WEAK SHAREHOLDER RIGHTS: A PRODUCT MARKET RATIONALE

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Abstract

In product markets where customers care about firm survival, strong shareholder power can have detrimental implications on firm performance by affecting the likelihood that the firm is acquired. We use a framework where firms choose their level of shareholder rights after comparing the costs of takeover vulnerability, i.e., the loss of customers, with the synergistic benefits of an acquisition. This generates two testable implications. First, it is optimal to have weaker shareholder rights in competitive markets. Second, this link between competition and shareholder rights is stronger in industries characterized by long-term customer relationships. Using data on shareholder rights in the corporate charter, we empirically find that indeed firms have stronger shareholder rights in concentrated industries and especially relationship based industries where customers tend to have a long-term relationship with the firm. We also document that weak shareholder rights are associated with worse performance only in non-competitive industries. Finally, we discuss the implications of this framework for the design of various governance mechanisms. In conclusion, the paper provides a rationale for why shareholders themselves might not want strong shareholder rights.

I. Introduction

A large body of theoretical and empirical work on corporate governance has emphasized the contracting problems between investors and managers. In response, several different governance mechanisms have been proposed and their impact on valuation investigated.[1] Yet, there has been little attention on the implications of strong corporate governance on agents outside the firm, even when these external agents can affect firm value. One such important agent is the customer whose choices in the product market directly affect firm value. Therefore, it is important to understand the link between corporate governance and customer choices before determining the strength of shareholder rights. The paper pursues this objective.

We first focus on an important governance mechanism – shareholder rights. These rights can broadly be thought of as a collection of firm-level charter provisions that affect managerial entrenchment, most prominently through takeover defense provisions. In the product market we consider, we assume that customers care for firm survival and have to incur switching costs in case a product is modified or discontinued.[2] We view these costs as one-time costs customers incur in familiarizing themselves with a new product. As a result, customers are less likely to consume products from a firm whose future existence is uncertain. This future uncertainty of survival is affected by the extent of shareholder rights since these rights affect the likelihood with which a firm will be acquired and thus won't survive in its existing form. The link between shareholder rights and customer choices is thus driven through the uncertainty of firm survival.[3]

The recent acquisition of PeopleSoft by Oracle is a useful example.[4] On June 6th, 2003, Oracle announced a hostile takeover of PeopleSoft.[5] In announcing the planned takeover, Larry

[1] For some surveys on governance see Shleifer and Vishny (1997) and Becht, Bolton and Roell (2003). For the impact of some of these governance mechanisms on firm valuation, see Gompers, Ishii and Metrick (2003) and Cremers and Nair (2005).
[2] See Chevalier and Goolsbee (2005) for supporting evidence and Titman (1984) and Campello and Fluck (2005) for an investigation of how such concerns drive capital structure decisions.
[3] A related argument for equity ownership of the customer in the supplier has been advanced by Fee et al. (2006).
[4] "Oracle to Launch Cash Tender Offer for PeopleSoft for $16 Per Share," PR Newswire, June 6, 2003.
[5] See Daines, Drabkin, and Nair (2005), and Arlen (2006)

Ellison, CEO of Oracle, stated that once the acquisition was complete, Oracle would discontinue development of PeopleSoft products.[6] At PeopleSoft's board meeting, to evaluate Oracle's offer Craig Conway, then-CEO of PeopleSoft, explained that he had already received numerous e-mails, voicemails, and other messages expressing concern from PeopleSoft customers. PeopleSoft sold complicated software that required subsequent customization as well as on-going vendor consulting and technical support. Customers therefore put heavy weight on a vendor's ongoing ability to support its products. With PeopleSoft's future in question, sales leads were allegedly being put on hold or simply evaporating. If customers were nervous about future support, the customers would not purchase the software, leading to a drop in PeopleSoft market share and profits.

Even in cases where the acquirer does not discontinue the target's products, the disruption due to a takeover can cause customers great concern, and competitors are often quick to act on this period of uncertainty. For example, when CVS acquired Eckerd stores, competing pharmacies put up signs that said, "If your local pharmacy is changing hands, you can always come to us".[7] After Sprint bought Nextel in 2005, "millions of its cell phone subscribers have defected to competitors", such that "Nextel executives say Sprint erred by downplaying the Nextel brand."[8] In the financial sector, in spite of best efforts to facilitate a smooth transition, bank acquisitions typically witness significant customer losses – one average estimate of these losses is 10-15% of target customers. In cases where cooperation from the target is limited this number is even higher. Wells Fargo is estimated to have lost 30% of First Interstate's customers.[9] To sum, customer losses due to the disruption accompanying takeovers are a real feature of the acquisition landscape. These examples are not atypical either. In a sample of unsolicited bids between 1990 and 2004, we investigate the change in sales between the quarters that preceded

