostile" is not affected by pay-performance sensitivity, but is increasing in the number of anti-takeover defenses. We also find that the probability of stakeholder hostile activity is positively related to the strength of corporate governance, but the effect is insignificant except in local and

global community areas. In local and global community areas stakeholders are not protected by various regulations, but rather by ethics and social norms. An interpretation of this result is that the violation of regulations is an agency cost, while the violation of ethics and various social norm is not.

Our results lend support for the idea that corporate governance should focus on shareholder rights, while stakeholder rights are best protected by various regulations. In the world of strong corporate governance, corporate activity is stakeholder neutral, that is, firms act in the interests of shareholders subject to various stakeholder regulations.

Tables

Table 1: **Descriptive statistics: firm characteristics**

Notes: The sample is constructed by merging KLD ratings data during the perid of 1995-2006 to Compustat, ExecuComp, IRRC and CDA/Spectrum databases. Total assets is data6, Employees refers to the number of employees (data29), ROA is a ratio of net income (data172) to total assets, Sales is data12, Tobin's Q is the book value of assets minu book value of equity plus market value of equity (data25*data24) divided to total assets. Debt is long-term debt (data9). CEO ownership refers to the percentage of shares held by an executive officer (shrown), CEO options granted is a number of options granted (numsecur) times the option delta divided by the number of shares outstanding, CEO options held is a number of options held (uexnumex and uexnumun) times adjustment factor of 0.7 divided by the number of shares outstanding. Director's ownership is a number of shares held by an average director. Explicit incentives refers to pay-performance sensitivity and is a sum of CEO ownership, options grant, options held and director's ownership. Board size is a number of board members. Independent directors is a share of directors that are classified as independent. Age of insiders is a mean age of directors. Inst ownership is a share of institutional ownership and HHI is a Herfindahl index calculated from 20 largest institutional owners. Gindex is GIM index that is calculated based on the number of takeover defenses a firm has.

	N	Mean	St. dev	Min	Median	Max
Total assets	8592	14.10	55.60	0.03	2.40	1264.03
Employees	8450	24.71	57.20	0.00	8.19	1400.00
ROA	8591	4.67	6.80	-38.39	4.45	25.61
Sales to Assets	8591	99.55	78.00	2.47	87.90	1596.06
Tobin's Q	8413	1.97	1.30	0.84	1.51	9.19
Debt to Assets	8570	18.45	14.60	0.00	17.08	61.73
CEO ownership	8302	1.78	3.90	0.00	0.27	29.98
CEO option's granted	8427	0.18	0.40	0.00	0.07	11.06
CEO option's held	8389	0.88	1.20	0.00	0.52	30.83
Director's ownership	5908	0.84	1.20	0.01	0.35	7.72
Explicit incentives	5747	37.50	47.10	1.15	20.41	280.53
Board size	6804	10.01	3.00	1.00	10.00	39.00
Indepent directors	6804	66.49	16.90	0.00	69.23	100.00
Age of insiders	6804	59.21	3.70	43.50	59.41	73.60
Institutional ownership	8091	43.87	12.90	15.51	43.85	76.22
HHI (20 largest institutions)	5131	215.11	149.80	15.94	187.49	1518.83
Gindex	7130	9.56	2.70	1.00	10.00	18.00

TABLE 2: **Descriptive statistics: internal corporate governance**

Notes: Table classifies firms into four groups based on their stakeholder orientation in a given area and presents the mean of various measures of internal corporate governance in each group. Local refers to local community, Employees refers to labour force, Environ refers to environment, Global refers to global community and Customers refers to product related ratings.

Area	Hostile	Neutral	Friendly	Friendly &Hostile	Hostile	Neutral	Friendly	Friendly &Hostile
	CEO ownership				Explicit incentives			
Aggregate	1.69	2.31	1.29	0.82	36.1	47.0	27.4	18.9
Local	1.05	2.18	1.15	0.35	27.4	44.5	24.3	12.8
Employees	1.54	2.16	1.08	0.75	32.9	44.3	23.8	15.9
Environ	0.75	2.24	1.25	0.31	23.9	44.8	25.7	10.8
Global	2.31	2.09	1.05	0.82	47.1	42.9	22.4	20.8
Customer	1.82	2.16	1.16	0.75	35.9	44.7	26.3	15.2
	Options granted				Board size			
Aggregate	0.16	0.24	0.13	0.10	10.2	9.0	10.9	11.9
Local	0.12	0.22	0.11	0.09	11.0	9.3	11.3	12.4
Employees	0.14	0.22	0.12	0.08	10.7	9.3	11.3	12.4
Environ	0.11	0.22	0.12	0.08	10.7	9.3	11.4	12.0
Global	0.20	0.21	0.11	0.11	9.6	9.4	11.5	11.8
Customer	0.16	0.22	0.13	0.08	10.3	9.2	11.2	12.0
	Options stock				Fraction of independent directors			
Aggregate	0.84	1.11	0.67	0.48	65.6	64.1	69.8	72.0
Local	0.81	1.04	0.59	0.43	68.8	64.3	70.7	73.0
Employees	0.78	1.05	0.59	0.44	65.7	64.5	71.0	71.6
Environ	0.63	1.06	0.63	0.36	72.3	63.9	70.0	74.6
Global	1.00	1.02	0.56	0.56	62.5	64.8	71.0	71.6
Customer	0.82	1.06	0.65	0.40	64.2	64.7	70.2	72.7
	Directors ownership				Age of insiders			
Aggregate	0.81	1.08	0.57	0.36	59.6	58.8	59.1	59.7
Local	0.65	1.01	0.47	0.30	59.9	59.0	59.3	60.4
Employees	0.75	1.01	0.47	0.32	59.9	59.0	59.3	60.1
Environ	0.56	1.02	0.50	0.26	60.2	59.0	59.2	60.4
Global	1.10	0.98	0.44	0.44	59.4	59.1	59.4	59.7
Customer	0.80	1.02	0.54	0.27	59.7	59.0	59.2	59.9

Table 3: **Descriptive statistics: external corporate governance**

Notes: See previous Tables.

Area	Hostile	Neutral	Friendly	Friendly &Hostile
Fraction of institutional ownership				
Aggregate	44.4	46.2	40.7	39.0
Local	42.1	45.8	40.0	38.4
Employees	44.9	45.7	40.0	38.2
Environ	42.9	45.9	40.6	37.0
Global	47.3	45.5	39.7	39.6
Customer	43.6	46.0	40.3	38.6
HHI ownership concentration				
Aggregate	218.5	232.4	191.3	166.6
Local	189.1	230.5	180.4	158.1
Employees	222.8	228.2	180.4	160.2
Environ	219.5	228.2	179.1	165.4
Global	235.4	227.1	177.9	166.4
Customer	208.1	231.3	184.0	162.8
Gindex				
Aggregate	9.8	9.1	10.0	9.9
Local	10.3	9.3	10.0	9.7
Employees	9.6	9.3	10.0	9.7
Environ	10.3	9.3	10.0	9.7
Global	9.4	9.4	10.0	9.4
Customer	9.8	9.3	9.9	10.0

TABLE 4: **Descriptive statistics: Firm characteristics across groups**

Notes: See previous Tables.

Area	Hostile	Neutral	Friendly	Friendly &Hostile	Hostile	Neutral	Friendly	Friendly &Hostile
	Total assets				Proportion in each group			
Aggregate	10.3	3.0	15.9	49.0	23.1	47.0	13.0	16.9
Local	12.9	4.9	26.1	79.0	4.5	65.7	25.1	4.8
Employees	10.6	4.9	25.1	79.8	6.3	63.8	24.7	5.2
Environ	8.9	5.0	35.3	32.6	6.3	63.8	22.7	7.2
Global	9.4	5.1	27.1	79.4	3.9	66.2	25.6	4.3
Customer	14.0	3.7	17.8	67.6	11.3	58.9	19.8	10.1
	Number of employees				Tobin's Q			
Aggregate	27.9	10.9	17.3	64.9	1.7	2.1	1.9	1.9
Local	24.8	15.9	38.3	75.4	1.4	2.0	1.9	1.6
Employees	43.4	13.8	30.7	109.7	1.7	2.0	1.9	1.8
Environ	30.4	15.1	35.0	72.7	1.5	2.1	2.0	1.7
Global	47.5	14.6	35.0	98.0	2.0	2.0	1.9	1.9
Customer	30.8	13.7	25.7	80.5	1.8	2.0	1.9	1.9
	Return on assets				Leverage			
Aggregate	4.2	4.9	4.9	4.4	21.3	16.5	17.2	20.9
Local	3.1	4.8	4.8	3.7	24.4	17.6	18.7	22.5
Employees	4.3	4.7	4.7	4.3	23.0	17.6	18.9	21.3
Environ	2.8	4.9	4.8	4.0	26.5	17.2	17.6	24.6
Global	4.9	4.7	4.6	4.7	18.7	18.0	19.0	21.4
Customer	4.6	4.7	4.8	4.4	20.6	17.6	19.3	19.4

TABLE 5: **Explicit incentives across firm size and industry**

Notes: Table classifies firms by industry and size and calculates the mean of explicit incentives in each category.

Ind-Size	0-10%	10-20%	20-30%	30-40%	40-50%	50-60%	60-70%	70-80%	80-90%	90-100%	Total
Food	60.8	85.2	79.0	65.6	16.9	26.4	22.3	13.4	10.7	18.4	42.6
Mines	31.8	40.4	17.0	29.7	6.8	9.6	14.8	10.2	40.2	19.2	21.9
Oil	42.5	31.0	20.9	22.0	16.1	20.5	22.2	6.6	13.2	11.1	20.8
Clths	63.7	44.8	50.9	34.8	34.9	46.0	24.0	84.8	89.7	72.3	55.8
Durbl	29.7	138.4	61.9	34.8	21.6	18.6	36.1	37.8	25.0	7.4	43.6
Chems	27.1	34.9	42.5	30.0	27.2	20.5	17.8	10.5	9.9	4.9	22.8
Cnsum	48.9	55.9	56.8	29.7	39.0	23.0	19.9	22.5	8.2	2.0	30.3
Cnstr	39.6	56.6	80.2	75.9	47.6	46.8	32.4	24.1	17.3	12.5	43.5
Steel	42.8	24.5	31.0	26.6	20.7	15.3	24.3	10.7	21.3	13.4	23.2
FabPr	75.1	46.6	59.2	45.8	44.3	29.5	21.1	13.7	7.2	6.1	35.7
Machn	59.3	54.5	37.8	43.1	34.8	31.4	37.3	28.5	22.7	12.2	35.6
Cars	64.5	109.1	31.0	25.3	27.2	16.5	9.0	14.8	12.1	3.8	33.4
Trans	62.5	69.3	38.0	52.7	22.4	22.3	25.8	14.7	11.0	7.2	35.0
Utils	17.8	11.9	13.0	20.2	15.4	6.4	33.3	6.9	4.8	4.5	13.2
Rtail	63.2	59.1	73.7	49.1	44.0	37.5	57.7	41.2	24.5	12.5	45.5
Finan	62.5	47.6	36.9	44.6	38.3	46.6	33.2	36.5	15.1	11.2	37.2
Other	76.3	60.5	55.0	48.3	44.0	43.0	47.5	33.5	36.9	15.8	46.1
Total	58.8	56.2	46.7	43.3	35.6	33.4	36.7	29.0	22.8	12.9	37.5

TABLE 6: **Marginal effects of multinominal logit**

Dependent variable: social activity; Base case: neutral

	Aggregate			Local community			Employees		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
Explicit incent	0.03	-0.03**	-0.02	0.00	-0.07***	0.00	0.00	-0.07**	0.00
	[0.93]	[2.36]	[1.05]	[0.00]	[2.19]	[1.25]	[0.31]	[2.35]	[0.28]
Tobin's Q	-0.04***	0.01*	0.01*	-0.00**	0.02**	0.00	-0.02***	0.02***	0.00
	[3.00]	[1.90]	[1.77]	[2.20]	[2.55]	[0.11]	[3.07]	[2.65]	[0.18]
Debt to Assets	0.04	-0.03	-0.06	0.00*	-0.10	0.00	0.02	-0.10	0.00
	[0.40]	[0.86]	[1.26]	[1.76]	[1.11]	[0.17]	[0.60]	[1.18]	[0.59]
ROA	0.39**	-0.01	0.13	0.01	0.07	0.02	0.13	0.06	0.02*
	[2.17]	[0.20]	[1.46]	[1.13]	[0.44]	[1.61]	[1.58]	[0.40]	[1.76]
ln(assets)	0.12***	0.02***	0.10***	0.00***	0.14***	0.01***	0.03***	0.12***	0.01***
	[10.61]	[4.06]	[12.61]	[5.62]	[12.93]	[4.62]	[6.19]	[12.02]	[4.94]
Observations	5696	5696	5696	5696	5696	5696	5696	5696	5696
Pseudo R2	0.25	0.25	0.25	0.26	0.26	0.26	0.25	0.25	0.25

	Environment			Global community			Customers		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
Explicit incent	0.00	-0.07**	0.00	0.01**	-0.06**	0.00	0.01	-0.06**	0.00
	[0.59]	[2.07]	[1.15]	[2.49]	[2.31]	[0.14]	[0.54]	[2.01]	[1.14]
Tobin's Q	-0.00***	0.02**	0.00	-0.00**	0.02***	0.00	-0.01	0.02*	0.00*
	[2.88]	[2.44]	[0.57]	[1.97]	[2.73]	[0.08]	[1.22]	[1.78]	[1.94]
Debt to Assets	0.00	-0.09	0.00	-0.02**	-0.09	-0.02*	0.02	-0.08	-0.01
	[1.15]	[1.03]	[0.03]	[0.48]	[1.18]	[0.08]	[0.14]	[0.94]	[1.58]
ROA	0.00	0.06	0.00	0.00	0.08	0.01	0.24**	0.14	0.00
	[0.61]	[0.36]	[0.85]	[0.17]	[1.11]	[0.17]	[2.18]	[0.84]	[0.45]
ln(assets)	0.00***	0.13***	0.00***	0.01***	0.11***	0.01***	0.05***	0.10***	0.01***
	[3.96]	[12.30]	[4.23]	[5.16]	[12.26]	[4.20]	[7.58]	[10.40]	[7.35]
Observations	5696	5696	5696	5696	5696	5696	5696	5696	5696
Pseudo R2	0.32	0.32	0.32	0.28	0.28	0.28	0.24	0.24	0.24

Notes: *, **, *** denotes significance at 10%, 5%, 1% level, respectively. Marginal effects are calculated at sample means. Standard errors are clustered at the firm level. All regressions include time and industry dummies. Mixed refers to "Friendly and Hostile" group.

TABLE 7: **Marginal effects of multinominal logit**

Notes: *, **, *** denotes significance at 10%, 5%, 1% level, respectively. Marginal effects are calculated at sample means. Standard errors are clustered at the firm level. All regressions include time and industry dummies. Mixed refers to "Friendly and Hostile" group.

Dependent variable: social activity; Base case: netural

	Aggregate			Local community			Employees		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
GIM	0.01	0.01**	0.01***	0.00***	0.02***	0.00**	0.00	0.01***	0.00***
	[1.15]	[2.01]	[3.32]	[2.61]	[3.31]	[1.97]	[0.83]	[2.84]	[2.98]
Tobin's Q	-0.05***	0.02***	0.01*	-0.00**	0.04***	0.00	-0.02***	0.04***	0.00
	[3.87]	[3.19]	[1.94]	[2.09]	[3.37]	[0.24]	[2.92]	[3.29]	[1.07]
Debt to Assets	0.07	-0.03	-0.09	0.01	-0.10	0.00	0.04	-0.12	0.00
	[0.82]	[0.37]	[1.60]	[1.33]	[0.93]	[0.49]	[1.24]	[1.07]	[0.34]
ROA	0.25	0.04	0.06	0.02	0.14	0.01	0.11	0.10	0.01
	[1.51]	[0.37]	[0.59]	[1.07]	[0.72]	[0.80]	[1.48]	[0.53]	[1.61]
ln(assets)	0.10***	0.03***	0.13***	0.00***	0.16***	0.01***	0.02***	0.14***	0.01***
	[8.69]	[3.46]	[14.67]	[4.83]	[13.48]	[6.03]	[5.44]	[12.54]	[6.30]
Observations	7026	7026	7026	7026	7026	7026	7026	7026	7026
Pseudo R2	0.24	0.24	0.24	0.24	0.24	0.24	0.23	0.23	0.23

	Environment			Global community			Customers		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
GIM	0.00	0.02***	0.00	0.00	0.02***	0.00	0.00	0.01**	0.00***
	[1.54]	[3.36]	[1.59]	[0.09]	[3.32]	[0.90]	[0.94]	[2.40]	[3.80]
Tobin's Q	-0.01***	0.04***	0.00	0.00	0.03***	0.00	-0.01**	0.03***	0.00**
	[2.78]	[3.41]	[0.99]	[1.27]	[3.22]	[0.93]	[1.96]	[2.74]	[2.14]
Debt to Assets	0.01	-0.10	0.00	-0.04*	-0.12	-0.01	0.02	-0.06	-0.03**
	[1.15]	[0.84]	[0.13]	[1.93]	[1.09]	[1.43]	[0.35]	[0.51]	[2.19]
ROA	-0.01	0.09	0.00	0.00	0.13	0.01	0.17	0.23	-0.02
	[0.82]	[0.43]	[0.80]	[0.08]	[0.69]	[0.67]	[1.63]	[1.20]	[0.94]
ln(assets)	0.01***	0.16***	0.00***	0.01***	0.15***	0.01***	0.04***	0.12***	0.03***
	[4.86]	[12.22]	[4.80]	[4.48]	[13.31]	[4.76]	[6.61]	[9.80]	[8.17]
Observations	7026	7026	7026	7026	7026	7026	7026	7026	7026
Pseudo R2	0.31	0.31	0.31	0.27	0.27	0.27	0.23	0.23	0.23

TABLE 8: **Multinominal logit: stakeholder hostile, friendly and hostile&friendly firms**

Dependent variable: social activity; Base case: netural

	Aggregate			Local community			Employees		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
Explicit incent	0.03	-0.57***	-0.28	-0.09	-0.46**	-0.66	-0.04	-0.48**	-0.23
	[0.23]	[-2.26]	[-1.10]	[-0.45]	[-2.17]	[-1.49]	[-0.18]	[-2.32]	[-0.47]
Tobin's Q	-0.15**	0.07	0.10	-0.37***	0.15**	0.04	-0.29**	0.13***	0.03
	[-2.51]	[1.09]	[1.09]	[-1.89]	[2.50]	[0.33]	[-2.77]	[2.25]	[0.23]
Debt to Assets	0.00	-0.65	-0.87	1.22	-0.63	0.06	0.27	-0.66	-0.68
	[0.01]	[-0.92]	[-1.22]	[1.58]	[-1.10]	[0.05]	[0.40]	[-1.14]	[-0.70]
ROA	2.10**	0.74	2.71**	2.08	0.49	3.98***	2.50***	0.62	4.24**
	[2.50]	[0.60]	[1.97]	[1.19]	[0.47]	[1.81]	[1.68]	[0.59]	[2.11]
ln(assets)	0.82*	0.75*	1.88*	0.78*	0.90*	1.69*	0.64*	0.84*	1.82*
	[15.89]	[9.65]	[21.07]	[9.82]	[13.38]	[12.97]	[8.99]	[12.83]	[14.40]
Observations	5696	5696	5696	5696	5696	5696	5696	5696	5696
Pseudo R2	0.24	0.24	0.24	0.25	0.25	0.25	0.24	0.24	0.24

	Environment			Global community			Customers		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
Explicit incent	0.07	-0.42**	-0.94	0.44**	-0.48***	-0.01	0.00	-0.41**	-0.49
	[0.29]	[-2.04]	[-1.21]	[2.10]	[-2.22]	[-0.03]	[0.00]	[-1.99]	[-1.28]
Tobin's Q	-0.68**	0.14**	-0.05	-0.02	0.15**	0.04	-0.07	0.10	0.21**
	[-2.48]	[2.38]	[-0.37]	[-0.23]	[2.70]	[0.25]	[-0.91]	[1.63]	[2.01]
Debt to Assets	0.97	-0.59	-0.08	-1.90**	-0.70	-2.58***	-0.05	-0.59	-1.42***
	[1.07]	[-1.03]	[-0.07]	[-1.90]	[-1.26]	[-1.92]	[-0.10]	[-0.95]	[-1.66]
ROA	-0.79	0.38	1.56	-0.30	0.59	2.15	2.97**	1.31	1.22
	[-0.55]	[0.35]	[0.88]	[-0.30]	[0.58]	[0.84]	[2.38]	[1.15]	[0.76]
ln(assets)	1.00*	0.85*	1.86*	0.80*	0.84*	1.94*	0.71*	0.82*	1.79*
	[9.77]	[12.87]	[13.17]	[8.37]	[13.30]	[13.83]	[10.79]	[11.96]	[18.29]
Observations	5696	5696	5696	5696	5696	5696	5696	5696	5696
Pseudo R2	0.30	0.30	0.30	0.27	0.27	0.27	0.24	0.24	0.24

Notes: *, **, *** denotes significance at 10%, 5%, 1% level, respectively. Standard errors are clustered at the firm level. All regressions include time and industry dummies. Mixed refers to "Friendly and Hostile" group.

TABLE 9: **Multinominal logit: stakeholder hostile, friendly and hostile&friendly firms**

Notes: *, **, *** denotes significance at 10%, 5%, 1% level, respectively. Standard errors are clustered at the firm level. All regressions include time and industry dummies. Mixed refers to "Friendly and Hostile" group.