[6] The statement also said that PeopleSoft customers would be encouraged to migrate to Oracle software, though the firm would continue to provide support for existing PeopleSoft products.
[7] "Says David Rickard, executive vice president, CFO, and chief administrative officer of the Woonsocket, Rhode Island–based pharmacy chain," in "Flight Risk", by Gay Jervey, CFO Magazine, 4/Oct/2005.
[8] "After Sprint and Nextel Merge, Customers and Executives Leave", by Amol Sharma, Wall Street Journal, 11/Oct/2006.
[9] "Banking", by Dee DePass, Satr-Tribune Newspaper of the Twin Cities, 16/July/1997.

and followed the takeover announcement date and find a 7% drop in firm sales after the takeover announcement (see Table 1). We take a closer look at such sales drops in section V, but these sales drops appear to be a systematic feature.

If switching costs make customers less likely to consume products from a firm whose future existence is uncertain or likely to be disturbed by a merger, an important governance implication of this customer behavior is that this makes it optimal for the firm to be better protected from takeovers. With strong shareholder rights, shareholders would always sell the firm on receiving a value-increasing bid and thus could not credibly commit to the customers ex ante to keeping the firm independent. As a result, a pre-commitment to firm survival leads to shareholder optimally choosing weak shareholder rights.[10] We show this in a theoretical setting with imperfect competition due to product-market differentiation (Klemperer (1987), Chevalier and Scharfstein (1996)). In this setting, firms choose their level of shareholder rights after comparing the ex-ante costs of takeover vulnerability, namely the loss of customers, with the ex-post synergistic benefits. This generates two testable implications. First, we show that it is optimal to have weaker shareholder rights in competitive markets. This is because in competitive markets, customers can more easily choose a close substitute (competitor) with fewer survival concerns, such that the loss in customers due to survival concerns is more severe. Second, the link between competition and shareholder rights is stronger in industries characterized by long-term relationships between customers and the firms. In those industries, switching costs will be higher, leading to increased customer concerns of survival.

To support these implications, we document several findings. First, we find that firms in more competitive environments (as measured by the Herfindahl index) indeed have weaker shareholder rights. Further, we confirm that the link between competition and shareholder rights is indeed related to actual takeover threats that competitors provide by separating domestic competition from competition provided by foreign firms. The documented link between weak

[10] Takeover defenses adopted by firms are examples of devices that credibly decrease shareholder rights. Since takeovers are less likely to succeed in the presence of such defense, customers might pay attention to such defenses on a takeover announcement.

shareholder rights and competition exists only when we consider domestic competition. Since foreign competition is not likely to provide a takeover threat (Rossi and Volpin (2004)), we view this finding as direct evidence of the importance of the takeover channel.

Next, our framework implies that survival-motivated weak shareholder rights should be more prevalent in industries characterized by long-term customer-firm relationships. Based on the extent of repeated interaction between customers and firms, we categorize industries into 'relationship' industries or not. Our categorization overlaps significantly with the standard classification of durable versus non-durable industries but has some differences that are explained in section V.[11] While our categorization is crude, we find that the link between shareholder rights and competition is stronger in the 'relationship' industries. We also find that the drop in quarterly sales on takeover announcements is economically and statistically significant only in such relationship industries.

We then analyze a firm's incentive to acquire if customers of the target firm could leave for another firm at the time of the acquisition. In this case, the acquirer can benefit more if there are fewer competing firms. Consequently, the likelihood of receiving bids in competitive industries is higher when the number of competing firms is lower. As a result, the link between weak shareholder power and competition is likely to be stronger as the number of firms in the industry is lower. We test this intuition and document that this link between shareholder rights and Herfindahl index is indeed stronger when the number of firms in the industry is lower.

Finally, we investigate how profitability is related to weak shareholder rights and product market competition. It has been argued that weak governance is associated with poor performance (Gompers, Ishii and Metrick (2003) and Cremers and Nair (2005)). We find that indeed weak shareholder rights are negatively related to measures of firm profitability, but only in non-competitive industries. In competitive industries, we find no association between weak shareholder rights and poor performance measures.

[11] This is not surprising since products that have a longer life, are more likely to need future maintenance.

Customer concerns for firm survival also have implications for corporate governance mechanisms beyond shareholder rights. Governance mechanisms that alleviate agency conflicts between managers and shareholders rely on reducing managerial entrenchment. Our results imply that such mechanisms should focus on threatening managerial survival without threatening firm survival. Therefore, in industries where firm survival is important to customers, governance is more likely to be based on internal mechanisms such as monitoring and incentives rather than on external takeover threats. We document evidence consistent with this view by showing that CEO compensation is more strongly tied to performance (as measured by the percentage of compensation that is equity-based) in competitive environments with fewer firms, more domestic competition and in 'relationship' industries.

Our paper is related to the research on the interaction between corporate governance and product market competition. Several researchers have proposed that product market competition reduces agency costs. A common argument in support of this idea is that competition would drive inefficient firms out of the market (Alchian (1950), Stigler (1958), Shleifer and Vishny (1997)). Another proposed reason on why higher competition might reduce agency costs has been the amount of available information about the firm. If this information varies between monopolies and competitive industries, it should affect the costs of monitoring (Holmstrom (1982), Nalebuff and Stiglitz (1983), Hart (1983)). However, it is only recently that supporting evidence has been documented by Perez-Gonzales and Guadalupe (2005).[12] They use the private benefits of control as an indicator of agency costs and document that product market competition and private benefits of control are indeed negatively related.

Our paper addresses a related, but different issue. First, we highlight that shareholder rights affect firm profits depending on product market competition. In other words, unlike these

[12] Another recent related paper on competition and governance is Kadyrzhanova (2006). However, the focus there is on the bidding competition in the market for corporate control. Empirically, however there is a closer relation since as a proxy for bidding competition, a measure of product market competition is used. However, the measure used is quite different from the one used here since it considers concentration of the largest four firms but only if import penetration is above the sample average. When the import penetration is low, the proxy for competition is low. The empirical results are consequently different from our main result. As we show, this is expected since the relations between concentration and shareholder rights look quite different based on whether competition is domestic or foreign.

earlier papers, we show that product market competition and shareholder governance mechanisms interact. In our framework, the existence of takeover defenses is conceivable even in the absence of agency costs. Thus, we show that one important shareholder governance mechanism, shareholder rights, can be costly from a product market perspective even if it reduces managerial agency costs.

Further, we employ two empirical proxies that suggest that our results are indeed driven by customer survival concerns rather than by product market competition acting as a substitute for the market of corporate control. First, our import measure is a proxy for competition (thus potentially reducing agency costs) that does not directly affect customer survival concerns, as it is not directly connected to takeovers. Second, relationship industries indicate where customer concerns would be largest, while it is unclear why that classification would be related to differences in agency costs. Critically, we find that more competition from imports does not increase takeover defenses, while our documented effects are exclusive to the relationship industries.

As discussed earlier, we also shed light on the mix between different governance mechanisms, and take the equilibrium agency costs in competitive or monopolistic industries as given. This is another important difference between this paper and the earlier literature on product markets and corporate governance.[13] Based on extant literature, we know little about how different shareholder governance mechanisms should be combined. More importantly, whether the mix between different shareholder governance mechanisms itself can be a function of product market competition is not clear. We show that it might indeed be the case that the design of corporate governance, and not just the strength, can depend on the nature of the product markets.

The remainder of this paper proceeds as follows. The next section develops the theoretical framework. In Section III, we describe the data used to test our framework. Section IV

[13] Fulghieri and Suominen (2005) study the interaction between corporate governance, competition and capital structure in a model that relies on agency problems in equity and bond markets. Our model abstracts from many of their interesting interactions to show that even without agency problems shareholder rights play an important role.

investigates the link between shareholder rights and industry competition. Section V highlights the importance of the nature of products. In section VI, we highlight the impact of weak shareholder rights on profitability measures. We shed some light on the design of governance mechanisms in Section VII. The conclusion follows.

II. Optimal Yet Weak Shareholder Rights

We formalize our intuition using a two-period framework in the spirit of Klemperer (1987) and Chevalier and Scharfstein (1996) where two firms compete for two periods and produce a single competing product each; and where customers face switching costs. For simplicity, the two firms (firm A and firm B) are located at the two ends of a line of unit length. Customers are located on this line and are indexed by their distance j from the firm at location 0 (firm A). We take the 'travel cost' d between those two products as a measure of product market competition. Therefore, the notion of competition is directly related to product market differentiation, with the model relying on such imperfect competition. We can think of the two competing products as differentiated in their characteristics, with consumers' locations in the interval representing their optimal preference for these characteristics. Since our focus is on the competition in the first period and its effects on shareholder rights, we assume that, in the second period, the travel cost, d is set to 0.

II. 1. The Product and Firms

Customers derive a short term utility gain from consumption. This gain is denoted by R. However, customers face a switching cost (L) if the product they consume in the first period is modified or discontinued. As discussed in the introduction, we view these costs as one-time costs the customers incur in familiarizing themselves with a new product.

The monetary profits that firms generate are denoted by $\Pi(.)$. We assume that the marginal costs are constant and the same for both firms in both the periods, and are given by c.

The prices charged by the firms are denoted by P_h^i, where i denotes the time period (1 or 2) and h denotes the firm (firm A or firm B).