Dependent variable: social activity; Base case: netural

	Aggregate			Local community			Employees		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
GIM	0.06**	0.09**	0.14*	0.13**	0.10*	0.11**	0.00	0.08**	0.14*
	[2.57]	[2.94]	[3.79]	[3.18]	[3.35]	[2.43]	[-0.10]	[2.80]	[3.32]
Tobin's Q	-0.19**	0.14**	0.11	-0.41***	0.19**	0.07	-0.30**	0.17**	0.14
	[-2.97]	[2.12]	[1.25]	[-1.72]	[3.26]	[0.59]	[-2.50]	[2.88]	[1.25]
Debt to Assets	0.15	-0.31	-1.02	1.06	-0.54	-0.64	0.66	-0.58	-0.40
	[0.34]	[-0.43]	[-1.40]	[1.15]	[-0.92]	[-0.61]	[1.00]	[-0.97]	[-0.44]
ROA	1.57***	1.12	1.34	2.19	0.77	1.69	2.37	0.72	3.34***
	[1.88]	[0.91]	[1.09]	[1.19]	[0.76]	[0.91]	[1.63]	[0.72]	[1.82]
ln(assets)	0.84*	0.74*	1.87*	0.74*	0.86*	1.64*	0.65*	0.83*	1.78*
	[15.80]	[9.61]	[19.66]	[9.29]	[13.51]	[15.22]	[9.57]	[12.89]	[15.11]
Observations	7026	7026	7026	7026	7026	7026	7026	7026	7026
Pseudo R2	0.24	0.24	0.24	0.24	0.24	0.24	0.23	0.23	0.23

	Environment			Global community			Customers		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
GIM	0.09**	0.10*	0.11***	0.02	0.09*	0.07	0.05***	0.08**	0.17*
	[2.10]	[3.38]	[1.95]	[0.36]	[3.31]	[1.19]	[1.66]	[2.67]	[4.17]
Tobin's Q	-0.50**	0.19**	-0.08	-0.12	0.18**	0.18	-0.10	0.15**	0.23**
	[-2.49]	[3.26]	[-0.61]	[-0.93]	[3.15]	[1.17]	[-1.34]	[2.51]	[2.35]
Debt to Assets	0.92	-0.49	-0.26	-2.16**	-0.70	-2.04	0.06	-0.35	-1.84**
	[1.01]	[-0.82]	[-0.23]	[-2.28]	[-1.21]	[-1.61]	[0.12]	[-0.55]	[-2.17]
ROA	-0.92	0.44	1.22	0.35	0.69	1.78	2.30***	1.57	-0.69
	[-0.71]	[0.42]	[0.83]	[0.18]	[0.71]	[0.77]	[1.94]	[1.44]	[-0.48]
ln(assets)	1.02*	0.83*	2.00*	0.86*	0.83*	1.92*	0.67*	0.78*	1.79*
	[10.36]	[12.58]	[13.67]	[8.45]	[13.49]	[14.02]	[10.76]	[11.43]	[16.76]
Observations	7026	7026	7026	7026	7026	7026	7026	7026	7026
Pseudo R2	0.30	0.30	0.30	0.26	0.26	0.26	0.22	0.22	0.22

TABLE 10: **Conditional logit: stakeholder hostile, friendly and hostile&friendly firms**

Notes: *, **, *** denotes significance at 10%, 5%, 1% level, respectively. Standard errors are clustered at the firm level. All regressions include time dummies. Mixed refers to "Friendly and Hostile" group.

Dependent variable: social group=1, neutral=0

	Aggregate			Local community			Employees		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
Explicit incent	-0.12	0.26	-2.08	2.15**	0.07	3.84	-0.55	0.26	0.48
	[0.32]	[0.35]	[1.35]	[2.29]	[0.13]	[0.82]	[0.83]	[0.42]	[0.39]
Tobin's Q	-0.10	0.10	0.06	0.01	0.17	0.89	-0.21	0.12	0.05
	[0.83]	[0.60]	[0.21]	[0.03]	[1.40]	[1.08]	[1.05]	[0.94]	[0.12]
Debt to Assets	0.15	-3.15	3.90	-10.69***	-1.42	4.77	0.76	-0.28	-0.86
	[0.14]	[1.62]	[1.18]	[3.04]	[1.10]	[0.84]	[0.39]	[0.21]	[0.20]
ROA	0.63	-2.76	3.28	6.09	-0.76	-7.47	3.47	-1.00	9.75
	[0.38]	[1.09]	[0.71]	[1.28]	[0.41]	[0.54]	[1.38]	[0.54]	[1.20]
ln(assets)	0.46	-0.30	-0.92	0.87	0.05	-0.27	0.69	-0.20	0.34
	[1.37]	[0.57]	[1.25]	[1.07]	[0.16]	[0.29]	[1.38]	[0.58]	[0.41]
Observations	1405	476	234	338	956	103	664	921	159
Pseudo R2	0.16	0.06	0.32	0.18	0.05	0.32	0.25	0.04	0.32

	Environment			Global community			Customers		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
Explicit incent	-0.33	-0.05	-13.21	1.01	-0.29	-1.77	-0.19	-0.01	-2.08
	[0.29]	[0.08]	[1.40]	[1.42]	[0.60]	[0.23]	[0.43]	[0.01]	[1.36]
Tobin's Q	0.30	0.09	0.78	-0.29	0.12	0.99	0.14	0.09	-0.14
	[0.53]	[0.77]	[0.45]	[1.21]	[0.96]	[0.68]	[0.71]	[0.65]	[0.36]
Debt to Assets	-6.03*	-1.31	6.84	-0.96	0.89	4.66	-1.38	-2.62*	10.36*
	[1.78]	[0.97]	[0.93]	[0.35]	[0.71]	[0.38]	[0.89]	[1.79]	[1.71]
ROA	2.74	-1.52	3.58	3.33	-0.09	9.92	-3.81	-2.91	6.06
	[0.58]	[0.80]	[0.31]	[0.92]	[0.05]	[0.38]	[1.29]	[1.38]	[0.96]
ln(assets)	0.76	-0.14	-3.98**	1.78**	-0.41	14.15**	0.44	-0.59	-0.14
	[0.63]	[0.40]	[2.20]	[2.17]	[1.30]	[2.21]	[0.99]	[1.50]	[0.11]
Observations	225	931	94	436	1061	90	657	802	148
Pseudo R2	0.26	0.04	0.5	0.5	0.05	0.73	0.19	0.04	0.43

TABLE 11: **Conditional logit: stakeholder hostile, friendly and hostile&friendly firms**

Notes: *, **, *** denotes significance at 10%, 5%, 1% level, respectively. Standard errors are clustered at the firm level. All regressions include time dummies. Mixed refers to "Friendly and Hostile" group.

Dependent variable: social group=1, neutral=0

	Aggregate			Local community			Employees		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
GIM	0.08	0.05	0.24	0.25	0.13*	0.61***	-0.13	0.08	0.72**
	[0.83]	[0.48]	[1.15]	[1.41]	[1.76]	[2.78]	[1.08]	[1.17]	[2.36]
Tobin's Q	-0.05	0.04	0.37*	-0.01	0.15	1.34**	0.27	0.12	0.59
	[0.42]	[0.38]	[1.79]	[0.04]	[1.62]	[2.56]	[1.14]	[1.29]	[1.42]
Debt to Assets	0.38	-2.28*	7.48***	-4.08	-0.16	4.99	-3.08**	0.98	-1.29
	[0.38]	[1.77]	[3.07]	[1.53]	[0.17]	[1.64]	[2.04]	[1.08]	[0.42]
ROA	0.04	-1.73	4.79	1.97	-0.50	-5.39	3.73	-0.66	4.56
	[0.03]	[0.95]	[1.60]	[0.46]	[0.37]	[1.05]	[1.34]	[0.50]	[0.73]
ln(assets)	1.15***	0.05	0.94*	-0.11	0.47**	1.40*	2.03***	0.39*	3.02***
	[4.10]	[0.18]	[1.73]	[0.15]	[2.12]	[1.89]	[4.42]	[1.84]	[3.23]
Observations	1891	913	459	505	1750	244	965	1739	271
Pseudo R2	0.2	0.05	0.28	0.23	0.05	0.27	0.27	0.03	0.43

	Environment			Global community			Customers		
	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed	Hostile	Friendly	Mixed
GIM	-0.15	0.10	0.64**	-0.56**	0.04	-1.99	0.25**	0.06	-0.13
	[0.61]	[1.35]	[2.11]	[2.19]	[0.49]	[1.49]	[2.22]	[0.72]	[0.44]
Tobin's Q	0.70**	0.11	1.01	-0.53**	0.13	0.03	0.16	0.02	0.35
	[2.03]	[1.28]	[1.43]	[2.05]	[1.37]	[0.02]	[0.92]	[0.19]	[1.29]
Debt to Assets	-3.67	-0.39	4.11	0.19	1.45	7.77	1.69	-1.16	8.75***
	[1.51]	[0.42]	[1.10]	[0.07]	[1.62]	[1.11]	[1.28]	[1.15]	[2.67]
ROA	-2.50	-1.42	-1.66	5.00*	-0.62	3.31	-0.97	-1.06	5.94
	[0.75]	[1.05]	[0.26]	[1.65]	[0.46]	[0.28]	[0.41]	[0.72]	[1.42]
ln(assets)	3.24***	0.11	0.38	1.13	0.40*	10.30**	0.90**	0.12	2.01**
	[4.45]	[0.51]	[0.46]	[1.58]	[1.86]	[2.39]	[2.42]	[0.50]	[2.38]
Observations	460	1617	194	556	1892	178	1067	1456	301
Pseudo R2	0.24	0.03	0.38	0.52	0.04	0.79	0.19	0.03	0.38

PAPER 2

Corporate Governance and Workplace Safety

ABSTRACT. This paper examines how the weakening in corporate governance affects workplace safety. We use anti-takeover laws in the US in the 1980s as a source of variation in corporate governance. Our measures of workplace safety are the number of violations of OSHA workplace safety regulation, penalties paid for these violations, the number of accidents and employees' complaints about their workplace safety. We find that firms affected by the regulation presented significantly more workplace safety violations and penalties than otherwise similar firms that were not affected by the regulation. Accidents and complaints tend to decrease as a result of the anti-takeover regulation, but the results are not entirely robust. We also document that the increase in workplace safety violations was significantly smaller in unionized firms. This suggests that unions can play an important role in curbing managerial discretion.

Keywords: Corporate Governance, Stakeholders, Hostile Takeovers
JEL codes: G32, G34

1. Introduction

Existing literature in corporate governance has focused on the agency relationship between either the manager and shareholders or a controlling shareholder and minority shareholders.[1] There is now common understanding that managerial discretion can be deterimental to shareholder value and that controlling shareholder might take an action that is harmful to minority shareholders.[2] But relatively little is known about the role of stakeholders other than shareholders in corporate governance. For instance, how does managerial discretion affect stakeholders such as employees, customers and suppliers? Are their interests aligned with those of

[1] See Becht, Bolton, and Roell (2003), Shleifer and Vishny (1997).
[2] See Tirole (2001). To be complete, note that it is the inefficient outcome, not the simple wealth transfer that makes the agency problem important.

manager or shareholders? Answers to these questions can provide valuable insights about the channels that translate corporate governance into stock prices. In addition, they would be helpful in stakeholder-shareholder debate.[3]

The limited focus on non-financial stakeholders in the existing literature is largely due to the measurement problem: how to measure the welfare of these stakeholders as opposed to shareholder value.[4] There are no easy solutions to this measurement issue. Various indicators capturing some aspects of the well-being of non-financial stakeholders exist, but data is not readily available. For instance, Bertrand and Mullainathan (2003) and Cronqvist, Heyman, Nilsson, Svaleryd, and Vlachos (forthcoming) use workers' wages to assess how the weakening of manager-shareholder alignment affects workers. Recently, more indicators of stakeholders' welfare have become available. Annual corporate reports include nowadays sections on various stakeholders and rating agencies collect and systemize stakeholder-related information.[5] While this data is useful for constructing various rankings, their short time coverage limits the set of possible identification strategies required to obtain credible estimation results.[6]

In this paper we use a new datasource and focus on a novel aspect of workers' welfare: workplace safety. Our aim is to examine empirically how the alignment of interests between the two parties, manager and shareholders, affects the welfare of the third party, workers, via workplace safety. To measure workplace safety, we use detailed data on firms' compliance to US Occupational Safety and Health Administration regulation. We use the number of serious, repeated and willful violations, the amount of penalties paid for these violations together with the number of work related accidents and workers' complaints as economically meaningful indicators of workplace safety.

Manager-shareholder alignment becomes a determinant of workplace safety when managerial preferences with respect to workplace safety differ from those of shareholders. We consider two competing hypotheses about managerial and shareholder preferences. According to the quiet life view, managers tend to care more about workers than shareholders. If managers derive private benefits from high workplace safety to reduce conflicts with workers and avoid regulatory and public scrutiny, they tend to over-prioritize workplace safety compared to what is optimal for shareholders. Since the cost of this excessive workplace safety is

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[3] See Tirole (2001) and Jensen (2005). In the most fundamental level, this debate is about how to reach the most efficient outcome. Proponents of stakeholder theory argue that managers' sole focus on shareholder value leads to inefficiency since it does not internalise negative externalities on other stakeholders. Opponents might acknowledge some inefficiencies related to shareholder value maximization, say due to imperfect governmental regulation or asymmetric information problems. However, they would argue that shareholders' value maximisation is still the best available alternative.

[4] Tirole (2001) pp 25 mentions the measurement issue.

[5] See Juks (2010a) and Kacperczyk (2007) for this approach.

[6] KLD was the first rating agency in US to provide data on corporate social performance. Its ratings start in 1995 covering the S&P 500.

borne by shareholders, managers can exercise their preferences only due to weak manager-shareholder alignment.

An alternative view emphasizes managerial private costs rather than private benefits. If the cost of effort that management exerts to provide safe working environment is borne by management, but the benefits accrue mainly to shareholders, managers might choose workplace safety that is worse than the one that maximizes shareholders' wealth. Since shareholders bear the cost of sub-optimally low workplace safety, managers can shirk only due to weak manager-shareholder alignment.

To discriminate between these hypotheses, this paper exploits the anti-takeover regulation in 30 US states between 1985 and 1991 as a source of exogenous shock to management-shareholders alignment.[7] These laws restrained the market for corporate control via restricting the set of possible activities that raiders could undertake after successful takeovers. These restrictions made debt financing harder and reduced the overall ex-ante payoff to takeovers. Overall, this regulation effectively harmed an important disciplining device and tilted the balance of power between manager and shareholders towards manager.

Two features of these antitakeover laws facilitate credible identification. First, these laws were not adopted simultaneously by all the states. The staggered nature of these laws reduces the possible bias due to the pre-treatment differences in control and treatment groups since a typical firm belongs to both control and treatment group depending on the year. Second, the laws affected firms based on their state of incorporation rather than the state of the location. This feature allows us to avoid the usual pitfall in studies relying on the regulatory changes. Based on the political economy of laws, the adoption of a legislation is likely to depend on the state-specific, partly unobserved economic and political trends. If these state specific trends are also related to the variable of interests, estimation results are biased. For instance, it is plausible that the adoption of the anti-takeover legislation was a political response to deteriorating labor market and other unobservable contemporaneous economic shocks in each state. If the deteriorating local conditions reduced also workplace safety, then it is impossible to distinguish the effect of the legislation from the effect of the local shocks on workplace safety. To the extent that firms located in a given state vary across their state of incorporation, both treatment and control group can be restricted to have the same state of location in our paper. For example, firms located in California but incorporated in the states that already passed the law are compared with firms located also in California but incorporated in non-passing states. Similar to the state of location, our empirical framework controls for unobserved industry specific trends. We also include time varying union and size dummies to allow for union status and size specific shocks.

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[7] This identification stategy is not new and has been exploited by a great deal of papers (see Bertrand and Mullainathan (2003) and Giroud and Mueller (2007) for most recent examples).

We find that treated firms presented significantly more workplace safety violations than otherwise similar firms that were not affected by the regulation. We do not find statistically robust effects on accidents or complaints. Our results lend support for the idea that the weakening of manager-shareholder alignment allows managers to care less about safety regulation. We also find that unions play an important role in protecting workers. Even if managers tend to care less about workplace safety after the takeover legislation, the presence of unions limits considerably managerial discretion.

Our findings have important implications for stakeholder-shareholder debate. Our results suggest that an increase in managerial discretion can harm rather than benefit certain stakeholders. In other words, there is a natural alignment between shareholders and stakeholders in some areas. In addition, to the extent that unions limit managerial discretions, union and shareholders' preferences are congruent in some areas. Our results cast also some doubt over the popular view that regulatory wrong-doing is the result of shareholders' extensive pressure on managers. At least with respect to workplace safety violations, this pressure is beneficial rather than harmful. Our results also have important policy implications about how to protect stakeholders. If workplace safety is a major concern, the policy that limits managerial discretion and strengthens shareholder power vis-a-vis manager is likely to yield positive results.

Our paper is related to studies in corporate governance that focus on shareholders and their wealth. The most prominent example is Gompers, Ishii, and Metrick (2003) who study the effect of corporate governance on equity prices. While this strand of literature is helpful in understanding the consequences of weak and strong corporate governance on shareholder value, it falls short in explaining the mechanisms that translate the quality of corporate governance into stock prices. More recently, Bertrand and Mullainathan (2003) and Cronqvist, Heyman, Nilsson, Svaleryd, and Vlachos (forthcoming) demonstrate how the weakening of corporate governance affects shareholder wealth via workers. Both papers find that entrenched managers tend to overpay their workers. Bertrand and Mullainathan (2003) interpret this result as an evidence that managers tend to undertake activities that allow them to enjoy quiet life.

Our paper contributes to this literature in two ways. First, it illustrates that the compliance of a stakeholder regulation is subject to agency problems and thus provides an additional channel for corporate governance to affect equity prices. Second, it can discriminate between alternative interpretations of the empirical finding that managers of plants protected by anti-takeover regulation tend to pay more to their workers than managers of plants not affected by the regulation (see Bertrand and Mullainathan (2003)). The usual quiet life explanation is that managers shielded from takeovers overpay their workers to enjoy peaceful life. An alternative explanation is that an increase in wages represents the compensation for the changed working environment. In principle, part of the increase in wages

in plants affected by anti-takeover legislation could reflect the fact that the anti-takeover regulation led to worsened workplace safety and rational workers demand compensation for riskier workplaces. Since we do not find any effect on accidents, we believe an increase in wages found by Bertrand and Mullainathan (2003) is unlikely to reflect compensation for unsafe working environment.

The rest of the paper is organized as follows. Section 2 discusses the theoretical link between corporate governance and workplace safety. Section 3 presents the data. Section 4 discusses empirical identification in detail. Section 5 presents the main findings and Section 6 concludes.

2. Motivation and Related Literature

2.1. Corporate Governance and Workplace Safety. Without agency problems, firms choose their optimal level of workplace safety by comparing marginal costs with marginal benefits. The benefits of increased workplace safety include lower likelihood of accidents and costs associated with them (e.g. loss of reputation, penalties and liabilities, worker replacement). Since rational workers require compensation for unsafe workplaces, another benefit of improved workplace safety is reduced labour cost. The costs of increased workplace safety include expenditure on control systems, investments in safer technology, training costs, monitoring and potentially lower productivity. Monitoring and building up safe working culture are especially important since many workplace injuries result from unsafe behavior or practice (see Filer and Golbe (2003)).

In presence of agency problems, the level of workplace safety becomes a function of corporate governance. A rational manager compares his own private benefits and costs associated with various levels of workplace safety and chooses the one that is in her best interests.[8] Since corporate governance alters managerial benefits and costs associated with workplace safety, it also affects managerial optimal choice of workplace safety. Depending on managerial preferences and the specificity of workplace we can discriminate between two alternative views.

According to quiet life view, managers tend to undertake activities that allow them to enjoy quiet life.[9] If managers derive private benefits from high workplace safety to reduce conflicts with workers and avoid regulatory and public scrutiny, they tend to over-prioritize workplace safety compared to what is optimal for shareholders.[10] Since the cost of this excessive workplace safety is borne by shareholders, managers can exercise their preferences only due to weak corporate governance.

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[8] By the definition of agency problem, the level of workplace safety that manager prefers is different from the level that maximizes shareholder wealth.

[9] The expression "quiet life" originates from Bertrand and Mullainathan (2003). According to them, "managers appear to care more about workers, especially white collar workers, than shareholders do" (see p. 1046).

[10] Note that this does not necessarily imply that it is also inefficient from the social point of view.

An alternative view emphasizes managerial private costs rather than private benefits. If the cost of effort that management exerts to provide safe working environment is borne by management, but the benefits accrue mainly to shareholders, managers might choose workplace safety that is worse than the one that maximizes shareholders' wealth. Since shareholders bear the cost of suboptimally low workplace safety, managers can shirk only due to weak corporate governance.

The difference between these two views does not necessarily come from different assumptions about managerial preferences, but rather from the specificity of a workplace. In quiet life case, we implicitly assume that the costs of increased workplace safety are not personal and can be easily transferred to shareholders. For instance, hiring a safety expert would be costly to shareholders, but not to managers. In the alternative case, however, we assume that the costs are mainly managerial specific and cannot be easily transferred to shareholders. For instance, implementing a proper working culture and norms to reduce unsafe behavior and practises may require top managers personal effort in the form of leadership and commitment.

An implicit assumption behind our theorical arguments above is that there are no corporate governance failures. We assume that strong corporate governance serves shareholder's interests. This, however, might not necessarily be the case. Stein (1988) argues that rational managers can act myopically and destroy shareholder value if there is excessive capital market pressure or short-term pay for performance. This is relevant to our case, since the profitability of investments in workplace safety are hard to evaluate and the payoff accrues steadily over time (similar to R&D expenditure). A fall in the threat of takeovers could reduce managerial myopia and lead to improved workplace safety, benefiting shareholders. This result is however rather unlikely since most studies on the effect of these laws on stock prices find a negative stock price reaction (see Bertrand and Mullainathan (2003)).