II. 2. Takeovers

We modify the framework used by Chevalier and Scharfstein (1996) by allowing firms to attempt takeovers and, if successful, merge.[14] To capture differences in takeover success, we assume that firms can have a different level of shareholder rights, which is chosen optimally by the shareholders themselves. In general, firms that have weak shareholder rights are less likely to be successfully taken over and firms with strong shareholder rights are more likely to be taken over. This can be rationalized by noting that shareholders and managers might want different outcomes once a takeover offer is made: shareholders gain from the ex-post takeover premium but managers of the target firm lose some private benefits. In our model, the level of shareholder rights is denoted by e and reflects the probability that a takeover attempt will fail. For simplicity, we consider the two extreme cases of $e = 0$ (strong shareholder rights, i.e., no takeover defenses and all takeover attempts are successful) and $e = 1$ (weak shareholder rights, i.e., complete protection from takeovers).

In the next two subsections, we consider two scenarios: the first scenario is that of a symmetric level of shareholder rights where both firms are protected from takeovers. In the second scenario, we look at the incentives for any firm to deviate from this scenario and strengthen shareholder rights.

Any takeover is assumed to be accompanied by a modification of the target's product. Such modification could be thought of as changes in the target's product offering due to the integration of the two firms. An extreme case – as illustrated by the PeopleSoft-Oracle case – would be the discontinuation of the product. We view such modifications as integral to the realization of the synergies that drive the acquirer to attempt the takeover in the first place.

[14] For simplicity, we rule out antitrust issues and regulatory issues with the takeover. The reported empirical results also hold if we focus on industries with more than 5 firms.

Therefore, a takeover is always accompanied with a switching cost for the customers of the target's firm.[15]

Further, for simplicity we assume that the merger synergies are a function k of the total market size. The premium paid by the bidder to the target, however, is a function of the target's market share, σ_T. In our model, the premium paid is higher as the target has a larger market share. We formalize this assumption below:

> A.1. The premium the target receives is given by $f(\sigma_T/\ \sigma_{AQ}\ )$, where $f(.)$ is an increasing function, σ_T is the market share of the target and σ_{AQ} is the market share of the acquirer.[16]

II. 3. Analysis

II. 3.1. Symmetric level of Shareholder Rights

We first consider the symmetric case, where both firms are identical in their level of shareholder rights and are both completely protected from takeovers. We first solve for the equilibrium in the second period. Since in this scenario both firms are fully protected, no takeover bids can succeed and the market shares remain the same in period two. The price is now

$$P^{2*} = R\,. \qquad (1)$$

This follows because of two simplifying assumptions. First, as in Chevalier and Scharfstein (1996), we assume that the travel cost in the second period is 0. Second, we assume

[15] The acquirer's customers might also face a cost of modification, but we assume that the cost is higher for the target firms. A possible reason might be the effect of product modification on the relative power of the target and acquirer management post-acquisition. Changing the acquirer's product more to lean towards a final product that looks more like the target's might strengthen the target's power. This however contradicts with our notion of takeovers where the target management loses private benefits.

[16] More precisely, the function should be increasing in $min(\sigma_T, \sigma_{AQ})/max(\sigma_T, \sigma_{AQ})$. In equilibrium the target is always smaller than the acquirer and hence we use this form for expositional ease. Qualitatively similar results obtain if we assume that the synergies are also a function of the target's market share with the same properties as in A.1.

that the switching cost, L, is higher than the reservation utility customers derive. Thus, customers would choose to consume the existing product for all prices less than R.

The second period profits for firm *h* are $(R-c)\sigma_h$, where *c* is the marginal cost for both firms. Since firms can charge customers a higher price in period two, each firm will take into account the expected future profits when deciding on the price in period one, P_h^1.

To derive the market shares, we now analyze a customer's decision in the first period. If both firms are protected ($e = 1$), then customer *j* will buy from firm A if

$$R - jd - P_{\mathrm{A}}^1 > R - (1-j)d - P_{\mathrm{B}}^1, \tag{2}$$

where *j* ($0 \le j \le 1$) is the preference of the customer for the characteristics of the products, *R* is the utility gain for the customer, and *d* denotes the travel cost per unit of distance.

The market share of firm A follows from (2) by setting an equality and solving for *j*, and is given by

$$\sigma_{\mathrm{A}} = \frac{1}{2} - \frac{P_{\mathrm{A}}^1 - P_{\mathrm{B}}^1}{2d}, \tag{3}$$

and similarly,

$$\sigma_{\mathrm{B}} = 1 - \sigma_{\mathrm{A}} = \frac{1}{2} + \frac{P_{\mathrm{A}}^1 - P_{\mathrm{B}}^1}{2d}. \tag{4}$$

Each firm *h* (firm A or firm B) maximizes

$$(P_h^1 - c)\sigma_h + (R-c)\sigma_h, \tag{5}$$

i.e., it maximizes over the profits in both periods.

The optimal price follows from substituting (4) into (5) and solves

$$P_{\mathrm{A}}^{1} = \frac{d + 2c - R}{2} + \frac{P_{\mathrm{B}}^{1}}{2}. \qquad (6)$$

In a symmetric equilibrium,

$$P^{1*} = d + 2c - R, \qquad (7)$$

such that the total profits are given by

$$\frac{d + c - R}{2} + \frac{R - c}{2} = \frac{d}{2}, \qquad (8)$$

with a first-period margin of $d+c-R$ and a market share of $\frac{1}{2}$.

It is useful to note here that the level of product market competition is directly related to the profit margin d. As a result, the net profit margin serves as one of the proxies for product market differentiation in our empirical tests.

II. 3.2. Asymmetric level of Shareholder Rights

If one of the firms deviates (say, firm A) and chooses strong shareholder rights ($e = 0$), the likelihood of firm A being taken over is 1 since mergers are associated with synergies in our framework. We assume that the value of the synergies is equal to k and that the takeover premium is an increasing function of the target's market share.[17] For simplicity, we take the functional form of the premium to be $k\sigma_{\mathrm{A}}$, where k is a constant and σ_A is the market share of the

[17] More precisely, it is k times the market share of the combined firm after the takeover. Qualitatively similar predictions obtain if we let the value of the synergies to the bidder be a function z of σ_A.

target. Thus, the target value in the second period is $(R\text{-}c)\sigma_A + k\sigma_A$. To obtain this market share we analyze the customer's problem in the first period.

Since customers realize that firm A will be taken over in the second period, customer *j* will purchase from firm A only if

$$R - P_{\mathrm{A}}^{1} - jd - L > R - P_{\mathrm{B}}^{1} - (1-j)d\,, \tag{9}$$

where *L* denotes the switching costs. The market share of firm A with *e*=0 is now

$$\max(\sigma_A^1,0) = \max\left(\frac{1}{2} - \frac{P_A^1 - P_B^1}{2d} - \frac{L}{2d},0\right), \tag{10}$$

and the optimal price chosen by firm A maximizes:

$$(P_A^1 - c)\sigma_A + (R-c)\sigma_A + k\sigma_A = (P_A^1 - 2c + R + k)\left(\frac{1}{2} - \frac{P_A^1 - P_B^1 + L}{2d}\right), \tag{11}$$

such that

$$P_A^{1*} = \frac{1}{2}(d + P_B^1 + 2c - R - k - L)\,, \tag{12}$$

and the other firm maximizes:

$$\begin{aligned}
&(P_B^1 - c)\sigma_B + (R-c)\sigma_B + k - \pi(\sigma_A) \\
&= (P_B^1 - 2c + R)\sigma_B + k - k\sigma_A \\
&= (P_B^1 - 2c + R + k)(1-\sigma_A) \\
&= (P_B^1 - 2c + R + k)\left(\frac{1}{2} + \frac{P_A^1 - P_B^1 + L}{2d}\right)
\end{aligned} \tag{13}$$

to get a price

$$P_B^{1*} = \frac{1}{2}(d + P_A^1 + 2c - R - k + L)\,, \tag{14}$$

$$P_B^{1*} - P_A^{1*} = \frac{2L}{3} \qquad \left[\begin{array}{l} P_A^{1*} = d + 2c - R - k - \frac{L}{3} \\ P_B^{1*} = d + 2c - R - k + \frac{L}{3} \end{array}\right], \tag{15}$$

with market shares of

$$\min(\sigma_B, 1) = \min\left(\frac{1}{2} + \frac{L}{6d}, 1\right) \tag{16}$$

$$\max(\sigma_A, 0) = \max\left(\frac{1}{2} - \frac{L}{6d}, 0\right), \tag{17}$$

and total profits equal to

$$= \left(d - \frac{L}{3}\right) \times \max\left(\frac{1}{2} - \frac{L}{6d}, 0\right) \ . \tag{18}$$

If d is small such that the loss in first period market share $\left(\frac{L}{6d}\right)$ is high (> ½) then firm A loses by changing from weak to strong shareholder rights. In addition, if L is high $\frac{L}{6d}$ is more likely to be >½ implying that in industries where L is high, firm would lose by going from weak to strong shareholder rights. The intuition is that when the market share is affected too much by switching to strong shareholder rights, the takeover premium is low.

It follows that the loss on shifting from weak to strong shareholder rights is high when the net profit margin d is low (i.e., if competition is high) and when switching costs L are high. This leads to our main proposition:

> ***Proposition 1:*** The loss in profits due to exposure to takeovers is increasing in the level of product market competition (differentiation) and in the costs incurred by customers due to the modification of the product.

This leads to our two main hypotheses.