The effect of corporate governance on workplace safety is also likely to depend on the presence of labor unions. Unions are likely to limit managerial discretion if it is detrimental to workers. Thus, if the weakening of corporate governance tends to lower workplace safety, the effect should be smaller in unionized compared to non-unionized plants.

In addition to the explanations presented above, there are various alternative explanations why corporate governance affects workplace safety.

Pagano and Volpin (2005) argue that managers might find it optimal to offer generous long term wage contracts to form alliances with workers against potential raiders. One can extend their arguments to safety investments. First, to the extent that safety investments are irreversible, management can reduce the firm's attractiveness to a raider by increasing workplace safety. Secondly, to preserve safe working environment workers might resist potential takeovers by refusing to sell their shares to the raider. These arguments would predict that an adoption

of antitakeover legislation would reduce workplace safety. The reason is that antitakeover legislation effectively reduces takeover threat and thus weakens the need for worker-manager alliances. However, Bertrand and Mullainathan (2003) and Cronqvist, Heyman, Nilsson, Svaleryd, and Vlachos (forthcoming) do not find evidence that supports worker-manager alliances.

Filer and Golbe (2003) argue that investments in workplace safety might be heavily dependent on internal funds. They argue that information asymmetry about the profitability of safety investments is likely to be particularly high. If the adoption of antitakeover legislation reduced internal funds, then we would expect the decline in workplace safety.

3. Data

3.1. Data Sources and Sample Construction. We obtain workplace safety data from US Occupational Safety & Health Administration (OSHA). OSHA was established in 1970 with the aim to reduce injures, illnesses and deaths on the job in America. OSHA develops mandatory job safety and health standards and enforces them through worksite inspections.

Our violation and accident data comes from OSHA inspection reports. These reports include inspected establishment's official name, address, industry code, union status. The inspection outcome is recorded as the number of workplace safety violations and the amount of penalties paid for these violations. Each violation recorded during the inspection is also categorized as serious, willful, repeated or other.[11]

OSHA inspections come in different forms, and this information is also documented in the inspection report. An inspection could be complete, partial or records-only[12] depending on how comprehensive it is. In addition, inspection targets are selected in two different ways. In the first group of inspections, called planned inspections, targets are selected randomly within a given industry and location. In the second group inspections are either motivated from the occurence of an accident or a complaint filed by the employee.

Information on accidents comes directly from businesses. The federal act requires that all employers must report to OSHA if there is a death of an employee or a hospitalization of three or more employees as a result of work-related incident. This feature differentiates accident data from inspection data. Inspection data is only available for businesses that are inspected by OSHA while accident data is observable for all employers that obey the disclosure regulation. It is also

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[11] A serious violation exists if a death or serious physical harm could result from the violation. A willful violation exists if an employer was aware of the violation, but made little or no effort to avoid the violation. A repeated violation exists if an employer has been cited previously for a substantially similar condition.

[12] Record-only inspection means that first initial injury logs are examined and then full inspection follows only if the injury rate exceeded some threshold.

noteworthy that announcements of accidents to OSHA do not automatically result in violations or penalties. OSHA is mainly concerned about unsafe working conditions, but accidents or serious injuries can also result from unsafe behavior or practices.

As noted, OSHA inspections are carried out at the establishment level. An establishment could be a division, plant or factory belonging to some firm. For simplicity, we use plant as a generic name when refering to OSHA inspection targets. Focusing on the industries with SIC between 100 and 4999, we match plants inspected by OSHA with firms in Compustat to obtain the state of incorporation and the balance sheet data. Since OSHA safety data identifies plants by their names, the match between OSHA and Compustat[13] is based on names.[14]

The state of incorporation is a key variable that determines which anti-takeover legislation applies to a given firm. Compustat reports the state of incorporation for the latest available year. However, Bertrand and Mullainathan (2003) provide some evidence that changes in the state of incorporation are rare. The dates when different states passed their business combination laws are taken from Bertrand and Mullainathan (2003).

3.2. Definition of Variables. Our aim is to measure workplace safety. We rely on violation and inspection data to obtain economically meaningful measures of workplace safety. We use the sum of serious, willful and repeated violations, the penalties paid for these violations together with accidents and workers' complaints as our variables of interest.

For various specifications, we make use of the following balance sheet variables: total assets (data6), long term debt (data9), sales (data12), EBITDA (data13), closing stock price (data24), common shares outstanding (data25), the number of employees (data29), capital expenditure (data30), debt in current liabilities (data34), labour and related expenses (data42), common equity (data60), deferred taxes (data74). We define size as natural logarithm of total assets or sales, return on assets as a fraction of EBITDA in total assets, leverage as long term debt plus debt in current liabilities to total assets, Tobin's Q as a ratio of total assets minus common equity and deferred taxes plus the market value of equity to total assets.

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[13] Villalonga (2000) matches establishment-level data from the Census Bureau's Business Tracking Series to firm-level data from Compustat. This matched file is available at the Center for Economic Studies. Unfortunately, the use of the file requires the approval of the US Bureau of the Census.

[14] Our matching algorithm has two stages. In the first stage, we use standardized, but otherwise complete names to perform the match between OSHA and Compustat. Standardizing means that we use lowercap names, eliminate extra blanks, commas, dots and alike. In the second stage, we eliminate the establishments that were successfully matched, and match the remaining establishments with Compustat firms if the only difference between the establishment name and Compustat name is the ending "Inc".

We also use Herfindahl index as a measure of product market competition. We follow Giroud and Mueller (2007) and use 3-digit SIC code to capture a relevant product market. We use both sales and total assets to calculate market shares.

3.3. Descriptive Statistics.

3.3.1. *Sample Characteristics.* The sample description is presented in Table 1. The sample covers 19753 inspections carried out by OSHA during the period of 1978 to 1995. 10840 inspected plants belong to 2181 firms. Since inspections are conducted irregularly, we have an unbalance panel. The total number of plant- and firm-years are 16508 and 7464, respectively. As mentioned above, inspections vary in their type and scope. Out of all the inspections, 9% were motivated by the occurrence of accidents reported by plants, 52% by workers' complaints and 39% were planned inspections that selected the targets randomly within a given area and industry. As for the intensity of the inspections, 94% were complete or partial while the remaining 6% were records only.

Table 2 compares our sample firms with Compustat firms. Our sample firms tend to be larger in terms of assets, sales and the number of employees. They are on average more profitable, have smaller Tobin's Q and leverage ratio than Compustat firms. The differences in labour costs per person and the level of competition measured by Herfindhal index are, however, small.

Tables 3 and 4 presents the state of incorporation and the state of location of our sample plants. The business combination laws were passed in 30 different states during the period of 1985-1991. New York was the first state that passed the law in 1985. Half of the plants belong to firms that are incorporated in the state of Delaware, while their location is rather evenly distributed across different states. None of the states is the state of the location for more than 10% of the plants in the sample. The incomplete congruence between the state of location and the state of incorporation is clearly present in our sample. Only 21% of the plants are located and incorporated in the same state.

3.3.2. *Violations and Penalties.* Tables 5 and 6 provide detailed information about violations and penalties. We divide our sample into two groups: inspections of plants that are incorporated in states that never passed BC law ("never" group) and inspections of plants that are incorporated in states that adopted eventually BC law ("eventually BC" group) during the sample period.

The proportion of inspections that detected at least one serious, willful and repeated violation is 32% in the never group and 38% in BC group. There is consistently higher violation rate in BC group compared to non-BC group controlling for the type or scope of inspections. Data also shows that the occurrence of an accident does not automatically imply that the plant where the accident occurred violated OSHA regulation. On average, only half of the plants where accidents occurred violated OSHA safety regulation. In addition, the violation rate does not

vary significantly across different types of inspections, but it does vary significantly across inspections with different intensities. On average, 50% of inspections that were complete in scope detected some violation, while the proportion is significantly lower in inspections that were partial or records only. This finding is consistent with the following interpretations. First, inspection scope is an important determinant of violation detection. Second, inspectors choose to carry out a more comprehensive inspection in plants that are more likely to violate safety regulation.

Since there might be more than one violation per inspection, we also present data on the absolute number of violations. Looking at the subset of inspections that detected at least one violation, the mean number of violations is 3.7 in the entire sample, and the mean is higher in BC group than in non-BC group.

The proportion of inspections that resulted in positive penalties is marginally lower than the proportion of inspections that detected violations. This confirms that not all the violations resulted in monetary penalties, but 93% of violations did have monetary consequences.

A plant that has at least one serious, willful or repeated violation faces on average the penalty of 2352 dollars in 1978 prices. There is a significant variation in penalties across different types of inspections, while the scope of the inspection matters less. Violations detected during the accident motivated inspections face significantly larger penalties than other violations. Furthermore, violating plants in BC group tend to receive on average significantly higher penalties than violating plants in non-BC group, even if one controls for the scope and type of the inspection. The difference becomes smaller, but does not disappear when we control for the number of violations.

The amount of penalties paid seems to vary also across different types of violations. Willful violations tend to invoke significantly larger amounts of penalties compared to serious and repeated penalties.

4. Identification

The ideal analysis of the effect of corporate governance on workplace safety is a controlled experiment in which weak and strong corporate governance mechanisms are randomly assigned to firms. The effect of interest would then be easily obtained by comparing various measures of workplace safety among firms with weak and strong corporate governance.

In absence of such an experiment, the task is to find circumstances where corporate governance is as if randomly assigned. In corporate governance, where even small scale experiments are infeasible, regulatory changes provide a credible identification strategy. This paper relies on antitakeover regulation in the 1980s to obtain credible estimation results. Other papers have used a similar setup (see e.g. Bertrand and Mullainathan (2003) and more recently Giroud and Mueller (2007)).

Business combination (BC) laws effectively limited takeover activity in the end of 1980s. These laws constrained the set of possible activities that raiders could undertake after a successful takeover. Post-takeover activities such as merger and sale of assets were prohibited for the period of three to five years unless the board voted otherwise before the takeover. By reducing the overall ex-ante payoff to takeovers, these laws harmed an important disciplining device and tilted the balance of power between the manager and shareholders towards the manager. Bertrand and Mullainathan (2003) and others provide evidence that these laws indeed had a significant deterrence effect on takeovers.

Since our measures of workplace safety are in the form of count variables, we specify the fixed effects Poisson regression with the following conditional mean function:

$$E[y_{ijzklt}|X] = \exp[\alpha_j + \alpha_t + \rho BC_{kt} + \gamma' X_{ijzklt}]$$

where i and j index firms and plants, z indexes inspection, t indexes time, k indexes state of incorporation, l indexes state of location, y_{iklt} is the dependent variable of interest (e.g. the number of safety violations), a_j and a_t are plant and time fixed effects, X_{ijzklt} is a vector of control variables and BC_{kt} is a dummy variable that equals one if the antitakeover law has been passed by time t in state k and ε_{ijzklt} is the error term. Plant fixed effects control for unobservable time invariant plant characteristics and time fixed effects control for general time trends. Our variable of interest is ρ.

To obtain the consistent estimate of ρ, we use Hausman, Hall, and Griliches (1984) transformation that eliminates plant fixed effects, and estimate the transformed regression by quasi-maximum likelihood (QML) (see Wooldridge (2002)).[15] Consistency of the resulting estimator requires the correct specification of the conditional mean and does not depend on the distributional assumptions (see Wooldridge (1999)).

Our conditional mean function assumes that workplace safety would evolve in parallel for plants in the treatment and control group in the absence of the treatment[16]. Two features of BC laws make this assumption plausible. First, these laws were passed on the state level and each state adopted these laws at different points in time. The staggered nature of the regulation enables a given plant to act both as a control and treated depending on the year. The latter reduces the pre-treatment differences between the control and treatment group making the parallel trend assumption more credible (see Meyer (1995)). Second, the laws affected plants based on their state of incorporation rather than the state of location. The latter makes it possible to rule out the potential bias arising

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[15] This allows us also to deal with the overdispersion problem of Poisson models by using robust standard errors.

[16] More specifically, since we have log-linear specification, we assume that the growth rate of workplace safety evolves in parallel.

from the interaction of local conditions and the adoption of the regulation. To illustrate, suppose antitakeover laws affected firms based on their state of location. It is plausible that the adoption of antitakeover laws were lobbied by local firms and that their success depended on the strength of the local economy. Since local economic conditions affect both local firms and the adoption of legislation, the parallel trend assumption is clearly violated. In our framework, the interaction of state specific time trends and legislation does not bias our results since both the treatment and control group can be restricted to be located in the same state.

In addition to the state of location, we also control for industry, union and size specific shocks. It is likely that trends in workplace safety are industry, union or size specific. If these trends also influenced the adoption of antitakeover laws, the parallel trend assumption is at doubt. To restrict our treatment and control groups to be the same in terms of state of location, industry, union status and size, we could interact these variables with year fixed effects and add them as controls. To facilitate estimation, but achieve the same effect, we instead include the mean value of the dependent variable for each state-, industry-, union- and size-year cell excluding the plant itself (see Bertrand and Mullainathan (2003)).

It is possible that lobbying took place at the state of incorporation level. For instance, if headquarters of plants incorporated in the same state lobbied for anti-takeover regulation and their success depended on the deterioration of workplace safety, then our variable of interests would be biased upwards. The available evidence, however, shows that these business combination laws were lobbied by individual firms, not by a large coalition of firms (see Bertrand and Mullainathan (2003)).

Following Bertrand and Mullainathan (2003), we deal directly with this concern by studying the dynamics of BC laws. We replace BC_{kt} with the series of dummies $Before(-1)$, $Before(0)$, $After(1)$, $After(2)$, $After(3)$ and $After(4+)$. The first variable equals one if a plant belongs to a firm that is incorporated in the state that will pass the law in one year from now. $Before(0)$ equals one if a plant belongs to a firm that is incorporated in the state that passes the law this year. $After(1)$, $After(2)$, $After(3)$ and $After(4+)$ equal one if a plant belongs to a firm that is incorporated in the state that passed the law one, two, three years before and four or more years before, respectively. The idea behind this test is to check whether plants incorporated in states that passed BC law indeed experienced a significantly different trend in workplace safety than the control states[17] at the time of one or two years before the law was passed.

Plants in our sample differ in many respects. Some of the plants might have low level of workplace safety because their scope to violate workplace safety regulation is limited. Our fixed effects regression controls for unobservable time-invariant

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[17]   Control states consist of those states that never passed the law and states that will pass the law in more than two years.

plant characteristics. Thus, if the scope for regulatory violations is time-invariant (e.g. technology), our regression framework controls for it.

A specific characteristic of our workplace safety data is that it comes from inspections. This raises the issues of detection bias and sample selection. Clearly, the number of violations detected is likely to depend on the intensity of an inspection, inspector's ability and priorities of the inspecting office. Yet, for all these factors to bias our results, one needs a convincing story explaining the systematic interaction between inspection characteristics and the adoption of BC laws. This dependence is unlikely in our framework. Inspections are carried out based on the state of location, not the state of incorporation. Since we include time-specific location, industry, union and size dummies in our regressions, both treatment and control groups are likely to face the same inspection environment on average. To check this empirically, we would like to have some inspection's characteristics that should not be influenced by the BC law. However, we lack such exogeneous characteristics. For instance, scope of an inspection is not exogeneous since inspector decides on the scope depending on the probability of finding a violation and violations are arguably affected by the BC law.

The second issue we have is non-randomness of the sample. Clearly, inspected establishments do not represent a random subset of all the establishments. Normally, this would lead to inconsistent estimates provided that the selection is based on unobservable characteristics that is also related to the dependent variable (see Heckman (1979)). In our paper, the selection of firms for inspections does not pose a serious problem unless inspectors use different selection rules for the treatment and control group. As we already argued, this seems unlikely.

5. Main Results

5.1. Violations and Penalties. Our aim is to estimate how the weakening of corporate governance induced by the fall in the threat of takeovers affected plants' workplace safety and OSHA regulatory compliance. We use the adoption of the business combination laws in 1980s as an exogenous fall in the threat of takeovers. Our measures of workplace safety are the sum of serious, willful and repeated violations, monetary penalties paid for these violations, the frequency of accidents and workers' complaints. If the weakening of corporate governance increased any of these measures, the estimate of BC is positive and if it decreased, the estimate is negative.

Table 7 considers the sum of serious, willful and repeated OSHA violations as a variable of interest. Column (I) shows that plants affected by the antitakeover legislation have on average 70% more regulatory violations than otherwise similar, but unaffected plants.[18] This treatment effect is statistically significant. Columns (II)-(V) study the robustness of the result. The estimate remains unaltered and

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[18] A proportional increase in the conditional mean due to a unit change in a dummy variable is given by the exponential of a corresponding estimate minus one. The p-value for this statistics

significant when more controls are added to the regression. Column (II) controls for the number of employees at the firm level. Column (III) allows for industry, state of location and union-status specific time-trends by including the mean of the dependent variable excluding the plant itself in a given industry-year, state of location-year and union-year cell. None of these controls tends to be significant. Columns (IV) and (V) add the size-year interaction and various firm characteristics such as profitability, leverage and the measure of product market competition. Both profitability and leverage are statistically significant.

Column (VI) studies the time dynamics of the treatment effect. The analysis of the time dynamics shows that there is no statistically significant difference in OSHA workplace violations between the treatment and control group one year before the treatment. Yet, the statistically significant difference between the control and treatment group appear one, two, three, four or more years after the treatment. This result adds credibility to our identification assumption.

Table 8 uses the sum of penalties paid for serious, willful and repeated violations as a measure of workplace safety. Columns (I)-(III) show that the estimated effect of BC law varies from 6% to 16%, but all these estimates are statistically insignificant.[19,20] As with violations, the state of location tends to matter. Also, profitability tends to affect penalties positively. The analysis of the time dynamics of BC laws shows that there are no significant pre-treatment differences in penalties between the treatment and control group. However, the significant differences appear at the time of the regulation and afterwards.

5.2. Accidents and Complaints. Previous results on violations and penalties rely on inspection data. Data on accidents and complaints is self-reported by firms and thus does not depend on OSHA inspections. This allows us to expand our sample to non-inspected observations.

Table 9 presents the effect of antitakeover legislation on accidents. Column (I) shows that firms affected by the antitakeover legislation present on average 34% less accidents than otherwise similar unaffected firms. This effect is statistically significant and economically meaningful. The effect is robust to time-varying industry, state of location and union status controls as well as various firm specific variables. Time-varying state of location and union controls are highly significant,

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is identical to the p-value of a corresponding estimate. The estimates of control variables in logs represent respective elasticities.

[19] Note that our dependent variable is $\ln(1+y)$. For continuous control variables, the marginal effects depend on the values of other control variables as well as the error term specification. For a dummy variable, we can calculate the proportional change in the conditional mean, which is given by $\frac{E(y|BC=1)}{E(y|BC=0)} = e^\rho + \frac{e^\rho-1}{E(y|BC=0)}$, where $E(y|BC=0) = \exp[a + \beta X] * \exp[\varepsilon] - 1$. The second term arises from the fact that we use $\ln(y+1)$ rather than $\ln(y)$ as our dependent variable. In our case, the second term is close to zero since y represents monetary penalties with a high mean.

[20] This increase in monetary penalties is relatively small for large companies. However, it not the size of monetary penalties but the loss of reputation that might lead to a significant loss in value.

while time-varying industry control is insignificant. The elasticity of accidents with respect to the number of workers is close to unity, implying that a 1% increase in the number of employees tends to increase the number of accidents also by 1%.[21] Profitability and leverage have an insignificant effect, while the product market competition has statistically significant effect on accidents. The analysis of the time dynamics presented in column (VI) shows somewhat puzzling results. There is no statistically significant difference in accidents between the treatment and control group one year before the treatment. However, the firms incorporated in the states that adopt the law this year tend to have more accidents than firms incorporated in the states that never adopted the law or will adopt it in two or more years.

Table 10 presents the effect of antitakeover legislation on workers' complaints. Column (I) shows that firms affected by the antitakeover legislation have on average 20% less workers' complaints than otherwise similar unaffected firms. This effect is statistically significant and economically meaningful. The effect, however, is not robust to the inclusion of time-varying controls and firm specific variables. The elasticity of the number of complaints with respect to the number of workers is below unity, implying that a 1% increase in the number of employees tends to increase the number of accidents by less than 1%. Profitability and leverage tend to be significant determinants of workers' complaints, but the signs of the effects cast some doubt. The analysis of the time dynamics presented in column (VI) shows that there is statistically insignificant difference in workers' complaints between the treatment and control group one year before the treatment. The statistically significant difference between the treatment and control group appears four years after the treatment.

6. Extensions and Robustness

6.1. Differences among Unionized and Non-unionized Plants. Previous results suggest that managers protected from takeovers by the law tend to care less about workplace safety regulation. There are good reasons to believe that managers in unionized plants might change their behaviour differently from managers in non-unionized plants. Even if managers would like to care less about workplace safety regulation after the anti-takeover regulation, the pressure from unions might limit managerial discretion. In this section, we test this hypothesis by studying whether the effect of BC law differs across unionized and non-unionized plants.

Table 11 shows how the effect of BC law on the number of OSHA violations differs across unionized and non-unionized plants. The interaction term between BC and nonunion dummy is statistically significant and economically meaningful. These estimates show that both unionized and non-unionized plants that were

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[21] This in turn implies that the probability of an accident does not depend on the number of workers.

affected by the antitakeover legislation do present more workplace safety violations, but the effect is larger in non-unionized unaffected plants. Our estimates show that workplace safety violations more than double in non-unionized plants, while the increase in unionized plants is roughly 60%. These results support the hypothesis that unions curb managerial discretion to some extent by exercising pressure on managers to comply with workplace safety regulation.

6.2. Competition and Workplace Safety. So far we have presented evidence about how the adoption of anti-takeover legislation affects the average firm. However, certain groups of firms are more exposed to takeovers than others and therefore should be affected more by the regulation. It is argued that the quality of corporate governance matters more in non-competitive and less in competitive industries. The idea is that product market competition leaves no room for managerial discretion forcing management to act in the interests of shareholders. Giroud and Mueller (2007) document that the passage of the business combination laws in 1980s reduced the operating performance of the affected firms, but only in non-competitive industries.

Table 12 shows how the effect of BC law on the number of OSHA violations differs across firms with different degrees of product market competition. The interaction term between BC and the product market competition measure HHI is statistically insignificant. This result does not support the idea that corporate governance matters more in non-competitive and less in competitive industries, at least with respect to workplace safety.

7. Conclusions

This paper determines the effect that the antitakeover regulation in the 1980s had on the compliance of OSHA workplace safety regulation as well as on workplace accidents and workers complaints. We find that the antitakeover regulation decreased firms' compliance of OSHA workplace safety regulation. The results show that the affected firms present up to 70% more workplace safety violations. Accidents and complaints tend to decrease as a result of the anti-takeover regulation, but the results are not robust to various specification tests. We also document that the increase in workplace safety violations is significantly smaller in unionized firms. This suggests that unions can play an important role in curbing managerial discretion.

Tables

TABLE 1: **Sample Description**

The sample includes plants that were inspected by OSHA during the period of 1978-1995 and have SIC between 100-4999. "Never" refers to plants incorporated in states that did not adopt the business combination (BC) laws during the sample period. "Event. BC" refers to plants incorporated in states that eventually adopted the BC laws during the sample period. "All" refers to plants in all states (see Table 3).

Variable	Never	Event. BC	All
No of inspections	2062	17691	19753
due to accidents	12%	9%	9%
due to complaints	42%	53%	52%
planned	46%	38%	39%
Inspection scope			
complete	52%	35%	37%
partial	45%	59%	57%
records only	3%	6%	6%
No of firms	263	1918	2181
No of plants	1371	9469	10840
Plants per firm	5.21	4.94	4.97
Plant-years	1816	14692	16508
Firm-years	778	6686	7464

TABLE 2: **Comparison with Compustat**

Sample refers to firms in Compustat with SIC between 100 and 4999 that were inspected by OSHA at least once during the sample period. Compustat refers to all firms in Compustat that have SIC between 100 and 4999. All variables are calculated over the sample period of 1978-1995. Assets refers to total assets (Compustat data6). ROA refers to return on assets calculated as operating income before depreciation and amortization (data13) divided by total assets. Sales refers to net sales (data12). Leverage is a long term debt (data9) plus debt in current liabilities (data34) divided by total assets. Tobin's Q is the book value of total assets (data6) plus the market value of equity (data24*data25) minus the sum of book value of equity (data60) and balance sheet deferred taxes (data74). No of employees refers to the number of employees (data29). Labor costs refers to labor and related expenses (data42) deflated by CPI to convert it into real terms. Real wage refers to labor costs per employee. HHI (assets) refers to Herfindhal index calculated using assets and 3-digit SIC codes. HHI (sales) refers to Herfindhal index calculated using sales and 3-digit SIC codes.

	Sample			Compustat		
Variable	Mean	St.dev	N	Mean	St.dev	N
Ln(Assets)	5.2	2.2	21562	4.2	2.4	72571
ROA	0.13	0.13	21562	0.07	0.22	72571
Ln(Sales)	5.3	2.1	21549	4.1	2.6	71527
Leverage	0.27	0.20	21515	0.30	0.464	72349
Tobins Q	1.5	1.3	17534	1.8	2.7	56934
No of empl	11	37	20872	6	27	67903
Labor costs	541	1516	4103	360	1214	10242
Real wage	20	5	4044	21	20	9522
HHI (assets)	0.20	0.16	21562	0.19	0.16	72571
HHI (sales)	0.19	0.15	21562	0.18	0.15	72571

TABLE 3: **Business combination laws**

State	Year	State of incorporation		State of location		Incorp in state of loc.		Incorp in State of DE	
		No of Plants	%	No of Plants	%	No of Plants	%	No of Plants	%
Delaware	1988	5363	49.5	28	0.3	20	71.4	20	71.4
New York	1985	632	5.8	459	4.2	158	34.4	216	47.1
Ohio	1990	412	3.8	546	5	138	25.3	273	50
California		360	3.3	857	7.9	302	35.2	431	50.3
Pennsylvania	1989	326	3	445	4.1	109	24.5	249	56
Oregon		321	3	676	6.2	236	34.9	152	22.5
Missouri	1986	259	2.4	257	2.4	52	20.2	130	50.6
Virginia	1988	238	2.2	200	1.8	48	24	97	48.5
Wisconsin	1987	216	2	242	2.2	84	34.7	110	45.5
Indiana	1986	215	2	416	3.8	82	19.7	221	53.1
Michigan	1989	203	1.9	361	3.3	89	24.7	194	53.7
New Jersey	1986	201	1.9	310	2.9	58	18.7	172	55.5
Colorado		200	1.8	99	0.9	19	19.2	59	59.6
Minnesota	1987	190	1.8	292	2.7	111	38	130	44.5
Washington	1987	187	1.7	345	3.2	60	17.4	132	38.3
Georgia	1988	181	1.7	226	2.1	49	21.7	101	44.7
Massachusetts	1989	177	1.6	222	2	78	35.1	110	49.5
Maryland	1989	153	1.4	266	2.5	87	32.7	103	38.7
Illinois	1989	113	1	483	4.5	80	16.6	297	61.5
Texas		110	1	689	6.4	65	9.4	408	59.2
Nevada	1991	102	0.9	84	0.8	23	27.4	37	44
North Carolina		83	0.8	343	3.2	45	13.1	186	54.2
Florida		81	0.7	262	2.4	53	20.2	133	50.8
South Carolina	1988	75	0.7	143	1.3	17	11.9	67	46.9

TABLE 4: **Business combination laws**

State	Year	State of incorporation		State of location		Incorp in state of loc.		Incorp in State of DE	
		No of Plants	%	No of Plants	%	No of Plants	%	No of Plants	%
Utah		55	0.5	137	1.3	34	24.8	72	52.6
Connecticut	1989	42	0.4	92	0.8	15	16.3	55	59.8
Kansas	1989	34	0.3	98	0.9	8	8.2	43	43.9
Arizona	1987	31	0.3	159	1.5	21	13.2	74	46.5
Maine	1988	31	0.3	47	0.4	11	23.4	12	25.5
Alabama		29	0.3	197	1.8	15	7.6	106	53.8
Alaska		27	0.2	59	0.5	14	23.7	26	44.1
Iowa		25	0.2	157	1.4	13	8.3	85	54.1
Kentucky	1987	21	0.2	249	2.3	16	6.4	124	49.8
Oklahoma	1991	19	0.2	125	1.2	13	10.4	67	53.6
Rhode Island	1990	19	0.2	27	0.2	16	59.3	8	29.6
Columbia		16	0.1	9	0.1	2	22.2	2	22.2
Montana		12	0.1	34	0.3	10	29.4	15	44.1
Vermont		12	0.1	56	0.5	12	21.4	20	35.7
Louisiana		10	0.1	135	1.2	5	3.7	74	54.8
Mississippi		10	0.1	89	0.8	7	7.9	39	43.8
Hawaii		9	0.1	45	0.4	9	20	20	44.4
Idaho	1988	9	0.1	53	0.5	2	3.8	33	62.3
Tennessee	1988	9	0.1	292	2.7	2	0.7	161	55.1
South Dakota	1990	7	0.1	20	0.2	4	20	8	40
New Mexico		5	0	29	0.3	0	0	20	69
Nebraska	1988	3	0	63	0.6	1	1.6	40	63.5
New Hampshire		3	0	69	0.6	3	4.3	31	44.9
Puerto Rico		2	0	29	0.3	2	6.9	14	48.3
West Virginia		1	0	76	0.7	1	1.3	36	47.4
Wyoming	1989	1	0	57	0.5	0	0	45	78.9
Arkansas		0	0	163	1.5	0	0	88	54
North Dakota		0	0	22	0.2	0	0	16	72.7
Virgin Islands		0	0	1	0	0	0	1	100
Total		10840		10840		2299	21.2	5363	49.5

TABLE 5: **Inspection Data: Violations**

"Never" refers to plants incorporated in states that did not adopt the business combination (BC) laws during the sample period. "Event. BC" refers to plants incorporated in states that eventually adopted the BC laws during the sample period. "All" refers to plants in all states (see Table 1). "Due to accidents" refers to OSHA inspections that were undertaken due to an accident with a death of an employee or a hospitalization of at least three workers. "Due to complaints" refers to OSHA inspections that were undertaken due to workers' complaints about workplace safety. "Planned" refers to OSHA inspections that have randomly chosen targets within a given industry and region. Inspection scope refers to the intensity of the inspection. Complete inspections cover all potential hazard areas. Partial inspections cover limited areas of potential hazards but can be expanded based on the information received. "Records only" inspections start with the check of the injury logs and then stop unless the injure rate exceeds some threshold. S refers to the number of violations recorded during the inspection and categorized as serious. W refers to the number of violations recorded during the inspection and categorized as willful. R refers to the number of violations recorded during the inspection and categorized as repeated. Violation rate (S+W+R)>0 refers to the proportion of inspections that recorded at least one serious, willful or repeated violation.

Variable	Never	Event. BC	All
Violation rate (S+W+R)>0			
in all inspections	32%	38%	37%
in those due to accidents	36%	51%	49%
in those due to complaints	24%	33%	32%
in those due to planned	37%	41%	41%
in complete	39%	52%	50%
in partial	25%	33%	32%
in records only	0.0%	0.4%	0.4%
Mean of (S+W+R)			
in those where (S+W+R)>0	3.2	3.7	3.7

TABLE 6: **Inspection Data: Penalties**

SP refers to monetary penalties assigned for serious violations recorded during the inspection. WP refers to monetary penalties assigned for willful violations recorded during the inspection. RP refers to monetary penalties assigned for repeated violations recorded during the inspection. Penalty rate (SP+WP+RP)>0 refers to the proportion of inspections that were assigned non-zero monetary penalty for serious, willful or repeated violations. All penalties are in real terms.

Variable	Never	Event. BC	All
Penalties rate (SP+WP+RP)>0			
in all inspections	31%	35%	35%
in those where (S+W+R)>0	98%	93%	93%
Mean of penalties (SP+WP+RP)			
conditioning on (S+W+R)>0			
in all inspections	1082	2477	2353
in those due to accidents	1892	8628	7970
in those due to complaints	1520	2181	2139
in those due to planned	624	1052	1004
in complete	1108	1794	1716
in partial	1036	3133	2999
in records only	n.a.	3106	3106
Mean of penalties per violation			
conditioning on (S+W+R)>0			
in all inspections	294	405	395
in those due to accidents	740	889	875
in those due to complaints	279	418	409
in those due to planned	195	252	246
in complete	228	269	264
in partial	414	534	527
in records only	n.a.	773	773
SP if S>0	806	1146	1116
WP if W>0	29266	48750	48006
RP if R>0	480	2810	2631
SP/S if S>0	294	346	341
WP/P if W>0	3577	4771	4725
RP/R if R>0	255	824	780

TABLE 7: **Workplace safety violations and takeover regulation**
Dependent variable is count of serious, willful and repeated violations recorded during the
inspection. BC is a dummy variable that equals one if the plant is incorporated in a state
that has passed the business combination law at least one year ago. Before1 is a dummy
variable that equals one if the plant is incorporated in a state that will pass the business
combination law in one years. Before0 is a dummy variable that equals one if the plant is
incorporated in a state that passes the business combination law during this year. After(i)
is a dummy variable that equals one if the plant is incorporated in a state that passed the
business combination law i years ago, where i is 1, 2 or 3. After4plus is a dummy variable
that equals one if the plant is incorporated in a state that passed the business combination
law 4 or more years ago. Industry-year and state-year refer to the mean of the dependent
variable in a given year and industry or state respectively. The sample includes plants that
were inspected by OSHA during the period of 1978-1995 with SIC between 100 and 4999. All
regressions include available characteristics of the inspection. The poisson model is estimated
by Quasi Maximum Likelihood with the Hausman, Hall and Griliches (1984) transformation.
Absolute value of t statistics in brackets. St. errors are clustered at the state of incorporation
level. *, **, *** denotes significance at 10%, 5% and 1% level, respectively.

| | QML Poisson: dependent variable S+W+R | | | | | |
	(I)	(II)	(III)	(IV)	(V)	(VI)
BC	0.54***	0.58***	0.60***	0.59***	0.56***	
	[10.37]	[9.63]	[4.26]	[4.56]	[4.30]	
Industry-year			-0.03	-0.03	-0.03	-0.03
			[-1.27]	[-1.24]	[-1.20]	[-1.44]
State-year			0.01	0.01	0.01	0.01
			[1.04]	[0.87]	[0.86]	[0.47]
Union-year			0.01	-0.09	-0.11	-0.09
			[0.03]	[-0.46]	[-0.53]	[-0.40]
Log(Empl)		0.19**	0.18	0.14	0.12	0.14
		[3.16]	[1.60]	[1.25]	[0.88]	[1.24]
ROA					1.79***	
					[3.88]	
Leverage					0.82**	
					[2.66]	
HHI-Asset					-0.68	
					[-1.07]	
Before1						0.23
						[1.07]
Before0						-0.04
						[-0.24]
After1						0.70***
						[3.76]
After2						0.64***
						[3.46]
After3						0.76**
						[3.29]
After4plus						1.01***
						[3.69]
Log(Empl)xYear FE	No	No	No	Yes	Yes	Yes
Observations	9478	6725	6706	6706	6696	6706
Number of plants	2350	1657	1654	1654	1652	1654
Log(Likelihood)	-13178.6	-8890.06	-8862.55	-8807.21	-8770.73	-8783.66

TABLE 8: **Penalties and takeover regulation**

Dependent variable is the natural logarithm of one plus the sum of penalties paid for serious, willful and repeated violations. The sample includes plants that were inspected by OSHA during the period of 1978-1995 with SIC between 100 and 4999. Absolute value of t statistics in brackets. St. errors are clustered at the state of incorporation level. *, **, *** denotes significance at 10%, 5% and 1% level, respectively.

	OLS: dependent variable ln(1+SP+WP+RP)					
	(I)	(II)	(III)	(IV)	(V)	(VI)
BC	0.06	0.13	0.1	0.15	0.14	
	[0.33]	[0.88]	[0.68]	[1.06]	[1.04]	
Industry-year			0.09	0.07	0.07	0.06
			[1.34]	[1.03]	[1.18]	[0.85]
State-year			0.18**	0.18**	0.18**	0.17**
			[2.19]	[2.34]	[2.36]	[2.32]
Union-year			-0.1	-0.31*	-0.31*	-0.32*
			[-0.69]	[-1.96]	[-1.92]	[-1.96]
Log(Empl)		-0.28	-0.3	-0.21	-0.23	-0.2
		[-1.29]	[-1.25]	[-0.88]	[-0.97]	[-0.84]
ROA					0.43	
					[0.79]	
Leverage					0.88***	
					[3.69]	
HHI-Asset					0.33	
					[0.55]	
Before1						0.02
						[0.09]
Before0						0.36**
						[2.09]
After1						0.31*
						[1.86]
After2						0.38*
						[1.83]
After3						0.73**
						[2.73]
After4plus						0.75**
						[2.10]
Plant FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Log(Empl)xYear FE	No	No	No	Yes	Yes	Yes
Observations	19752	14865	14812	14812	14778	14812
Number of plants	10839	8342	8309	8309	8285	8309
R2	0.36	0.35	0.37	0.37	0.36	0.36

TABLE 9: **Poisson regression: Labor accidents and takeover regulation**

Dependent variable is the number of accidents reported to OSHA by a given plant during a given year. The sample includes all plants with SIC between 100 and 4999 that were inspected by OSHA at least once during the sample period of 1978-1995. Absolute value of z statistics in brackets. *, **, *** denotes significance at 10%, 5% and 1% level, respectively.

	Poisson: Number of accidents					
	(I)	(II)	(III)	(IV)	(V)	(VI)
BC	-0.41**	-0.47***	-0.35**	-0.35**	-0.36**	
	[-3.10]	[-3.46]	[-2.47]	[-2.47]	[-2.53]	
Industry-year			3.75	3.52	3.51	3.36
			[1.35]	[1.26]	[1.25]	[1.20]
State-year			18.15***	18.20***	18.62***	18.33***
			[11.42]	[11.42]	[11.64]	[11.46]
Union-year			-124.00***	-139.65***	-142.28***	-140.28***
			[-6.26]	[-6.75]	[-6.86]	[-6.76]
Log(Empl)		0.95***	0.86***	0.77***	0.82***	0.76***
		[8.34]	[7.37]	[5.57]	[5.78]	[5.53]
ROA					-0.74	
					[-1.14]	
Leverage					-0.2	
					[-0.63]	
HHI-Asset					-1.68**	
					[-2.70]	
Before1						0.04
						[0.22]
Before0						0.36**
						[2.03]
After1						-0.13
						[-0.63]
After2						-0.1
						[-0.48]
After3						-0.21
						[-0.92]
After4plus						-0.22
						[-0.98]
Plant FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Ln(Empl)xYear	No	No	No	Yes	Yes	Yes
Observations	17551	15933	15929	15929	15902	15929
No of plants	1097	1056	1055	1055	1052	1055
Log(Likelih)	-3045.03	-2864.23	-2769.68	-2761.43	-2751.03	-2758.79

TABLE 10: **Poisson regression: Worker complaints and takeover regulation**

Dependent variable is the number of worker complaints about their employer reported to OSHA during a given year. The sample includes all plants with SIC between 100 and 4999 that were inspected by OSHA at least once during the sample period of 1978-1995. Absolute value of z statistics in brackets. *, **, *** denotes significance at 10%, 5% and 1% level, respectively.

	Poisson: Number of complaints					
	(I)	(II)	(III)	(IV)	(V)	(VI)
BC	-0.22***	-0.22***	-0.10*	-0.09*	-0.09	
	[-4.21]	[-3.96]	[-1.77]	[-1.66]	[-1.54]	
Industry-year			3.58***	3.54***	3.48***	3.53***
			[10.84]	[10.52]	[10.30]	[10.48]
State-year			5.11***	5.12***	5.09***	5.09***
			[17.99]	[17.98]	[17.79]	[17.78]
Union-year			-0.55	-0.94	-1.22	-0.88
			[-0.42]	[-0.69]	[-0.90]	[-0.65]
Log(Empl)		0.60***	0.53***	0.51***	0.53***	0.51***
		[12.45]	[10.76]	[8.86]	[9.10]	[8.91]
ROA					0.76**	
					[2.95]	
Leverage					-0.31**	
					[-2.36]	
HHI-Asset					0.11	
					[0.48]	
Before1						0.03
						[0.37]
Before0						-0.06
						[-0.81]
After1						-0.11
						[-1.24]
After2						-0.14
						[-1.49]
After3						-0.13
						[-1.28]
After4plus						-0.22**
						[-1.99]
Plant FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Ln(Empl)xYear	No	No	No	Yes	Yes	Yes
Observations	66281	59302	59284	59284	59184	59284
No of plants	4288	3996	3995	3995	3988	3995
Log(Likelihood)	-14947.6	-14005.4	-13760.5	-13754.1	-13724.9	-13752.2

TABLE 11: **Workplace safety violations, takeover regulation and unions**

Dependent variable is count of serious, willful and repeated violations recorded during the inspection. Nonunion is a dummy that is equal to one if plant is not unionized. The sample includes plants that were inspected by OSHA during the period of 1978-1995 with SIC between 100 and 4999. All regressions control for available characteristics of the inspection. The poisson model is estimated by Quasi Maximum Likelihood (QML) with the Hausman, Hall and Griliches (1984) transformation. Absolute value of t-statistics in brackets. St. errors are clustered at the state of incorporation level. *, **, *** denotes significance at 10%, 5% and 1% level, respectively.

QML Poisson: dependent variable S+W+R					
	(I)	(II)	(III)	(IV)	(V)
BC	0.48***	0.47***	0.48***	0.48***	0.45***
	[8.91]	[7.49]	[3.77]	[3.94]	[3.68]
BCxNonunion	0.24***	0.39***	0.42**	0.36**	0.38**
	[4.71]	[6.39]	[2.79]	[2.17]	[2.31]
Industry-year			-0.03	-0.03	-0.03
			[-1.17]	[-1.16]	[-1.12]
State-year			0.01	0.01	0.01
			[1.07]	[0.86]	[0.86]
Union-year	-0.14**	0.01	0.00	-0.09	-0.11
	[-2.74]	[0.20]	[-0.02]	[-0.45]	[-0.52]
Log(Empl)		0.16**	0.16	0.11	0.09
		[2.65]	[1.62]	[1.17]	[0.76]
ROA					1.74***
					[3.94]
Leverage					0.86**
					[2.83]
HHI-Asset					-0.68
					[-1.09]
Plant FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Log(Empl)xYear FE	No	No	No	Yes	Yes
Observations	9476	6723	6706	6706	6696
Number of plants	2350	1657	1654	1654	1652
Log(Likelihood)	-13163.08	-8868.56	-8839.53	-8791.81	-8754.4

TABLE 12: **Workplace safety violations, takeover regulation and competition**

Dependent variable is count of serious, willful and repeated violations recorded during the inspection. HHI is Herfindahl's index based on total assets and three digit SIC. The sample includes plants that were inspected by OSHA during the period of 1978-1995 with SIC between 100 and 4999. All regressions control for available characteristics of the inspection. The poisson model is estimated by Quasi Maximum Likelihood (QML) with the Hausman, Hall and Griliches (1984) transformation. Absolute value of t-statistics in brackets. St. errors are clustered at the state of incorporation level. *, **, *** denotes significance at 10%, 5% and 1% level, respectively.