Hypothesis 1: For a given level of switching costs (L), firms are less likely to have strong shareholder rights as product market competition increases (lower d).

Hypothesis 2: The relation between shareholder rights and product market competition is stronger as switching costs L increase.

The intuition behind both hypotheses is that, in the presences of switching costs, the firm needs to reassure its customers at time 1 that it will not accept a takeover bid at time 2. Without strong takeover defenses in place, the firm will accept any bid arriving at time 2, which customers will take into account at time 1.[18] Therefore, this is a straightforward example of a time-inconsistency problem. This is solved by the commitment device of decreasing shareholder rights (or equivalently increasing takeover defenses) at time 1. This assumes that, as is the case in practice, charter-level takeover provisions are not easily and only infrequently changed. As a result, shareholders consider the tradeoff involved in having weaker shareholder right, i.e., the tradeoff between a higher market share (more customers) and a lower probability of receiving the takeover premium associated with the synergies from a merger. In competitive industries and especially when switching costs are high, our framework shows that shareholders can optimally choose to have weaker shareholder rights.

III. Data

In this section we describe the data used to test the predictions of the model. Since several of our implications are at the industry-level, we utilize different industry measures of shareholder rights. For most of our paper and where the data allows, we use the 48 Fama-French

[18] We can also think of such a time inconsistency problem arising when a takeover bid first becomes public, and its resolution takes place in the following period.

industry classifications.[19] We form a proxy for the industry level shareholder rights by taking the equal-weighted industry average of each firm's shareholder rights G-index. We follow Gompers, Ishii and Metrick (2003) in defining the G-index at the firm level by summing up the number of shareholder rights provisions that each firm has. The G-index is based upon 24 provisions and is updated information in 1990, 1993, 1995, 1998, 2000, and 2002. For the years where the information is not updated, we assume the last available value. This data is obtained from the Investor Responsibility Research Center (IRRC) database.

We also use a refined measure of the G-index proposed by Bebchuk, Cohen, and Ferrell (2004) termed the E-index (entrenchment), which considers only 6 out of these 24 provisions: staggered boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, and supermajority requirements for charter amendments, and two "takeover readiness" provisions that boards put in place to be ready for a hostile takeover (poison pills and golden parachutes). Finally, we also use a third measure, the ATI-index from Cremers and Nair (2005) that is closely related to takeover vulnerability and considers only three common anti-takeover provisions that create significant obstacles for takeovers: preferred blank check, staggered boards, and restrictions on calling special meetings and action through written consent.

The univariate statistics on the industry level averages during our sample period from 1990 to 2003 are shown in Table 2. Due to the lack of IRRC data, 7 of the 672 industry-years are excluded from the analysis.[20] We find that the average industry has a G-index of 9.03. There is substantial variation in the industry level G-index, with a minimum industry average G-index of 5 and a maximum of 13 with a standard deviation of 1.09. One potential issue with the industry level analysis of the G-index is that not all industries get equal coverage in IRRC since the sample is based on the largest 1000 firms. We find that IRRC firms represent, on average, about 70% of the sales of an industry (not tabulated). However, we find no significant correlation

[19] See http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html. Our results are also robust to industry classifications based on 2-digit SIC codes.

[20] The reason is that the 1990 sample only contains information on about 500 firms while the coverage for later sample years has expanded to about 1,000 firms.

between the industry average G-index and a proxy for the representation (i.e., the fraction of firms or sales of the industry as represented in the IRRC database). Adding this proxy to the regressions discussed below, also does not affect the inferences. We thus conclude that there is no obvious bias induced by the use of IRRC data to proxy for industry level shareholder rights.

The other main variables for our analysis are industry measures of competition, for which we mainly use the Herfindahl-index based on sales of all firms with data available in Compustat. The Herfindahl index is given by $H= \Sigma_i (\Pi_i)^2$, where Π_i is the market share of company *i* and the summation is over the total number of firms in the industry. As a robustness check, we also use a Herfindahl measure based on sales of the largest four companies in each industry as provided by the Economic Census (1992). Since the Herfindahl index is directly related to the number of firms, we also use the Normalized Herfindahl-index. It is defined as (n x Herfindahl – 1)/(n – 1). As an additional proxy for competition, we employ the industry-level net profit margin. This proxy relates directly to our model parameter *d*, the degree of product differentiation. Industry-level net profit margin also relates closely to the concept of the Lerner Index as a measure of competition.