	QML Poisson: dependent variable S+W+R				
	(I)	(II)	(III)	(IV)	(V)
BC	0.48***	0.62***	0.64***	0.59***	0.55***
	[7.18]	[7.62]	[3.90]	[3.83]	[3.46]
BCxHHI-Assets	0.26	-0.12	-0.14	-0.03	0.04
	[1.46]	[-0.56]	[-0.20]	[-0.04]	[0.06]
HHI-Assets	-0.94***	-0.58**	-0.59	-0.56	-0.71
	[-4.37]	[-1.99]	[-0.63]	[-0.63]	[-0.80]
Industry-year			-0.03	-0.03	-0.03
			[-1.28]	[-1.26]	[-1.21]
State-year			0.01	0.01	0.01
			[1.03]	[0.86]	[0.86]
Union-year			0.00	-0.10	-0.11
			[-0.00]	[-0.49]	[-0.53]
Log(Empl)		0.19**	0.19	0.15	0.12
		[3.27]	[1.64]	[1.22]	[0.91]
ROA					1.79***
					[3.91]
Leverage					0.82**
					[2.71]
Plant FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Log(Empl)xYear FE	No	No	No	Yes	Yes
Observations	9459	6723	6704	6704	6696
Number of plants	2347	1656	1653	1653	1652
Log(Likelihood)	-13155.67	-8885.91	-8858.09	-8804.25	-8770.71

PAPER 3

How Responsible is Private Equity?

ABSTRACT. The financial success of leveraged buyout targets (LBOs) is frequently associated with deteriorating conditions for other stakeholders, such as workers, customers, suppliers, tax-payers and society as a whole. We obtain a comprehensive set of stakeholder ratings for a sample of 373 LBOs and examine the pre- and post-LBO performance of these ratings. LBO targets are characterized by weak stakeholder relations across a number of measures compared to their peers, in terms of corporate governance, transparency, employee relations and community relations. Controlling for this selection, we do not find systematic evidence in favor of the idea that private equity funds gain at the expense of other stakeholders. Private equity ownership alters targets in the direction of higher pay, improved work-life benefits, increased charitable giving, and decreased concerns related to retirement benefits, adverse economic impact, tax disputes, unfair marketing practices and antitrust problems.
Keywords: Private Equity, Leveraged Buyouts
JEL codes: G30

1. Introduction

Since its start in the early 1980s, private equity (PE) activity has grown dramatically both in geographical reach and industry scope. Today, a non-trivial share of employees work for firms owned by private equity owners, both in the US and the rest of the world.[1]

Following this growth, the PE industry has come under scrutiny both from academics and the public. Policy makers have raised concerns about the impact of PE ownership on various aspects of their portfolio companies including their long term sustainability and economic efficiency in general.[2] In contrast, academic research has generally had a positive view of the private equity ownership form.[3] A large number of empirical studies have found positive effects of PE ownership on buyout target firms' operating performance, willingness to undertake R&D investments, productivity and corporate governance structure. While informative, these

[1] See Kaplan and Strömberg (2009) for the most recent survey.
[2] See the recent EU Commission open hearing on hedge funds and private equity, February 26-27, 2009.
[3] See Achleitner, Cornelli, Strömberg, Lerner, Fang, and Leeds (2008).

studies typically have ignored the socioeconomic dimension of PE investments. Indeed, the critics of private equity industry often argue that the improved financial performance of buyout target firms comes at the expense of other stakeholders, such as workers, customers, suppliers, tax-payers, and society as a whole.

In this paper, we try to fill this gap by studying the effect of PE investments on various socioeconomic dimensions of PE portfolio companies. Our motivation is twofold. First, the study provides policy makers with the objective evaluation of how PE ownership affects various stakeholders, such as workers (workplace safety, unionization), consumers (product safety, marketing controversies, antitrust issues), local community (tax disputes, charity) and the environment (regulatory compliance). Our analysis addresses the claim that PE ownership does not add economic value, but rather redistributes it from various stakeholders using lax regulatory environment and low transparency. Second, the paper sheds some light on an important general issue, namely whether equity owners internalize their effects on other stakeholders. Since PE investments represent a significant reduction in agency costs between owners and management, they provide a natural setting to study how corporate governance changes impact various stakeholders.

As is well known in corporate governance research (see e.g. Tirole (2001)), shareholder value maximization need not equal total value maximization in a world of incomplete contracting. In particular, maximizing shareholder value may impose negative externalities on other stakeholders. As Allen, Carletti, and Marquez (2007) argue, in some cases shareholders may even want to pre-commit by setting up a governance structure that involves other stakeholders. As an example, Shleifer and Summers (1989) argue that much of the shareholder gains in mergers and acquisitions are due to stakeholder wealth losses, such as declines in value of subcontractors' firm-specific capital or employees' human capital. Consistent with these arguments, Bertrand and Mullainathan (2003) and Cronqvist, Heyman, Nilsson, Svaleryd, and Vlachos (forthcoming) find evidence that firms with weaker shareholder governance pay higher wages to their workers.[4] On the other hand, Dowell, Hart, and Yeung (2000), Juks (2010a) and Juks (2010b) find no evidence of conflicts between strong shareholder governance and stakeholder value in the context of environmental pollution, workplace safety, and corporate social responsibility rankings.

There are reasons to believe, however, that shareholder and stakeholder conflicts may be particularly acute for PE-owned firms. First, the PE ownership model is thought to be particularly focused on shareholder value maximization. Jensen (1989) was the first academic to emphasize the corporate governance benefits of private equity ownership. His argument was that by combining concentrated ownership stakes, performance-based managerial compensation, highly leveraged

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[4] Also, see Atanassov and Kim (2009), Agrawal (2008) and Hong and Kacperczyk (2009) for evidence on equity-stakeholder conflicts.

capital structures, and active governance in its portfolio companies, the PE ownership form was superior in creating shareholder value compared to the typical public corporation with dispersed shareholders, low leverage, and weak corporate governance. Second, the fact that PE buyouts typically use substantial amounts of leverage can exacerbate stakeholder externalities. For example, Perotti and Spier (1993) and Subramaniam (1996) argue that high leverage can act as an ex ante pre-commitment to extract value from employees and suppliers in ex-post bargaining.[5] Finally, some observers (e.g. Rasmussen (2008) and SEIU (2007)) argue the PE ownership model is particularly short-termist, due to the fact that PE funds have limited life and therefore need to exit their investments quickly. Because of this, they may have an incentive to maximize short-term profits at the expense of long-run value, along the lines of Stein (1988). Expropriating other stakeholders may be a particularly tempting way of increasing equity value in the short-term, while hurting the firm's long-run viability.

Although some research has been undertaken on the effect of PE leveraged buyouts on stakeholder value, the results are so far inconclusive. In support of such conflicts, Brown, Fee, and Shawn (2007) show that suppliers to PE-backed firms experience significantly negative abnormal returns at the announcements of a leveraged buyout, in particular if the suppliers have made substantial relationship-specific investments. Similarly, Matsa (2009) examines leveraged buyouts in the supermarket industry, and finds that these are associated with a decrease in quality provided to consumers, measured by product availability. Kaplan (1989b) finds that the tax deductibility of interest is a significant source of value in leveraged buyouts, suggesting that PE transactions create value at the expense of government tax revenues. With regard to employees, Davis, Haltiwanger, Jarmin, Lerner, and Miranda (2008) find that employment growth in U.S. PE-owned firms is slower than in comparable non-PE-backed companies.

On the other hand, Boucly, Sraer, and Thesmar (2009) show evidence from France that both employment and wages increase faster in PE-owned firms. Similarly, Bernstein, Lerner, Sørensen, and Strömberg (2010) find that industries with high PE-ownership have higher employment and wage growth (and lower cyclicality) than other industries using data from 26 OECD countries. Also, Jensen, Kaplan, and Stiglin (1989) argue that the tax losses for government due to buyout leverage is overwhelmed by tax gains due to higher capital gains taxes, increased operating revenues, and interest income earned by LBO creditors. Finally, Sorensen, Stromberg, and Lerner (2008) find no evidence of short-termist behavior when examining long-run investment in innovation for a recent sample of U.S. PE transactions.

In the light of this inconclusive evidence, the aim of this paper is to examine the impact of PE transactions on a broad set of measures of stakeholder welfare. In

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[5] Consistent with this, Benmelech, Bergman, and Enriquez (2010) finds evidence that financially distressed firms strategically renegotiate labor contracts to extract concessions from labor.

particular, we use objective measures of social-economic issues related to various stakeholders from the KLD rating agency. KLD collects and systemizes information on the social responsibility of major public US companies, in order to assist institutional clients in their socially responsible investment strategies. Every year each company covered by the rating agency obtains a set of concerns and strengths that summarizes company's relations with the local community, employees, customers and the environment. Their measures cover a broad set of stakeholder issues, such as relations with the local community, charitable giving, tax disputes, transparency and corporate governance issues, union relations, health and safety concerns, workforce reductions, violations of environmental regulation, R&D intensity and product safety issues. One problem, however, is that KLD only rates U.S. publicly traded corporations, and hence we cannot obtain these measures for the PE transactions while they are private. Instead, we follow the approach of Cao and Lerner (2009) and examine a sample of "Reverse Leverage Buyouts," (RLBOs) i.e. PE-backed companies that are subsequently taken public. To the extent that the PE transaction changes stakeholder welfare, these changes should be evident in subsequent years after the PE-backed firm has been taken private. By comparing the KLD ratings of the RLBOs to other publicly traded firms we can then examine differences in stakeholder treatment between these to groups. One important concern is obviously that the firms targeted by PE buyers may actually differ in their stakeholder relations even before the PE transaction. In order to tackle this selection problem, we follow Leslie and Oyer (2008) and also examine KLD ratings for "Public-to-Private" transactions (P2Ps), i.e. private equity leveraged buyouts involving publicly traded target firms, and compare these to the ratings of other public companies. In this way, we are able to follow firms both before and after the PE "treatment" with the caveat that firms in the treatment group before and after the treatment are not the same. Still, under the assumptions that (1) the P2P transactions are similar in their stakeholder characteristics as other PE targets, and (2) RLBOs are similar in their stakeholder characteristics to other PE exits, we can measure the impact of PE ownership of stakeholder welfare. Our final dataset consists of 373 PE targets with 1327 rating-years, which we compare to the universe of KLD rated companies using a difference-in-difference methodology.

Our main results are as follows. First, we find that PE funds target firms characterized by weak stakeholder relations across a number of measures compared to their peers, in terms of corporate governance, transparency, employee relations, and community relations. Second, controlling for this selection, we do not find systematic evidence in favor of the idea that PE funds gain at the expense of other stakeholders. We find that PE ownership alters targets in the direction of higher pay, improved work-life benefits, increased charitable giving, and decreased concerns related to retirement benefits, adverse economic impact, tax disputes, unfair marketing practices and antitrust problems. The only negative effect we find is related to product safety, which tends to increase as a result of PE ownership,

and diversity of the top management team, which tends to decrease (consistent with the earlier findings of Gertner and Kaplan (1996)). Moreover, the impact of PE ownership is long-lived rather than temporary. We also carry out a battery of robustness tests and find that the results are unlikely to be due to the selection related to PE funds exit strategies and the differences in firm age. Overall, our results supports the view that the interests of strong equityholders (such as PE funds) does not conflict in major ways with the interests of other non-monetary stakeholders.

2. Data

The empirical research on how private equity ownership affects various social-economic dimensions of their portfolio companies is highly challenging in terms of data. First, one needs to find objective and economically relevant data on how responsible a firm is towards its workers, customers, local community and the environment. Second, this data must be available for companies subject to leveraged buyout before and/or after the transaction. These two issues are discussed below.

2.1. Measuring social responsibility. We obtain objective measures of social-economic issues related to various stakeholders from KLD rating agency. KLD has collected and systematized stakeholder specific information for major public US companies since 1995. The coverage has changed over the years ranging from 650 companies in 1995 to 3100 companies in 2007. Every year each company covered by the rating agency obtains a set of concerns and strengths that summarizes company's relations with the local community, employees, customers and the environment. Tables 1 and 2 list the specific ratings used in this study. These include firm's controversies with local community, charitable givings, tax disputes, transparency and corporate governance issues, union relations, health and safety concerns, workforce reductions, violations of environmental regulation, R&D intensity and product safety issues.

2.2. Identifying private equity transactions. Data on private equity transactions is from Capital IQ. Since KLD data covers only firms that are publicly listed in US, we focus on leveraged buyout transactions (LBOs) that took place in US. Ideally, we would like to have a large number of LBOs that are public-to-private, exit through initial public offering (IPO) and have KLD coverage both before LBO and after the exit. Unfortunately, public-to-private deals with an IPO exit are relatively rare. In addition, KLD covers only a subset of all the listed firms in US. For this reason, our analysis focuses on the following two sets of firms. The first group consists of public-to-private leveraged buyout targets (P2P) with available KLD ratings before the LBO. The second group consists of the private-to-public transactions or the so called reverse leveraged buyouts (RL-BOs) with available KLD ratings after the exit. Note that these two sets could in principle have a certain overlap, but this is unlikely for the reasons already

mentioned above. In fact, these sets are disjoint in our sample. Our sample has only 9 public-to-private LBO targets with a subsequent IPO exit and some KLD coverage. However, none of these targets have KLD ratings both before LBO and after the exit.

To obtain our final dataset, we start with firms covered by KLD over the period 1995-2007. There are 4249 firms in KLD based on CUSIP. We then obtain COMPUSTAT data for 4179 firms. These firms are matched to PE targets via GVKEY and CUSIP. There are 1005 public-to-private and 667 reverse LBO targets in our sample. The final dataset has 373 PE targets with 1327 rating years (see Table 3).

The following PE targets are eliminated from the final sample: (1) targets with incomplete transaction data (e.g. date of LBO), (2) targets which have KLD rating coverage between the multiple LBOs[6] and (3) targets of the transactions that could not be classified as real LBOs[7]. In case of multiple LBOs and RLBO, the date of the most recent LBO is considered. In case of multiple LBOs and a public-to-private transaction, the date of the earliest LBO is considered.

Table 4 presents the time distribution of the LBO transactions in the sample. The data on LBO targets that exited with IPO start from 1977 and exhibits clear waves. The number of RLBO deals increased significantly in the second half of 1980s, slowed down somewhat in the first half of 1990s, increased again in the second half of 1990s and slowed down in the second half of 2000s. The time span of public-to-private deals in the sample is rather narrow, starting from 1997 and ending in 2007. This is expected since public-to-private deals that were undertaken before 1995 could not possibly have KLD coverage that started 1995.

The industry composition of PE deals is presented in Table 5. One third of all the PE deals were conducted in Retail, Business Services, Computer Software and Electronic Equipment sectors. A relatively few deals were undertaken in Shipbuilding and Railroad Equipment, Non-Metallic and Industrial Metal Mining, Agriculture and Real Estate sectors.

Table 6 and 7 list the distribution of KLD rated firm years before P2P and after RLBO transactions, respectively. The ratings are available up to 12 years before P2P transactions and up to 25 years after RLBO transactions. The time window of 5 years before and 5 years after the transaction covers roughly 50% of the sample, while the time window of 7 years before and 14 years after the transaction covers roughly 90%.

Table 8 presents the summary statistics for the sample. We split the sample into two: years before P2P and years after RLBO transactions. Consistent with

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[6] This situation could arise if the firm undergoes reverse LBO, is covered by KLD and then is subsequently taken private again. The problem with these cases is that these KLD ratings are on one hand pre-treatment and one the other hand post-treatment.

[7] These are the transactions that were not managed by professional investment firms.

Stuart and Yim (2010), PE targets tend to be smaller in terms of market capitalization, total assets and net sales than their non-targeted industry peers. In addition, P2P targets tend to have lower market-to-book ratio which could reflect mismanagement or undervaluation. Lower profitability measures (ROA, profit margin) tend to support mismanagement hypothesis. Cash holdings and investments tend to be slightly lower for industry peers suggesting no free cash flow issues. Leverage does not seem to differ significantly between P2P targets and non-targets. Consistent with Cao and Lerner (2009), the RLBO firms tend to have higher market-to-book ratio, higher profit margin and higher leverage ratio than the public industry peers. The comparison of P2P targets and RLBO firms also confirms that LBO transactions tend to affect profitability (market-to-book and profit margin) as well as cash flows, investments and leverage. Note also that the median KLD rating coverage for pre- and post-LBO periods is 3 and 4 years, respectively.

3. Analysis

3.1. Identification. To study the pre- and post-LBO performance of KLD ratings of PE targets, we use the standard DiD setup with some modifications. We use firms in P2P and RLBO samples as a treatment group (PE is seen as a treatment). P2P firms are used to obtain pre-treatment ratings for the treated while RLBO firms are used to obtain post-treatment ratings for the treated. Firms that were covered by KLD, but which were not targeted by PE are taken as a control group.[8]

Our baseline regression specification is the following[9]:

$$(3.1) \qquad y_{it} = \alpha + \alpha_t * \alpha_{ind} + \gamma * P2P_i + \delta * RLBO_i + \beta X_{it} + \varepsilon_{it}$$

where i indexes firms, t indexes time, ind indexes industries, y_{it} is the dependent variable of interest (e.g. KLD rating), α_t and α_{ind} are year and industry fixed effects, $P2P_i$ is a dummy that equals one if the firm is subject to public-to-private transaction, $RLBO_i$ is a dummy that equals one if the firm is subject to reverse leveraged buyout transaction, X_{it} are control variables and ε_{it} is an error term.

There are two issues to note with the regression specification (3.1). First, we have omitted firm fixed effects since the treatment group does not have a panel structure. The reason is that there are no private equity deals in the sample that were rated before the buyout deal, exited with IPO and obtained post-buyout ratings from KLD. Second, the time and industry interaction forces the comparison of treatment and control group to be within a given industry in a given year. These time varying industry dummies are included to control for PE waves.

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[8] This approach requires some assumptions, which we discuss in the robustness section.
[9] See paper by Leslie and Oyer (2008) for the similar identification applied to corporate governance issues in PE backed firms.

The set of relevant control variables should include variables that tend to affect corporate social responsibility, but are also correlated with PE financing. Firm size, net debt and past profitability are natural candidates for the control variables.[10] In addition, KLD ratings are partly based on the availability of the public information about a given firm. To control for this, we add the number of years the company has been rated by KLD to the set of controls.[11]

The estimates of $P2P_i$ and $RLBO_i$ show the pre- and post-buyout differences between the LBO targets and non-targets, respectively. The effect of private equity is given by the difference between these two coefficients, $\delta - \gamma$.

To study the persistence and time dynamics of the effect private equity has on KLD ratings, we run the following specification:

(3.2)
$$y_{it} = \alpha + \alpha_t + \alpha_{ind} + \gamma * TARGET_i + \sum_{k=0}^{k=2} \delta_k * After_{it}(k) + \delta_3 * After_{it}(3^+) + \beta X_{it} + \varepsilon_{it}$$

where $TARGET_i$ is a dummy that equals one if the firm is a PE target (i.e. RLBO or P2P firm), $After(0)$ is a dummy that equals one for RLBO firms that go public during the current year, $After(1)$, $After(2)$, $After(3+)$ are dummies that equal one for RLBO firms that went public one, two, three or more years ago, respectively. The set of $After(k)$ dummies captures the pre- and post-buyout differences between the LBO targets and non-targets, where the post-buyout period is taken to be one, two and three or more years after the public listing.

3.2. Descriptive evidence. The results from the univariate comparison of KLD ratings before (P2P group) and after (RLBO group) the LBO deals are presented in Table 9. We complement raw ratings with adjusted ratings. Adjusted ratings are ratings that have been adjusted for the mean rating of the control group consisting of nontargets that have the same industry and rating year as targets.

3.2.1. *Corporate Governance and Diversity.* The results show that PE funds tend to change the compensation practices in their portfolio companies. PE targets and non-targets tend to have roughly the same fraction of firms with notably poor total compensation packages before the LBO, but the share is significantly smaller among PE targets in the post-LBO period. Furthermore, the share of firms with notably high total compensation packages is significantly lower among PE targets compared to non-targets before and after the LBO, but the gap in absolute terms is lower in the post-buyout period.

PE portfolio companies are unlikely to have excellent transparency standards, both in the pre- and post-LBO periods. On the other hand, the share of PE

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[10] Note, however, that these variables are likely to be affected by PE ownership, which leads to a problem of overcontrolling.
[11] Note that this is not a problem unless this is also related to the likelihood of being PE target.

targets with notably low transparency standards tends to be higher in the pre-LBO period compared to the post-LBO period. The latter suggests that PE funds tend to improve the sub-optimally low transparency standards of their portfolio companies.

A significant share of PE portfolio companies have accounting concerns, but the fraction of firms with these concerns is about the same for the industry peers. The post-buyout fraction is significantly smaller among PE targets than non-targets, indicating that PE firms tend to deal with the accounting concerns in their portfolio companies.

The results also show that PE portfolio companies include a significant share of firms where the substantial fraction of top management belongs to a minority group. This share is significantly smaller in the post-LBO period indicating that PE funds tend to replace the board and management team without any emphasis on diversity. This result is consistent with the findings of Gertner and Kaplan (1996) who document that the directors of the RLBOs are less likely to be women.

3.2.2. *Employees.* The results show that PE funds do not target firms with exceptional work and life benefit programs, such as childcare, elder care or flex-time. Interestingly, the share of PE targets that have strong work and life benefit programs increases after the LBO, suggesting that these programs can be value enhancing. Similar results hold for employee involvement programs, such as incentive pay or participation in management-decision making. PE targets are less likely to have strong employee involvement programs than industry peers, both in the pre- and post-LBO periods. Yet, the gap decreases in the post-LBO period, but the effect is statistically insignificant.

PE ownership tends to reduce employee discrimination. While PE targets pay civil penalties related to employee discrimination roughly as often as non-targets in pre-LBO period, employee discrimination in post-buyout firms is relatively less frequent.

PE funds do not target firms with exceptional retirement benefits, but they do tend to improve firms with inadequate retirement programs. Health and safety standards are not exceptional among PE-targets, but the share of PE targets that pay civil penalties for violating health and safety standards is about the same for non-targets, both in the pre- and post-LBO periods.

In addition, the results show that PE funds do not select firms with extraordinary union relations nor do they exploit firms with poor union relations. Somewhat surprisingly, the relations with unions tend to improve rather than deteriorate after the RLBO.

There is a significant share of PE firms that experience major reductions in workforce, but this share is actually lower than for industry peers in the post-LBO period and about the same in the pre-LBO period. This result is consistent with the findings of Davis, Haltiwanger, Jarmin, Lerner, and Miranda (2008) who

document large negative growth rates of employment both in targets and controls subsequently before and after the transactions.

3.2.3. *Global and Local Community.* The results show that PE targets are less likely to have supply chain strengths as well as concerns than their industry peers. The fraction of PE targets that have supply chain concerns tends to increase both in absolute and relative terms in the post-LBO period, but the increase is not statistically significant.

In addition, the fraction of firms actively involved in charity is smaller among PE targets than among industry peers both before and after the LBO. Yet, the gap in absolute terms is smaller in the post-LBO period indicating a positive role of PE activity on local charity.

The share of firms that have major controversies with the local community (e.g. environmental contamination, water rights disputes, plant closing) is significantly smaller among PE targets than among non-targets both before and after the LBO. Interestingly, this gap actually becomes even more negative after the LBO indicating that PE funds tend to be considerate about the local community. Finally, tax disputes tend to be more frequent in PE targets than in non-targets in the pre-LBO period, but the relationship is reversed in the post-LBO period.

3.2.4. *Environment.* The results show that PE targets tend to do better than their peers in terms of hazardous waste management violations or regulatory compliance both before and after the LBO. Interestingly, the relative advantage of PE targets with respect to their industry peers increases in the post-LBO period indicating a positive role of PE activity on environmental compliance.

3.2.5. *Product Market.* The results show that the fraction of firms with strong R&D programs is significantly smaller among PE targets compared to non-targets, both before and after the LBO. The relative disadvantage of PE targets decreases in the post-LBO period, but the effect is not statistically significant. In addition, PE targets tend to have less compliance problems with product safety regulation than their peers, both before and after the LBO. The relative advantage of PE targets decreases in the post-LBO period, but the effect is not statistically significant. The share of firms that repeatedly pay penalties related to marketing practices or consumer fraud is significant among PE targets both before and after LBO, but it is significantly smaller than in the control group. Moreover, the relative advantage of PE targets becomes larger after the LBO, suggesting a positive role of PE activity in reducing marketing concerns. Finally, the share of firms that paid penalties for antitrust violations such as price fixing or collusion is significantly larger among PE targets than industry peers before the LBO. However, the relationship is reversed after the LBO suggesting the positive role of PE activity in reducing antitrust concerns.

3.2.6. *Conclusions from the descriptive evidence.* Results from the descriptive evidence are relatively informative about the way PE funds select firms and how PE activity interacts with firms' non-monetary stakeholders. We can draw the

following conclusions. First, PE funds tend to target firms with certain corporate governance profiles. These firms include companies with notably low top managerial compensation and a relatively high degree of diversity in top management. Second, PE funds tend to not select firms with exceptional social responsibility performance. All covered KLD strengths related to transparency standards, work-life balance benefits, employee involvement programs, retirement benefits, health and safety standards, union relations, supply chain relations, local community donations and R&D programs tend to be negatively associated with PE ownership. Third, PE targets include a significant fraction of firms with socially irresponsible behaviour. This includes firms with KLD concerns related to accounting, employee discrimination, retirement benefits, health and safety standards, union relations, supply chain relations, adverse local impact, tax disputes, waste management and regulatory compliance, marketing frauds and anti-trust issues. This relatively high share of socially irresponsible firms among PE targets does not come from the selection, but rather from the industry composition of PE targets. Once the industry composition is accounted for, PE ownership is positively associated with tax disputes and antitrust concerns, but negatively associated with KLD concerns related to supply chain, adverse economic impact, waste management and product safety regulation. Fourth, when compared to pre-LBO firms, the post-LBO firms are less likely to have KLD concerns and more likely to have KLD strengths, both with and without industry adjustment. The latter holds for KLD strengths related to work-life benefits, charity and KLD concerns related to employee discrimination, retirement benefits, adverse economic impact, tax disputes, marketing and antitrust issues.

3.3. Regression analysis.

3.3.1. *Main Results.* There are two main reasons to check the robustness of our earlier results with the regression analysis. First, we can account for additional controls. In addition to year, industry and various firm characteristics, we can control for the number of years a given firm has been covered by the KLD rating agency. Rating coverage varies quite substantially across P2P and RLBO samples (see Table 8). Second, regression analysis allows us to deal with non-standard standard errors. Since our dependent variable is binary, standard errors must be adjusted for heteroscedasticity.

Tables 11-14 present the results from the regression analysis. Most of the regression results are consistent with the results from the univariate analysis. PE fund selection tends to be positively associated with the diversity strength of the top management and concerns related to retirement benefits, tax disputes and antitrust issues. PE fund selection tends to be negatively associated with high top management compensation and most of the KLD strengths, such as those related to work-life benefits, employee involvement programs, health and safety standards, union relations, supply chain relations, charity and R&D programs.

PE fund selection tends to be also negatively associated with concerns related to waste management and product safety. As for the impact of PE, we can conclude that PE ownership alters targets' corporate governance (higher top management pay and fewer minority members in the top management team), improves work-life benefits, increases charity, decreases concerns related to retirement benefits, adverse economic impact, tax disputes, marketing and antitrust issues. In addition, there is a rather robust evidence that PE ownership increases concerns related to product safety. The effect was not significant in the univariate analysis.

3.3.2. *Time Dynamics.* The regression analysis above is informative, but does not allow to distinguish between temporary and permanent effects of PE. To study time dynamics, we replace $P2P_i$ and $RLBO_i$ dummies with the $TARGET_i$ dummy and the set of $After_{it}(k)$ dummies, as outlines in equation 3.2. The results are presented in Tables 15 and 16. The effects of PE on KLD ratings that were found to be statistically significant in the previous section tend to be long-lived. These include changes in corporate governance (higher compensation and less diversity), increased strengths related to work-life benefits programs and charity, reduced concerns related to retirement benefits, adverse economic impact, tax disputes, marketing and antitrust issues. In addition, the positive effect of PE ownership on product safety concern tends to be permanent. Interestingly, we also find some areas where the effect of PE ownership is transitory. These include increased strengths related to transparency, employee involvement programs, supply chain relations and R&D programs. These also included increased concerns related to health and safety standards and waste management.

3.4. Robustness Tests.

3.4.1. *Comparability of P2P and RLBO samples.* The main identification assumption behind our regression analysis is that the control group adjusted pre-LBO KLD ratings would not differ significantly from the control group adjusted post-LBO KLD ratings in the absent of PE treatment. In a DiD setup with panel data, this identification assumption amounts to a well-known parallel trend assumption. In our set-up, we need some additional identification assumptions. Due to data limitations, we observe the post-treatment outcome only for a subset of treated firms (only for RLBO sample). Therefore, we have to assume that the PE fund does not select exit types based on pre- and post-LBO ratings. If they did, our estimation results would pick up both the effect of PE ownership and the selection effect related to IPOs. To illustrate, assume that PE funds choose to list those firms that had good pre-LBO KLD ratings. In this situation, our estimation results are likely to find positive effects of PE ownership on KLD ratings even if the true effect of PE ownership is zero.

In principle, we could test the validity of this assumption by comparing how pre-LBO ratings differ across firms with IPO and non-IPO exit in P2P sample. Unfortunately, there are no P2P firms with IPO exit in P2P sample. Furthermore,

most of the firms in our P2P sample have not confirmed exit. There are only five firms that exited via trade sale and only two firms that exited with confirmed bankruptcy. For completeness, we present pre-ratings across exit types in Tables 17 and 18. Pre-ratings do not differ significantly between firms that exited via trade sale and firms that went bankrupt.

In addition to possible IPO selection effect, there are other issues that might bias our results. Our RLBO sample includes firms that were public or private before LBO, but pre-LBO ratings are available only for public firms (P2P sample). If pre-LBO ratings differ across entry types, our results would be biased. To address this concern, we can study how post-LBO ratings depend on whether the firm was public or private before LBO in RLBO sample. Furthermore, we can replicate our main regression results by including only RLBO firms that were public before LBO.

The results are presented in Tables 19 and 20. The differences in post-LBO ratings between RLBO firms that were public and those that were private before LBO are significant in some cases, but the main results are not changed. Interestingly, RLBO firms that were public before LBO tend to have less diversity in top management compared to those firms that were private. This result can be interpreted in two ways. First, it is consistent with the view that private targets had more diversity than public targets before LBO. Second, it is equally likely that both private and public targets were similar in terms of diversity, but PE fund reduced diversity more in public targets. In any case, our results with respect to PE ownership remain unchanged. Similar results are found with respect to charity. Public targets tend to be more active in charity than private targets in the post-LBO period. Again, irrespective of the reason (initial differences vs the effect of PE ownership), our results remain unchanged. Finally, our main results related to R&D strength and marketing concerns do change somewhat depending on whether we restrict our RLBO sample to public targets. The effect of PE ownership on R&D strength becomes negative and on marketing concern it becomes insignificant. Whether the restricted results are more preferable than unrestricted ones depends on one's assumptions. If one assumes that public firms suffer from short-termism and face more marketing concerns than private firms, the restricted results are preferable. If one assumes that both public and private firms are similar in terms of R&D and marketing controversies, the unrestricted results are preferable.

3.4.2. *Control Group and RLBO Sample.* RLBO firms are relatively young firms compared to an average firm in COMPUSTAT. Some of the KLD ratings such as strength ratings related to transparency and work-life benefits are likely to be stronger for younger firms. If this is the case, a typical COMPUSTAT firm might not be a good control for a typical RLBO firm that was newly created. To check whether the age of a firm is driving our results, we add AGE as an additional control variable and replicate our main results.

The results are presented in Tables 21-22. Firm age is missing for a significant number of observations. To maintain comparability, we have replicated the main regression results for a sample with non-missing firm age observations. The results show that our main results are not driven by firm age effect. Saturating regression with firm age dummies changes significance levels in some cases, but the results are qualitatively unchanged.

3.4.3. *Aggregate Stakeholder Indices.* The analysis has so far focused on individual KLD ratings. To obtain a broader picture on the effect of PE ownership on different stakeholders, we also repeat our main regression analysis for various aggregate indices constructed from individual KLD ratings. We assign +100 for each strength and −100 for each concern, except in compensation related ratings, where we assign +100 for high compensation concern and −100 for low compensation strength. The results for different indices are presented in Tables 23-24. The results show that the effect of PE ownership on various stakeholders in aggregate terms is positive, but in many cases insignificant. As found previously, PE ownership affects corporate governance by increasing managerial compensation and decreasing diversity. The effect on employee relations in aggregate is insignificant, but the effect is positive and significant with respect to monetary benefits (retirements and incentive pay). In addition, the effect on global community is insignificant, while the effect on local community is positive and significant. Also, product related performance is positively affected, while environmental performance in aggregate is unaffected.

4. Conclusions

This paper studies the selection and impact of PE funds on portfolio firms' relations with its stakeholders. We rely on KLD rating agency to obtain objective and economically relevant quantitative measures of firms' relations with its stakeholders. We employ pre-LBO ratings of PE targets to study how PE funds' selection depends on the strength of firms' stakeholder relations. We use the difference in pre- and post-LBO ratings of PE targets to identify the impact of PE ownership on target's stakeholder relations.

We find that PE funds tend to target firms with certain corporate governance profiles characterized by low managerial compensation and a relatively high degree of diversity in top management. Our results show that PE funds do not select firms with exceptional social responsibility performance. All covered KLD strengths related to transparency standards, work-life balance benefits, employee involvement programs, retirement benefits, health and safety standards, union relations, supply chain relations, local community donations and R&D programs tend to be negatively associated with PE ownership.

We also find that PE targets include a significant fraction of firms with socially irresponsible behaviour. This includes firms with KLD concerns related to

accounting, employee discrimination, retirement benefits, health and safety standards, union relations, supply chain relations, adverse local impact, tax disputes, waste management and regulatory compliance, marketing frauds and anti-trust issues. Yet, this relatively high share of socially irresponsible firms among PE targets does not come from the selection, but rather from the industry composition of PE targets. Once the industry composition is accounted for, PE ownership is positively associated with tax disputes and antitrust concerns, but negatively associated with KLD concerns related to supply chain, adverse economic impact, waste management and product safety regulation.

As for the impact of PE ownership, we do not find systematic evidence in favour of the idea that PE funds gain at the expense of other stakeholders. We find that PE ownership alters targets' corporate governance (higher pay and less diversity in the top management team), improves work-life benefits, increases charity, decreases concerns related to retirement benefits, adverse economic impact, tax disputes, marketing and antitrust issues. The only negative effect is related to product safety which tends to increase as a result of PE ownership.

In all the areas mentioned before, the impact of PE ownership is long-lived and not temporary. In addition, we find the transitory positive effect of PE ownership on strengths related to transparency, employee involvement programs, supply chain relations and R&D programs, and on concerns related to health and safety standards and waste management.

We also carry out a battery of robustness tests and find that the results are unlikely to be due to the selection related to PE funds exit strategies and the differences in firms' age.

Our analysis supports the idea that the interests of strong owners (such as PE funds) usually do not conflict with the interests of other non-monetary stakeholders. In many areas, there seems to be a natural alignment between monetary and non-monetary stakeholders.

Tables

TABLE 1: **KLD ratings and their definitions**

Notes: Each rating is binary and equals one if the underlying criteria is met. The explanations come from KLD publication "Getting started with KLD STATS and ratings definitions".

Corporate Governance and Board Diversity

KLD key	Abbreviation	Explanation
cgov-str-a	Limited Comp	Awarded notably low levels of compensation to its top management or its board members
cgov-con-b	High Comp	Awarded notably high levels of compensation to its top management or its board members
cgov-str-d	Transparency str	Effective in reporting on a wide range of social and environmental performance measures
cgov-con-h	Transparency con	Distinctly weak in reporting on a wide range of social and environmental performance measure
cgov-con-g	Accounting con	Involved in significant accounting-related controversies
div-str-a	CEO minority str	Chief executive officer is a woman or a member of a minority group.
div-str-c	Directors minority str	Women, minorities, and/or the disabled hold at least four or one-third on the board of directors
div-con-b	Women Repr. con	No women on its board of directors or among its senior line managers

Employee Relations and Workplace Conditions

KLD key	Abbreviation	Explanation
div-str-d	Work/Life Benefits	Outstanding employee benefits or programs addressing work/life concerns, e.g. childcare
emp-str-d	Employee Involv. str	Worker involvement and/or ownership through stock options available to its employees
div-con-a	Employee Discrim.	Paid substantial fines or civil penalties as a result of affirmative action controversies
emp-str-f	Retirement Benefits str	Notably strong retirement benefits program.
emp-con-d	Retirement Benefits con	Substantially under funded defined benefit pension plan, or an inadequate retirement benefits
emp-str-g	Health and Safety str	Strong health and safety programs.
emp-con-b	Health and Safety con	Paid substantial fines for willful violations of employee health and safety standards
emp-str-a	Union Relations str	Exceptional steps to treat its unionized workforce fairly
emp-con-a	Union Relations con	Notably poor union relations
emp-con-c	Workforce Reductions	Significant reductions in its workforce

TABLE 2: **KLD ratings and their definitions continued**

Notes: Each rating is binary and equals one if the underlying criteria is met. The explanations come from KLD publication "Getting started with KLD STATS and ratings definitions".

Global and Local Community Relations

KLD key	Abbreviation	Explanation
hum-str-g	Supply Chain str	Outstanding transparency on overseas sourcing disclosure and monitoring
hum-con-f	Supply Chain con	Controversies primarily related to labor standards in its supply chain
com-str-a	Charity	Consistently given over 1.5% of trailing three-year net earnings to charity
com-con-b	Adverse Impact	Major controversies concerning firm's economic impact on the community
com-con-d	Tax Disputes	Major tax disputes involving Federal, state, local or non-U.S. authorities

Environmental Performance

KLD key	Abbreviation	Explanation
env-con-a	Waste Manag con	Paid substantial fines or civil penalties for waste management violations
env-con-b	Regulatory Compl con	Paid substantial fines or civil penalties for violations of environmental regulations

Product Issues

KLD key	Abbreviation	Explanation
pro-str-b	R and D str	Industry leader for R and D, particularly by bringing innovative products to market
pro-con-a	Product Safety con	Paid substantial fines or civil penalties, or is involved in major recent controversies
pro-con-d	Marketing con	Marketing controversies, or has paid substantial fines related to advertising practices
pro-con-e	Antitrust con	Paid substantial fines or civil penalties for antitrust violations

Table 3: **Sample construction**

Notes: Table illustrates the formation of our final sample that consists of leveraged buyout targets (LBOs) with pre- (public-to-ptivate) or post-transaction (reverse LBOs) KLD coverage. KLD universe stands for firms rated by KLD rating agency. Data on LBOs is from Capital IQ. The set "multiple targets" consists of firms that were subject to LBO more than once. The set "not a real LBO" represents cases where transactions were not undertaken by specialized PE investment firms.

	No of Firms	Firm-years
KLD universe during 1995-2007	4249	18117
in COMPUSTAT	4179	17872
Public to Private LBO transactions	1005	
in KLD-COMPUSTAT	97	382
Not a real LBO	10	40
Multiple target	7	30
Key data missing	0	0
in Final Sample	83	329
Reverse LBOs	667	
in KLD-COMPUSTAT	308	1050
Not a real LBO	1	3
Multiple target	15	47
Key data missing	7	20
in Final Sample	290	998
Final Sample in Total	4147	17767
LBO target	373	1327
Non-targets	3774	16440

TABLE 4: **Time distribution of leveraged private equity transactions**

Notes: The sample includes some multiple targets, but each target is represented only once. In case of multiple deals, the year of LBO is the year of the first transaction for public-to-private (P2P) deals while it is the year of the most recent transaction for reverse leveraged buyout (RLBOs) deals.

LBO year	P2P	RLBO	Total
1977	0	1	1
1979	0	1	1
1980	0	1	1
1981	0	4	4
1982	0	3	3
1984	0	10	10
1985	0	2	2
1986	0	8	8
1987	0	13	13
1988	0	15	15
1989	0	12	12
1990	0	11	11
1991	0	5	5
1992	0	4	4
1993	0	11	11
1994	0	7	7
1995	0	9	9
1996	0	25	25
1997	2	24	26
1998	0	26	26
1999	1	29	30
2000	3	12	15
2001	1	13	14
2002	1	14	15
2003	4	14	18
2004	6	12	18
2005	16	4	20
2006	35	0	35
2007	14	0	14
Total	83	290	373

TABLE 5: **Industry composition of LBOs**

Notes: Industry classification follows Fama and French 49 industry classifications.

FF49 Industry Classification	P2P	RLBO	Total
Agriculture	1	1	2
Food Products	1	5	6
Recreation	0	3	3
Entertainment	1	3	4
Printing and Publishing	2	3	5
Consumer Goods	3	8	11
Apparel	0	6	6
Healthcare	2	8	10
Medical Equipment	2	3	5
Pharmaceutical Products	1	5	6
Chemicals	1	9	10
Rubber and Plastic Products	2	0	2
Textiles	1	1	2
Construction Materials	1	2	3
Construction	1	3	4
Steel Works Etc	1	4	5
Fabricated Products	0	2	2
Machinery	2	13	15
Electrical Equipment	0	6	6
Automobiles and Trucks	0	11	11
Aircraft	0	4	4
Shipbuilding, Railroad Equipment	0	1	1
Non-Metallic and Industrial Metal Mining	0	1	1
Coal	0	2	2
Petroleum and Natural Gas	0	8	8
Utilities	1	3	4
Communication	2	13	15
Personal Services	2	6	8
Business Services	4	30	34
Computer Hardware	4	3	7
Computer Software	11	13	24
Electronic Equipment	1	20	21
Measuring and Control Equipment	1	4	5
Business Supplies	0	4	4
Shipping Containers	1	4	5
Transportation	2	8	10
Wholesale	4	12	16
Retail	15	30	45
Restaraunts, Hotels, Motels	7	10	17
Banking	1	3	4
Insurance	1	6	7
Real Estate	1	1	2
Trading	2	8	10
Other	1	0	1
Total	83	290	373

TABLE 6: **The distribution of KLD rated-years before public-to-private transactions**

Notes: The table lists the frequency of year-firm observations before public-to-private transactions.

Years to P2P LBO	Freq.	Percent	Cum.
0	29	8.81	8.81
1	69	20.97	29.79
2	66	20.06	49.85
3	46	13.98	63.83
4	34	10.33	74.16
5	19	5.78	79.94
6	16	4.86	84.8
7	12	3.65	88.45
8	11	3.34	91.79
9	9	2.74	94.53
10	9	2.74	97.26
11	7	2.13	99.39
12	2	0.61	100
Total	329	100	

TABLE 7: **The distribution of KLD rated-years after reverse leveraged buyout IPO**

Notes: The table lists the frequency of year-firm observations after reverse leveraged buyout exit.