Finally, we also use a measure of foreign competition. The measure of foreign competition is denoted as 'Import' and is computed as ln(1+imports/domestic sales) based on Irvine and Pontiff (2005).[21] Imports and domestic sales are the value of shipments aggregated at the industry level of imports and sales of US firms, respectively, based on data from the NBER-CES Manufacturing Industry Database (Feenstra, 1996). This data is available annually from 1990-2001 for a subset of the 48 Fama-French industries. The use of 'Import' is motivated by the fact that 'Import' is strongly correlated with the degree of product market competition in the US (see Table 2, panel B) but is less likely to be related to takeover threats (see Rossi and Volpin, 2004). This allows us to disentangle the effects of product market competition and takeover threats on the extent of shareholder rights.

[21] We thank Paul Irvine for providing us with the data.

In order to control for other possible factors affecting the anti-takeover provisions at the industry level, we include a number of control variables. The selection of the variables is largely based on Gompers et al. (2003) and Cremers and Nair (2005). Since Gompers, Ishii and Metrick (2003) find that firms tend to have a higher G-index if they are large, have high institutional ownership, high trading volume, low sales growth, poor stock returns and low Tobin's Q, we control for these characteristics within each industry. Following Cremers and Nair (2005) who find that blockholdings and anti-takeover provisions are complements in affecting equity returns, we also control for blockholdings.

To proxy for size, we use the market value of equity (in millions). We then compute the industry-level proxy for size (Equity Value) as the (log of the) equal-weighted average size of all firms in Compustat in any particular industry-year. Institutional Ownership is the fraction of shares owned by institutional owners as identified by 13-D filings from the CDA Spectrum database. Proxying for trading, Trading Volume is the average of the monthly trading volume divided by the number of shares outstanding over the past five years. Sales Growth is the growth of sales in the prior five years. Prior Return is the average monthly return over the five years prior to the fiscal year end. TQ is Tobin's Q computed as market value of equity + book value of assets – book value of equity – deferred taxes divided by book value of assets.[22] Block Ownership is the fraction of shares held (in percent) by the largest institutional owner if it is at least 5%, and is zero otherwise. The block ownership is measured in the 4th quarter of the prior fiscal year. We also include ROA, the return-on-assets, calculated as net income divided by book value of assets, and the Dividend Yield defined as the dividend-to-share price ratio at fiscal year end.

IV. Results

IV. 1. Shareholder Rights and Product Market Competition

We first investigate the link between industry concentration and shareholder rights. To capture the extent of competition in the industry - the variable of interest - we use the Herfindahl

[22] If deferred taxes are missing then these are set to zero.

index of the industry. Since this measure captures industry concentration, a higher value of the Herfindahl index signifies lower competition. Thus, we would expect to find a positive relation between the Herfindahl measure and strong shareholder rights, or equivalently a negative relation between the Herfindahl measure and managerial rights.

Table 2 displays correlation coefficients between the (Normalized) Herfindahl and our three proxies for industry average shareholder rights using the full panel sample. Consistent with our predictions, we find that all correlations are significantly negative. Thus, at the industry level, competition and shareholder rights are negatively correlated.

Table 3 presents results of industry-level pooled panel regressions using industry fixed-effects and year dummies where the dependent variable is the average level of shareholder rights in an industry. Errors are clustered by industry to account for the possibility that observations within an industry (through time) are not independent. As is seen from column 1, increases in industry concentration are statistically significantly associated with better shareholder rights. Variation in industry concentration, from the minimum to the maximum observed Herfindahl measure, can explain a difference of approximately 3 in the G-index levels between industries. Since the maximum variation in the industry level G-indices is 8 (see Table 2), the link between shareholder rights and industry concentration is economically important as well.

In column 2, we verify that this relation is robust to several control variables. Since these were described in detail in the previous section, we simply summarize them here. These include controls for industry size (average Equity Value), performance (average ROA, Sales Growth) and valuation (average industry TQ). We also use controls for the presence of institutional Block Ownership, since such blockholders can facilitate takeovers (Shleifer and Vishny, 1986). In addition, we control for Institutional Ownership since such shareholders might play a monitoring role. Finally, we also control for Dividend Yield. As can be seen, adding these controls does not

change the relation between shareholder rights and industry concentration.[23] We also find a weak relation that industries with lower trading volume and higher TQ are associated with weaker shareholder rights that however is not significant in the robustness regressions reported shortly. More interestingly, we find a robust relation between industries with larger firms and stronger shareholder rights. This finding is in contrast to cross-sectional firm-level regressions where Gompers, Ishii and Metrick (2003) and Cremers and Nair (2005) find that larger firms have weaker shareholder rights. Thus, these findings viewed together suggest that although large firms might have weaker shareholder rights across industries, a decrease in average industry size is associated with a decrease in the average level of shareholder protection. This is not inconsistent if new entering firms are likely to be smaller – making average industry size now lower - and are likely to enter in competitive industries. We would expect such a firm to have weaker shareholder rights, thus making average shareholder rights weaker.