Years from RLBO exit	Freq.	Percent	Cum.
0	78	7.82	7.82
1	91	9.12	16.93
2	78	7.82	24.75
3	68	6.81	31.56
4	80	8.02	39.58
5	72	7.21	46.79
6	70	7.01	53.81
7	61	6.11	59.92
8	47	4.71	64.63
9	49	4.91	69.54
10	48	4.81	74.35
11	44	4.41	78.76
12	47	4.71	83.47
13	42	4.21	87.68
14	33	3.31	90.98
15	21	2.1	93.09
16	14	1.4	94.49
17	14	1.4	95.89
18	14	1.4	97.29
19	14	1.4	98.7
20	9	0.9	99.6
21	3	0.3	99.9
25	1	0.1	100
Total	998	100	

TABLE 8: **Sample Description**

	Before LBO			After RLBO			After-Before
	Mean	Median	Median, ind. adjusted	Mean	Median	Median, ind. adjusted	p-value
Market cap	3059.71	1031.54	-419.96a	2154.66	1105.07	-72.18	0.49
Market-to-book	4.70	2.17	-0.38a	4.71	2.66	0.20a	0.00
Total assets	2759.95	1198.99	-102.66b	2050.94	997.19	-78.00b	0.14
Net sales	3490.79	1097.52	-162.66a	2069.74	841.49	-93.80a	0.06
Profit margin	15.89%	13.71%	-0.33%	22.02%	17.07%	3.18%a	0.00
ROA	5.16%	4.87%	-0.81%b	6.45%	5.67%	0.29%	0.05
Cash Flow	0.62	0.33	0.00	1.29	0.45	0.01	0.00
Cash Holdings	2.24	0.27	-0.02c	2.44	0.33	-0.08a	0.57
Investments	0.25	0.21	-0.02b	0.31	0.23	0.01	0.00
Interest coverage	45.62	8.34	-1.09	224.05	7.86	-1.36a	0.49
Leverage	35.24%	28.90%	2.96%	40.77%	37.58%	6.67%a	0.00
Rating Coverage	3.96	3.00		3.44	4.00		0.00

Notes: Before LBO refers to years before P2P transaction. After RLBO refers to years after the LBO target was listed. All variables are calculated over the sample period 1995-2006. Market cap is the market value of equity (data24*data25). Market-to-book is the ratio of the market value of equity to the book value of equity (data60). Assets refers to total assets (Compustat data6). Sales refers to net sales (data12). Margin is operating income before depreciation, interest and taxes (data13) over lagged sales. ROA refers to return on assets and is calculated as income before extraordinary items (data18) over lagged total assets. Cash flow is income before extraordinary items (data18) plus depreciation and amortization (data14) over net property, plant and equipment (data8) at the beginning of fiscal year. Cash holdings is cash and short term investments (data1) over net property, plant and equipment (data8) at the beginning of fiscal year. Investments is calculated as the ratio of CAPEX (data28) over net property, plant and equipment at the beginning of fiscal year. Interest coverage is calculated as operating income before depreciation, interest and taxes over interest expense (data15). Leverage is long term debt (data9) plus debt in current liabilities (data34) divided by the sum of long term debt, debt in current liabilities and book value of equity. Rating coverage is the number of years a company was followed by KLD. Market cap, assets and sales are in millions and converted to 1995 dollar values. The third and sixth columns report the industry median-adjusted sample medians. Industry medians are calculated for each year excluding PE targets. The seventh column indicates the p-value from the Mann-Whitney-Wilcox test of whether the industry adjusted medians differ from zero. The test statistics are reported for the non-parametric tests of whether the before and after LBO sample distributions are the same. c, b, a indicate significance at the 10%, 5% and 1% confidence level, respectively.

TABLE 9: **KLD ratings before P2P and after RLBO**

Notes: The table presents the percentage proportion of firms that have an under-lying concern (con) or strength (str) in a P2P or RLBO group. Adjusted ratings are ratings that have been adjusted for the mean industry and year rating. Dif refers to the differences in proportions between RLBO and P2P groups. c, b, a indicate significance at the 10%, 5% and 1% confidence level, respectively.

Panel A: Corporate Governance and Board Diversity

	P2P	Obs	RLBO	Obs	Dif
Limited Comp	12.5a	329	9.7a	998	-2.7
Adjusted	1.2	328	-3.0b	997	-4.2b
High Comp	20.9a	311	23.3a	993	2.4
Adjusted	-11.6a	310	-8.2a	992	3.4
Transparency str	0.0	27	0.0	234	0.0
Adjusted	-3.1b	27	-3.4a	234	-0.3
Transparency con	1.4	72	0.0	456	-1.4b
Adjusted	1.4	72	0.0	456	-1.4b
Accounting con	11.1c	27	3.0b	234	-8.1b
Adjusted	4.9	27	-2.1c	234	-7.0c
CEO minority str	7.3a	329	3.8a	998	-3.5b
Adjusted	3.2b	328	-0.4	997	-3.6b
Directors minority str	11.9a	329	3.0a	998	-8.8a
Adjusted	1.9	328	-5.1a	997	-7.0a
Women Repr con	24.9a	329	35.8a	998	10.8a
Adjusted	3.6	328	8.7a	997	5.1c

Panel B: Employee Relations and Workplace Conditions

	P2P	Obs	RLBO	Obs	Dif
Work/Life Benefits	0.0	329	1.0b	998	1.0c
Adjusted	-7.6a	328	-4.9a	997	2.7a
Employee Involvement str	7.6a	329	4.3a	998	-3.3b
Adjusted	-5.4a	328	-4.0a	997	1.4
Employee Discrimination	7.6a	329	3.9a	998	-3.7b
Adjusted	0.1	328	-3.0a	997	-3.1b
Retirement Benefits str	1.8b	329	1.1a	998	-0.7
Adjusted	-1.1	328	-1.6a	997	-0.5
Retirement Benefits con	25.5a	329	23.5a	998	-2.0
Adjusted	1.0	328	-4.9a	997	-5.9b
Health and Safety str	0.0	193	0.4c	850	0.4
Adjusted	-2.2a	193	-3.1a	850	-1.0
Health and Safety con	3.3a	329	3.9a	998	0.6
Adjusted	0.5	328	-1.0	997	-1.4
Union Relations str	0.0	329	0.7b	998	0.7
Adjusted	-0.5a	328	0.3	997	0.8c
Union Relations con	2.7b	329	2.7a	998	0.0
Adjusted	0.1	328	0.1	997	-0.1
Workforce Reductions	5.5a	329	3.2a	998	-2.3c
Adjusted	-1.8	328	-4.1a	997	-2.3c

TABLE 10: **KLD ratings before P2P and after RLBO conitnued**

Notes: See the previous table.

Panel A: Global and Local Community Relations

	P2P	Obs	RLBO	Obs	Dif
Supply Chain str	0.0	212	0.0	904	0.0
Adjusted	-0.7b	212	-0.4a	904	0.3
Supply Chain con	4.0a	277	6.3a	982	2.3
Adjusted	-2.9b	276	-0.7	981	2.2
Charity	0.0	329	0.9b	998	0.9c
Adjusted	-4.2a	328	-1.5a	997	2.7a
Adverse Impact	0.9c	329	0.4b	998	-0.5
Adjusted	-1.3b	328	-2.7a	997	-1.4b
Tax Disputes	2.7b	329	0.1	998	-2.6a
Adjusted	1.6c	328	-1.4a	997	-3.0a

Panel B: Environmental Performance

	P2P	Obs	RLBO	Obs	Dif
Waste Management con	1.2b	329	1.1a	998	-0.1
Adjusted	-2.7a	328	-3.0a	997	-0.4
Regulatory Compliance con	3.0b	329	3.0a	998	0.0
Adjusted	-1.0	328	-1.7b	997	-0.7

Panel C: Product Issues

	P2P	Obs	RLBO	Obs	Dif
Research and Development str	0.3	329	0.6b	998	0.3
Adjusted	-2.1a	328	-1.6a	997	0.5
Product Safety con	0.3	329	2.1a	998	1.8b
Adjusted	-3.8a	328	-2.8a	997	1.1
Marketing con	8.2a	329	4.5a	998	-3.7b
Adjusted	-1.5	328	-5.5a	997	-4.0b
Antitrust con	5.5a	329	3.0a	998	-2.5b
Adjusted	2.4c	328	-0.4	997	-2.8b

TABLE 11: **Regression results**

Notes: Each row represent results from the regression of an underlying rating on P2P and RLBO dummies and various controls. Controls: RY stands for rating years, A stands for log(Assets), L stands for leverage, CH for cash holdings and M for margins. Diff is a differences between coefficients of RLBO and P2P. Regressions include year and industry fixed effects. Robust standard errors are presented.

Panel A: Corporate Governance and Board Diversity

	P2P	RLBO	RJ	A	L	CH	M	Diff	Obs	R2
Limited Comp	2.11	-2.73b						-4.84b	14596	0.09
Limited Comp	0.73	-5.18a	-1.49a					-5.9b	14596	0.11
Limited Comp	1.46	-3.76a	0.04	-6.67a	-6.38a	-0.33a	4.80b	-5.22b	13347	0.18
High Comp	-9.15a	-6.66a						2.49	14057	0.08
High Comp	-5.17b	0.19	4.19a					5.36c	14057	0.15
High Comp	-5.88b	-1.42	1.19a	13.53a	-13.92a	0.40a	5.49b	4.45c	12829	0.25
Transparency str	-2.66b	-2.91a						-0.24	2404	0.08
Transparency str	-2.02	-0.76c	1.46a					1.25	2404	0.14
Transparency str	-2.19	-1.14b	1.01a	1.90a	-1.70	0.02	-2.21	1.05	2056	0.16
Transparency con	1.46	0.00						-1.46	4814	0.02
Transparency con	1.46	0.01	0.01					-1.46	4814	0.02
Transparency con	1.74	0.02	0.00	0.03	-0.20	0.00	-0.01	-1.72	4250	0.03
Accounting con	5.59	-2.63b						-8.23	2404	0.04
Accounting con	6.08	-1.00	1.11a					-7.09	2404	0.06
Accounting con	4.48	-1.27	0.60b	1.77b	1.50	0.19	-3.30	-5.75	2056	0.07
CEO minority str	1.83	-0.61						-2.45	14596	0.02
CEO minority str	2.11	-0.11	0.30a					-2.23	14596	0.02
CEO minority str	2.65c	0.12	0.51a	-0.93a	1.83c	0.20a	1.12	-2.53	13347	0.03
Dir. minority str	2.84	-4.57a						-7.41a	14596	0.06
Dir. minority str	4.29b	-2.01b	1.55a					-6.3a	14596	0.09
Dir. minority str	4.67b	-2.63a	0.98a	2.90a	-0.01	0.06	0.69	-7.31a	13347	0.11
Women Repr con	5.79b	7.18a						1.39	14596	0.09
Women Repr con	3.37	2.91c	-2.59a					-0.46	14596	0.12
Women Repr con	3.84	4.32b	-1.00a	-7.03a	2.07	0.11	14.23a	0.49	13347	0.15

TABLE 12: **Regression results**

Panel B: Employee Relations and Workplace Conditions

	P2P	RLBO	RJ	A	L	CH	M	Diff	Obs	R2
Work/Life Benefits	-6.80a	-4.45a						2.34a	14596	0.07
Work/Life Benefits	-5.25a	-1.73a	1.66a					3.53a	14596	0.11
Work/Life Benefits	-5.75a	-2.32a	1.63a	4.68a	-4.99a	-0.12b	-1.14	3.42a	13347	0.15
Employee Involvement str	-4.17b	-4.27a						-0.1	14596	0.08
Employee Involvement str	-2.66c	-1.59b						1.07	14596	0.11
Employee Involvement str	-2.59	-1.46c	1.17a					1.13	13347	0.12
Employee Involvement str			0.93a	2.33a	-7.08a	0.26a	4.95b		14596	0.05
Employee Discr.	1.27	-1.71b						-2.98c	14596	0.07
Employee Discr.	2.13	-0.18						-2.31	14596	0.10
Employee Discr.	1.95	-0.45	0.20b					-2.4	13347	0.05
Employee Discr.			1.01a	1.29a	-2.70b	-0.07b	-8.85a		14596	0.05
Retirement Benefits str	-0.56	-1.36b						-0.8	14596	0.06
Retirement Benefits str	-0.07	-0.49						-0.42	13347	0.06
Retirement Benefits str	-0.08	-0.76c	0.94a					-0.68	14596	0.08
Retirement Benefits str			0.27a	3.42a	-1.33	0.00	5.15b		14596	0.09
Retirement Benefits con	4.83c	-3.07b						-7.9b	13347	0.10
Retirement Benefits con	5.71b	-1.52						-7.23b	14596	0.09
Retirement Benefits con	5.05c	-1.49	0.53a					-6.54b	14596	0.08
Retirement Benefits con			0.50a	0.51	1.62	0.09	-13.32a		13347	0.06
Health and Safety str	-1.79a	-2.93a						-1.14b	14596	0.05
Health and Safety str	-0.79c	-1.43a						-0.64	9548	0.13
Health and Safety str	-1.41b	-1.67a	1.03a					-0.27	8607	0.15
Health and Safety str			1.01a	2.00a	-3.33a	0.00	-2.81b		14596	0.09
Health and Safety con	0.11	-0.37						-0.48	14596	0.09
Health and Safety con	0.63	0.54	0.55a					-0.08	14596	0.10
Health and Safety con	0.67	0.38	0.13c	1.99a	0.34	0.00	-0.45	-0.29	9548	0.09
Union Relations str	-0.71a	0.37						1.08a	14596	0.04
Union Relations str	-0.56a	0.62b						1.19a	14596	0.05
Union Relations str	-0.59a	0.62c	0.15a					1.21a	13347	0.05
Union Relations str			0.15a	0.25a	0.51	-0.01b	0.11		14596	0.05
Union Relations con	-0.03	0.81						0.84	14596	0.06
Union Relations con	0.32	1.43b	0.11a					1.11	13347	0.07
Union Relations con	0.30	0.71	0.38a	1.51a	0.03	-0.01	-2.91a	0.41	14596	0.06
Workforce Reductions	-1.84	-2.49a						-0.66	14596	0.06
Workforce Reductions	-1.80	-2.43a	0.07					-0.63	14596	0.06
Workforce Reductions	-1.47	-2.54a	0.18b	-0.31	4.57a	0.33a	-15.75a	-1.07	13347	0.08

TABLE 13: **Regression results**

Panel A: Global and Local Community Relations

	P2P	RLBO	RJ	A	L	CH	M	Diff	Obs	R2
Supply Chain str	-0.61b	-0.38a						0.22	10474	0.08
Supply Chain str	-0.54c	-0.27b	0.07a					0.27	10474	0.08
Supply Chain str	-0.59c	-0.24b	0.06b	0.05	-0.20	0.00	-0.24c	0.35	9467	0.07
Supply Chain con	-2.24c	-0.13						2.11	12963	0.24
Supply Chain con	-1.63	0.97	0.68a					2.6c	12963	0.25
Supply Chain con	-1.68	0.79	0.45a	1.11a	-2.23b	-0.05c	-0.72	2.47	11790	0.25
Charity	-3.84a	-1.23b						2.61a	14596	0.05
Charity	-3.45a	-0.54	0.42a					2.91a	14596	0.06
Charity	-3.51a	-0.41	0.42a	0.06	1.09	0.12b	-2.38b	3.09a	13347	0.06
Adverse Impact	-0.79	-2.39a						-1.61b	14596	0.09
Adverse Impact	-0.29	-1.51a	0.53a					-1.23c	14596	0.10
Adverse Impact	-0.35	-1.79a	0.17b	1.89a	0.45	0.01	-4.55a	-1.44c	13347	0.12
Tax Disputes	1.96b	-1.49a						-3.45a	14596	0.06
Tax Disputes	2.32b	-0.86a	0.38a					-3.18a	14596	0.07
Tax Disputes	2.47b	-1.02a	0.16b	1.22a	0.33	-0.01	-2.72b	-3.49a	13347	0.08

TABLE 14: **Regression results**

Panel B: Environmental Performance

	P2P	RLBO	RJ	A	L	CH	M	Diff	Obs	R2
Waste Management con	-2.40b	-3.03a	1.07a					-0.63	14596	0.19
Waste Management con	-1.39	-1.26b	0.32a					0.13	14596	0.21
Waste Management con	-1.74b	-1.54b	0.16c	4.47a				0.21	13347	0.25
Compliance con	-0.37	-1.68b						-1.31	14596	0.16
Compliance con	0.43	-0.26	0.86a	4.36a	-0.24	0.02	-14.82a	-0.69	14596	0.17
Compliance con	0.21	-0.47	-0.04	-0.35		0.06b	-14.48a	-0.67	13347	0.21

Panel C: Product Issues

	P2P	RLBO	RJ	A	L	CH	M	Diff	Obs	R2
R and D str	-1.58a	-1.45a						0.13	14596	0.08
R and D str	-1.28b	-0.92b	0.32a					0.36	14596	0.08
R and D str	-1.20b	-0.65c	0.25a	0.47b	-4.16a	0.03	0.41	0.55	13347	0.08
Product Safety con	-4.07a	-2.39a						1.68a	14596	0.09
Product Safety con	-3.34a	-1.09b	0.79a					2.24a	14596	0.10
Product Safety con	-3.68a	-1.65b	0.12	3.14a	-1.08	-0.07b	-4.23a	2.03a	13347	0.13
Marketing con	0.03	-5.05a						-5.08a	14596	0.09
Marketing con	1.65	-2.19b	1.73a					-3.84b	14596	0.12
Marketing con	1.07	-3.06a	0.47a	5.85a	-2.07	-0.05	-9.96a	-4.13b	13347	0.13
Antitrust con	3.39b	-1.48b						-4.87a	14596	0.18
Antitrust con	4.17b	-0.09	0.84a					-4.26a	14596	0.07
Antitrust con	4.30b	-0.67	0.18b	3.19a	-0.83	0.03	-7.82a	-4.98a	13347	0.12

TABLE 15: **Persistance of the effect of PE ownership on KLD ratings**

Notes: Each row presents results from the regression of an underlying KLD rating on T, A0, A1, A2, A3 and control variables. The first regression for a given rating includes year and industry dummies and rating years as controls. The second regression adds log(Assets), leverage, cash holdings and profit margin. T refers to the dummy variable TARGETS that equals one if the firm is a PE target (both P2P and RLBO firms). A0, A1, A2 and A3+ refer to dummy variables After(0), After(1), After(2) and After(3+). After(0) equals one for RLBO firm that goes public during the current year, After(1), After(2) and After(3+) equal one for RLBO firm that went public one, two, three or more years ago, respectively. PERM is a coefficient on RLBO from the regression of an underlying rating on TARGETS, RLBO and controls (Diff coefficient from previous Tables). Robust standard errors are presented.

Panel A: Corporate Governance and Board Diversity

	T	A0	A1	A2	A3+	Perm	Obs	R2
Limited Comp	0.73	-7.31	-4.04	-3.26	-6.26b	-5.9b	14596	0.11
Limited Comp	1.46	-6.15	-4.23	-3.48	-5.43b	-5.22b	13347	0.18
High Comp	-5.17b	-5.89	-4.79	0.40	8.09b	5.36c	14057	0.15
High Comp	-5.88b	-6.41	-4.05	2.30	6.61b	4.45c	12829	0.25
Transparency str	-2.01	5.64b	4.76b	3.97b	-0.12	1.25	2404	0.15
Transparency str	-2.16	4.25b	5.10b	4.46b	-0.48	1.05	2056	0.16
Transparency con	1.46	-1.48	-1.45	-1.45	-1.46	-1.46	4814	0.02
Transparency con	1.74	-1.72	-1.70	-1.70	-1.72	-1.72	4250	0.03
Accounting con	6.08	-5.62	-8.40	-8.51	-6.76	-7.09	2404	0.06
Accounting con	4.48	-6.09	-6.89	-6.33	-5.44	-5.75	2056	0.07
CEO minority str	2.11	-1.30	-1.14	0.67	-2.74c	-2.23	14596	0.02
CEO minority str	2.66c	-1.80	-1.44	0.36	-3.01c	-2.53	13347	0.03
Dir. minority str	4.29b	-6.79a	-7.94a	-7.55a	-5.94b	-6.3a	14596	0.09
Dir. minority str	4.67b	-8.03a	-8.33a	-8.32a	-7.02a	-7.31a	13347	0.11
Women Repr con	3.37	2.36	10.40c	7.98	-2.84	-0.46	14596	0.12
Women Repr con	3.84	1.55	10.95c	6.63	-1.43	0.49	13347	0.15

Panel B: Employee Relations and Workplace Conditions

	T	A0	A1	A2	A3+	Perm	Obs	R2
Work/Life Benefits	-5.25a	7.26a	6.18a	5.00a	2.73a	3.53a	14596	0.11
Work/Life Benefits	-5.75a	7.19a	6.73a	5.61a	2.49a	3.42a	13347	0.15
Employee Involvement str	-2.66c	3.86c	1.07	0.20	0.90	1.07	14596	0.11
Employee Involvement str	-2.59	4.28c	1.63	0.95	0.81	1.13	13347	0.12
Employee Discr.	2.13	-2.47	-1.24	-2.08	-2.45	-2.31	14596	0.07
Employee Discr.	1.95	-2.34	-0.94	-1.66	-2.65	-2.4	13347	0.10
Retirement Benefits str	-0.07	2.36	0.39	-0.91	-0.72	-0.42	14596	0.05
Retirement Benefits str	-0.08	2.38	0.37	-0.76	-1.06	-0.68	13347	0.06
Retirement Benefits con	5.70b	3.87	8.52	-3.77	-10.41a	-7.23b	14596	0.09
Retirement Benefits con	5.05c	4.40	9.29	-4.97	-9.47b	-6.54b	13347	0.10
Health and Safety str	-0.79c	0.68	0.52	0.89	-1.08b	-0.64	9548	0.13
Health and Safety str	-1.40b	1.43	1.05	1.57b	-0.79	-0.27	8607	0.15
Health and Safety con	0.62	7.95c	2.07	-0.98	-0.97	-0.08	14596	0.09
Health and Safety con	0.67	8.57c	2.04	-1.12	-1.25	-0.29	13347	0.10
Union Relations str	-0.56a	0.64b	0.64b	0.54b	1.37b	1.19a	14596	0.05
Union Relations str	-0.59a	0.69b	0.59b	0.51c	1.40b	1.21a	13347	0.05
Union Relations con	0.32	0.65	1.19	0.37	1.21	1.11	14596	0.06
Union Relations con	0.30	0.58	1.48	-1.22	0.44	0.41	13347	0.07
Workforce Reductions	-1.80	0.94	0.99	1.58	-1.18	-0.63	14596	0.06
Workforce Reductions	-1.47	1.55	1.06	1.31	-1.78	-1.07	13347	0.08

TABLE 16: **Persistance of the effect of PE ownership on KLD ratings continued**

Notes: See the previous Table for the definition of various variables.

Panel A: Global and Local Community Relations

	T	A0	A1	A2	A3+	Perm	Obs	R2
Supply Chain str	-0.54c	0.69b	0.50c	0.2	0.2	0.27	10474	0.08
Supply Chain str	-0.59c	0.76b	0.59c	0.26	0.29	0.35	9467	0.07
Supply Chain con	-1.63	2.09	1.98	0.63	2.92c	2.6c	12963	0.25
Supply Chain con	-1.68	2.29	2.12	0.69	2.71	2.47	11790	0.25
Charity	-3.45a	3.34a	2.99a	2.80a	2.88a	2.91a	14596	0.06
Charity	-3.51a	3.37a	3.16a	2.89a	3.08a	3.09a	13347	0.06
Adverse Impact	-0.29	-1.09	0.78	0.13	-1.61b	-1.23c	14596	0.10
Adverse Impact	-0.35	-1.05	0.84	0.22	-1.90b	-1.44c	13347	0.12
Tax Disputes	2.32b	-2.10b	-2.85b	-2.65b	-3.37a	-3.18a	14596	0.07
Tax Disputes	2.47b	-2.33b	-2.97b	-2.78b	-3.72a	-3.49a	13347	0.08

Panel B: Environmental Performance

	T	A0	A1	A2	A3+	Perm	Obs	R2
Waste Management con	-1.4	5.00c	4.32b	4.46b	-1.24	0.13	14596	0.21
Waste Management con	-1.74b	6.40b	4.99b	5.22b	-1.4	0.21	13347	0.25
Compliance con	0.43	0.72	-0.3	0.06	-0.95	-0.69	14596	0.17
Compliance con	0.21	1.32	0.16	0.48	-1.06	-0.67	13347	0.21

Panel C: Product Issues

	T	A0	A1	A2	A3+	Perm	Obs	R2
R and D str	-1.28b	1.31b	1.53b	0.62	0.11	0.36	14596	0.08
R and D str	-1.20b	1.93b	1.99a	1.08c	0.21	0.55	13347	0.08
Product Safety con	-3.34a	1.49c	1.25c	0.63	2.59a	2.24a	14596	0.10
Product Safety con	-3.68a	1.59	1.28	0.66	2.29b	2.03a	13347	0.13
Marketing con	1.65	-4.38b	1.35	-6.32b	-4.13b	-3.84b	14596	0.12
Marketing con	1.07	-4.33b	0.52	-5.83b	-4.47b	-4.13b	13347	0.18
Antitrust con	4.17b	-3.39b	-3.26c	-3.51c	-4.54b	-4.26a	14596	0.09
Antitrust con	4.30b	-3.82b	-3.41c	-3.61c	-5.39a	-4.98a	13347	0.12

TABLE 17: **Pre-LBO ratings and exit types**

Notes: The last column shows t-statistics for the mean equality between trade-sale and bankruptcy exit types.

Panel A: Corporate Governance and Board Diversity

	No exit		Trade Sale		Bankruptcy		t-stat
	Mean	N	Mean	N	Mean	N	
Limited Comp	13.3	308	0.0	12	0.0	4	0.0
Adjusted	1.9	307	-10.2	12	-9.3	4	0.9
High Comp	20.8	293	0.0	11	0.0	3	0.0
Adjusted	-11.3	292	-29.6	11	-16.1	3	13.5c
Transparency str	0.0	27	.	0	.	0	
Adjusted	-3.1	27	.	0	.	0	
Transparency con	1.4	72	.	0	.	0	
Adjusted	1.4	72	.	0	.	0	
Accounting con	11.1	27	.	0	.	0	
Adjusted	4.9	27	.	0	.	0	
CEO minority str	7.8	308	0.0	12	0.0	4	0.0
Adjusted	3.7	307	-3.7	12	-3.6	4	0.1
Directors minority str	12.3	308	8.3	12	0.0	4	-8.3
Adjusted	2.3	307	-2.0	12	-7.1	4	-5.2
Women Repr con	25.6	308	16.7	12	25.0	4	8.3
Adjusted	4.1	307	-1.3	12	6.3	4	7.6

Panel B: Employee Relations and Workplace Conditions

	No exit		Trade Sale		Bankruptcy		t-stat
	Mean	N	Mean	N	Mean	N	
Work/Life Benefits	0.0	308	0.0	12	0.0	4	0
Adjusted	-7.1	307	-13.8	12	-2.1	4	11.6c
Employee Involvement str	8.1	308	0.0	12	0.0	4	0
Adjusted	-4.1	307	-22.0	12	-27.7	4	-6
Employee Discrimination	8.1	308	0.0	12	0.0	4	0
Adjusted	0.3	307	-3.3	12	-5.0	4	-2
Retirement Benefits str	0.3	308	33.3	12	25.0	4	-8
Adjusted	-2.4	307	27.2	12	20.0	4	-7
Retirement Benefits con	26.0	308	16.7	12	0.0	4	-17
Adjusted	0.9	307	1.2	12	-26.3	4	-28
Health and Safety str	0.0	188	0.0	5	.	0	
Adjusted	-2.2	188	0.0	5	.	0	
Health and Safety con	3.6	308	0.0	12	0.0	4	0
Adjusted	0.6	307	-2.7	12	-1.0	4	2
Union Relations str	0.0	308	0.0	12	0.0	4	0
Adjusted	-0.4	307	-0.6	12	0.0	4	1
Union Relations con	2.9	308	0.0	12	0.0	4	0
Adjusted	0.3	307	-1.5	12	-3.5	4	-2
Workforce Reductions	5.2	308	0.0	12	25.0	4	25.0c
Adjusted	-1.8	307	-10.2	12	24.3	4	34.5b

TABLE 18: **Pre-LBO ratings and exit types continued**

Notes: The last column shows t-statistics for the mean equality between trade-sale and bankruptcy exit types.

Panel A: Global and Local Community Relations

	No exit		Trade Sale		Bankruptcy		t-stat
	Mean	N	Mean	N	Mean	N	
Supply Chain str	0.0	206	0.0	6	.	0	
Adjusted	-0.7	206	-0.1	6	.	0	
Supply Chain con	4.2	265	0.0	9	.	0	
Adjusted	-2.8	264	-6.4	9	.	0	
Charity	0.0	308	0.0	12	0.0	4	0
Adjusted	-4.0	307	-6.5	12	-17.7	4	-11.2b
Adverse Impact	1.0	308	0.0	12	0.0	4	0
Adjusted	-1.2	307	-4.8	12	-2.1	4	3
Tax Disputes	2.9	308	0.0	12	0.0	4	0
Adjusted	1.8	307	-0.3	12	-1.0	4	-1

Panel B: Environmental Performance

	No exit		Trade Sale		Bankruptcy		t-stat
	Mean	N	Mean	N	Mean	N	
Waste Management con	0.97	308	0.00	12	25.00	4	25.0c
Adjusted	-2.94	307	-5.29	12	22.92	4	28.2b
Regulatory Compliance con	3.25	308	0.00	12	0.00	4	0
Adjusted	-0.75	307	-5.32	12	-5.21	4	0.1

Panel C: Product Issues

	No exit		Trade Sale		Bankruptcy		t-stat
	Mean	N	Mean	N	Mean	N	
Research and Development str	0.32	308	0.00	12	0.00	4	0
Adjusted	-1.71	307	-9.88	12	-2.08	4	7.8
Product Safety con	0.32	308	0.00	12	0.00	4	0
Adjusted	-3.95	307	-3.48	12	-0.71	4	2.8
Marketing con	8.77	308	0.00	12	0.00	4	0
Adjusted	-1.32	307	-4.95	12	-7.47	4	-2.5
Antitrust con	5.84	308	0.00	12	0.00	4	0
Adjusted	2.73	307	-2.16	12	-1.76	4	0.4

TABLE 19: **Post-LBO ratings and entry types**

Notes: Diff is a difference between the means of public and private firms. Unrest is an estimation coefficient of RLBO from the regression of a given KLD rating on TARGETS, RLBO and controls in an unrestricted sample. Rest is a same coefficient in a sample where only those RLBO firms are included that were public before LBO.

Panel A: Corporate Governance and Board Diversity

	Private		Public		Diff	Unrest	Restr
	Mean	Obs	Mean	Obs			
Limited Comp	9.5	754	9.7	93	0.1	-5.22b	-3.01
Adjusted	-2.6	754	-0.7	93	1.9		
High Comp	24.1	752	28.6	91	4.5	4.45c	4.25
Adjusted	-7.3	752	-6.1	91	1.2		
Transparency str	0.0	181	0.0	15	0.0	1.05	-0.67
Adjusted	-2.9	181	-2.4	15	0.5		
Transparency con	0.0	356	0.0	31	0.0	-1.72	-1.70
Adjusted	0.0	356	0.0	31	0.0		
Accounting con	2.8	181	0.0	15	-2.8	-5.75	-9.29
Adjusted	-2.2	181	-5.8	15	-3.6		
CEO minority str	3.7	754	0.0	93	-3.7c	-2.53	-6.31a
Adjusted	-0.3	754	-4.2	93	-3.9b		
Directors minority str	3.1	754	2.2	93	-0.9	-7.31a	-8.88a
Adjusted	-4.6	754	-4.3	93	0.2		
Women Repr con	35.8	754	24.7	93	-11.1b	0.49	-6.02
Adjusted	9.0	754	-2.8	93	-11.8b		

Panel B: Employee Relations and Workplace Conditions

	Private		Public		Diff	Unrest	Restr
	Mean	Obs	Mean	Obs			
Work/Life Benefits	0.7	754	0.0	93	-0.7	3.42a	2.29b
Adjusted	-4.6	754	-3.9	93	0.8		
Employee Involvement str	3.8	754	11.8	93	8.0a	1.13	3.86
Adjusted	-4.1	754	-0.6	93	3.5		
Employee Discrimination	4.1	754	5.4	93	1.3	-2.40	-2.33
Adjusted	-1.9	754	-1.3	93	0.6		
Retirement Benefits str	1.3	754	0.0	93	-1.3	-0.68	-2.04b
Adjusted	-1.2	754	-1.8	93	-0.7		
Retirement Benefits con	25.2	754	16.1	93	-9.1c	-6.54b	-13.72b
Adjusted	-2.9	754	-6.8	93	-3.9		
Health and Safety str	0.2	656	1.6	61	1.5b	-0.27	-0.66
Adjusted	-3.2	656	-1.8	61	1.4		
Health and Safety con	4.5	754	2.2	93	-2.4	-0.29	-1.85
Adjusted	0.1	754	-0.8	93	-0.8		
Union Relations str	0.0	754	7.5	93	7.5a	1.21a	7.93b
Adjusted	-0.4	754	7.2	93	7.6a		
Union Relations con	2.1	754	10.8	93	8.6a	0.41	9.13b
Adjusted	-0.2	754	9.2	93	9.4a		
Workforce Reductions	3.4	754	1.1	93	-2.4	-1.07	-4.88b
Adjusted	-2.6	754	-6.0	93	-3.4c		

TABLE 20: **Post-LBO ratings and entry-types continued**

Notes: Diff is a difference between the means of public and private firms. Unrest is an estimation coefficient of RLBO from the regression of a given KLD rating on TARGETS, RLBO and controls in an unrestricted sample. Rest is a same coefficient in a sample where only those RLBO firms are included that were public before LBO.

Panel A: Global and Local Community Relations

	Private		Public		Diff	Unrest	Restr
	Mean	Obs	Mean	Obs			
Supply Chain str	0.0	693	0.0	70	0.0	0.35	0.64c
Adjusted	-0.5	693	-0.1	70	0.4		
Supply Chain con	6.7	746	5.7	87	-1.0	2.47	1.85
Adjusted	-0.3	746	-0.1	87	0.1		
Charity	0.5	754	5.4	93	4.8a	3.09a	7.20b
Adjusted	-1.5	754	3.3	93	4.8a		
Adverse Impact	0.4	754	0.0	93	-0.4	-1.44c	-1.52c
Adjusted	-2.3	754	-1.4	93	0.9		
Tax Disputes	0.0	754	0.0	93	0.0	-3.49a	-4.20a
Adjusted	-1.3	754	-1.2	93	0.1		

Panel B: Environmental Performance

	Private		Public		Diff	Unrest	Restr
	Mean	Obs	Mean	Obs			
Waste Management con	1.1	754	1.1	93	0.0	0.21	-0.73
Adjusted	-2.7	754	-2.5	93	0.2		
Regulatory Compliance con	3.2	754	2.2	93	-1.0	-0.67	-1.89
Adjusted	-1.1	754	-0.5	93	0.6		

Panel C: Product Issues

	Private		Public		Diff	Unrest	Restr
	Mean	Obs	Mean	Obs			
Research and Development str	0.8	754	0.0	93	-0.8	0.55	-1.65b
Adjusted	-1.2	754	-3.3	93	-2.2b		
Product Safety con	1.3	754	9.7	93	8.4a	2.03b	9.33a
Adjusted	-3.1	754	6.7	93	9.9a		
Marketing con	3.4	754	10.8	93	7.3a	-4.13b	1.50
Adjusted	-5.5	754	1.7	93	7.2b		
Antitrust con	1.7	754	2.2	93	0.4	-4.98a	-3.93c
Adjusted	-1.5	754	0.7	93	2.2		

TABLE 21: **The effect of PE ownership and firm age**

Notes: Each column represent a regression of an underlying rating on TARGETS and RLBO dummies and controls. The first three main columns represent results from a regression with standard controls, but sample size corresponding to observations with non-missing firm age. The last three columns represents results from a regression with dummies based on firm age. Each firm age represents a separate dummy.

Panel A: Corporate Governance and Board Diversity

	Main			Firm Age Adjusted		
	T	RLBO	Obs	T	RLBO	Obs
Limited Comp	6.93c	-10.69b	5416	7.14c	-10.98b	5416
High Comp	-5.75c	2.97	5356	-5.73c	3.84	5356
Transparency str	-0.59	-0.83	1077	-0.61	-1.40	1077
Transparency con	2.74	-2.71	2200	2.78	-2.74	2200
Accounting con	2.63	-4.64	1077	3.80	-5.20	1077
CEO minority str	3.35	-3.94	5416	3.59	-4.42c	5416
Directors minority str	-3.29c	1.79	5416	-2.95	1.05	5416
Women Repr con	8.97b	-7.28	5416	8.10c	-6.25	5416

Panel B: Employee Relations and Workplace Conditions

	Main			Firm Age Adjusted		
	T	RLBO	Obs	T	RLBO	Obs
Work/Life Benefits	-4.39a	2.12b	5416	-3.98a	1.00	5416
Employee Involvement str	2.23	-3.87	5416	2.47	-4.77c	5416
Employee Discrimination	2.05	-1.46	5416	2.03	-1.20	5416
Retirement Benefits str	-0.34	-0.57	5416	-0.28	-0.82	5416
Retirement Benefits con	5.42	-6.10	5416	5.83	-7.16	5416
Health and Safety str	-1.20b	0.00	4366	-1.02c	-0.58	4366
Health and Safety con	2.28	-1.11	5416	2.22	-1.16	5416
Union Relations str	0.04	0.63b	5416	0.04	0.70b	5416
Union Relations con	-1.58a	2.26a	5416	-1.50a	2.03b	5416
Workforce Reductions	-3.08c	-0.19	5416	-2.81	-0.97	5416

TABLE 22: **The effect of PE ownership and firm age**

Panel C: Global and Local Community Relations

	Main			Firm Age Adjusted		
	T	RLBO	Obs	T	RLBO	Obs
Supply Chain str	0.10	-0.15	4686	0.14	-0.21	4686
Supply Chain con	0.36	1.11	5242	0.84	0.63	5242
Charity	-1.07a	1.27b	5416	-1.13b	1.37b	5416
Adverse Impact	-0.74b	-0.64c	5416	-0.71b	-0.87b	5416
Tax Disputes	1.06	-1.67	5416	1.11	-1.73c	5416

Panel D: Environmental Performance

	Main			Firm Age Adjusted		
	T	RLBO	Obs	T	RLBO	Obs
Waste Management con	0.70	-1.14	5416	0.69	-1.37	5416
Regulatory Compliance con	-1.27b	1.63b	5416	-1.35b	1.60b	5416

Panel E: Product Issues

	Main			Firm Age Adjusted		
	T	RLBO	Obs	T	RLBO	Obs
Research and Development str	-1.19	0.19	5416	-1.31	0.18	5416
Product Safety con	-0.95b	0.52	5416	-0.81c	0.48	5416
Marketing con	3.07	-6.64b	5416	3.52	-7.59b	5416
Antitrust con	-1.10b	0.76	5416	-1.08b	1.09	5416

TABLE 23: **The effect of PE ownership and Aggregate Stakeholder Indices**

Notes: Each column represent a regression of an index on TARGETS and RLBO dummies and controls. Managerial compensation is a sum of Limited Comp and High Comp ratings. Transparency and Accounting is a sum of transparency and accounting ratings. Diversity is a sum of CEO minority strength, Directors minority strengh and Women Representation concern. Aggregate in employee relations and union is a sum of all ratings listed under this category in previous Tables. Monetary Benefits is a sum of Employee Involvement strength and retirement strength and concern. Non-monetary is a sum of Work/Life Benefit strength, Employee Discrimination concern, Health and Safety strength and concern. Union relations is a sum of union related ratings and workforce reduction concern.

Panel A: Corporate Governance and Diversity

	T	RLBO	RY	A	L	CH	M	Obs	R2
Managerial Compensation	-7.22b	9.50b	1.15a	20.22a	-7.65b	0.72a	0.88	12829	0.30
Transparency and Accounting	-6.67	6.80	0.41	0.13	-3.2	-0.17	1.09	2056	0.05
Diversity	3.49	-10.32b	2.49a	9.01a	-0.26	0.15	-12.43a	13347	0.16

Panel B: Employee Relations and Unions

	T	RLBO	RY	A	L	CH	M	Obs	R2
Aggregate	-3.21	1.62	1.08b	2.59b	-24.92a	-0.38b	56.92a	8607	0.08
Monetary Benefits	-7.72b	6.98c	0.42b	3.11a	-10.04a	0.17	23.42a	13347	0.13
Non-monetary Benefits	-6.44b	2.39	1.20a	-0.17	-3.17	-0.04	11.32a	8607	0.07
Union Relations	0.59	1.87	-0.14	-0.95a	-4.08b	-0.33a	18.77a	13347	0.06

TABLE 24: **The effect of PE ownership and Aggregate Stakeholder Indices**

Notes: Each column represent a regression of an index on TARGETS and RLBO dummies and controls. Aggregate in global and local community relations is a sum of all ratings listed under this category in previous Tables. Global is a sum of Supply Chain concern and strength. Local is a sum of Charity strength and Adverse Impact concern. Enironment is a sum of all ratings listed under Environmental Performance category in previous Tables. Product is a sum of all ratings listed under Product Issues category in previous Tables. Aggregate in Stakeholder Orientation is a sum of all KLD ratings excluding those related to compensation, transparency and accounting.

Panel A: Corporate Governance and Diversity

	T	RLBO	RY	A	L	CH	M	Obs	R2
Managerial Compensation	-7.22b	9.50b	1.15a	20.22a	-7.65b	0.72a	0.88	12829	0.30
Transparency and Accounting	-6.67	6.80	0.41	0.13	-3.2	-0.17	1.09	2056	0.05
Diversity	3.49	-10.32b	2.49a	9.01a	-0.26	0.15	-12.43a	13347	0.16

Panel B: Employee Relations and Unions

	T	RLBO	RY	A	L	CH	M	Obs	R2
Aggregate	-3.21	1.62	1.08b	2.59b	-24.92a	-0.38b	56.92a	8607	0.08
Monetary Benefits	-7.72b	6.98c	0.42b	3.11a	-10.04a	0.17	23.42a	13347	0.13
Non-monetary Benefits	-6.44b	2.39	1.20a	-0.17	-3.17	-0.04	11.32a	8607	0.07
Union Relations	0.59	1.87	-0.14	-0.95a	-4.08b	-0.33a	18.77a	13347	0.06

Panel C: Community Relations

	T	RLBO	RY	A	L	CH	M	Obs	R2
Aggregate	-1.88	3.53	-0.45b	-3.64a	3.70b	0.11b	4.45b	9467	0.14
Global	-0.27	-1.20	-0.52a	-0.98a	2.61b	0.07b	0.30	9467	0.23
Local	-3.15a	4.53a	0.25b	-1.83a	0.64	0.11b	2.17	13347	0.08

Panel D: Environment and Product Issues

	T	RLBO	RY	A	L	CH	M	Obs	R2
Environment	1.54	0.47	-0.13	-8.83a	0.59	-0.08b	29.30a	13347	0.30
Product	-3.24	8.09b	-0.53b	-11.57a	-0.21	0.11	21.50a	13347	0.23

Panel E: Stakeholder Orientation

	T	RLBO	RY	A	L	CH	M	Obs	R2
Aggregate	-11.36	11.06	2.42a	-16.55b		-0.05	79.13a	8607	0.11

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