In column 3, we report results using an OLS regression and clustering the errors by industry. Column 4 reports Fama-MacBeth type regression results where the coefficients are the average of the year-by-year cross-sectional regressions and the standard error is based on the time series distribution of the coefficients. We report the t-statistics for those coefficients. The negative coefficients on the Herfindahl variable indicate that our interpretation holds also in the cross-section of industries.[24]

In column 5, we use a more refined measure of shareholder rights proposed by Bebchuk, et al. (2004). Using this measure, denoted by E-index, we again find an association between strong shareholder rights and industry concentration that is significant at the 1% level. Finally, we focus on three of these measures that are important for takeovers and use the anti-takeover index (ATI) proposed in Cremers and Nair (2005). Once again, we find that concentrated industries are

[23] This relation is also robust to controls for industry heterogeneity in return, volatility, ROA, TQ and block ownership measured as the within industry standard deviation in these variables. In the interests of space, these results are not reported, and are available from the authors.

[24] In Appendix 1, we investigate changes in the industry-level Gindex around deregulation events for eleven industries and find that in all industries, Gindex increases prior to or in anticipation of the deregulation event. This provides some evidence that firms take product market characteristics into consideration when setting their shareholder rights.

more exposed to takeovers. Variation in industry concentration, from the minimum to the maximum observed Herfindahl measure, can explain a difference of approximately 1 in the E-index and ATI between industries. Since the maximum variation in the industry-level E-index is 5 and in the ATI is 2.5 (see Table 2), the link between shareholder rights and industry concentration is once again economically important.

Table 4 addresses some robustness concerns with our basic regression using the G-index. First, we note that the IRRC data from which these shareholder rights indices are formed are not updated every year.[25] To ensure that our results are not driven by this, in column 1 we use only those years where IRRC updates its data. In column 2, we use industry classifications based on 2-digit SIC codes rather than the 48 Fama-French industries. Next, column 3 employs an alternative construction of the Herfindahl index that does not rely on Compustat data but instead uses the measure of industry concentration that is reported in the Census data. Since these data are available for only the manufacturing sector, the number of available observations is now lower. Also, this measure is available only for one year and, consequently, we can only test our hypothesis using OLS. We find that the negative relationship between industry-level shareholder rights and the Herfindahl index is robust to these changes.

Our findings are also robust to using the industry average net profit margin as a proxy for product differentiation. The higher the net profit margin, the more successfully differentiated are the products. Our finding of a negative coefficient in column 4 and 6 (industry defined as two-digit SIC and FF48, respectively) is thus consistent with the predictions of the model.

Finally, the measure of concentration as determined by the Herfindahl index can be higher either because the number of firms is lower or because there is a higher asymmetry in the market shares across firms. It is then important to check that the relation between the Herfindahl measure and shareholder rights is driven due to the asymmetric market shares rather than due to

[25] The years during which IRRC is updates are 1990, 1993, 1995, 1998, 2000, 2002. We also run OLS regressions where the variables are constructed as differences between years with updated information. This limits the sample to firms that survive the years between IRRC updating. The inferences from this regression are the same as with the fixed effect regression and confirm that at least part of the effect we are capturing is coming from firms that change their shareholder rights as opposed to new firms entering the industry.

variation in the number of firms across industries. To check this, we use the normalized Herfindahl measure, which adjusts the Herfindahl measure for the number of firms in each industry, in column 5 of Table 4. We find our main result again robust. This may not be surprising given the high correlation between the Herfindahl measure and the normalized Herfindahl measure (Table 1), which directly suggests that the number of firms is not an important source of variation in the Herfindahl measure.

To summarize, the evidence shows that indeed, firms in competitive industries have weaker shareholder rights. This is consistent with our first hypothesis.

IV. 2. Low Agency Costs, Weak Shareholder Rights?

A possible alternative interpretation of our results thus far could be that product market competition decreases agency costs by disciplining managers (e.g., Hart, 1983). This suggests that product market competition is a substitute for other governance mechanisms. Since strong shareholder rights are less important when agency costs are weak, strong shareholder rights would then be less important in competitive markets. If the costs of strong shareholder rights are uniform across product markets, this may produce a link between competition and weak shareholder rights. More generally, the documented relation might be due to some omitted variable that is related to both shareholder rights and competition but is independent of takeovers and firm survival. To address this concern, we distinguish between competition provided by domestic firms and competition provided by foreign firms. Both provide a competitive threat in the product market. Consistent with this assumption, we find in Table 2, panel B, a significantly negative correlation between Import and Herfindahl. However, in our US-based sample, only domestic firms are likely to acquire domestic firms (e.g., Rossi and Volpin, 2004). Therefore, the Import measure serves to separate other interpretations of product market competition that are unrelated to acquisitions from the acquisition-related role of product market competition (as proxied by the Herfindahl measure).

Following Irvine and Pontiff (2005), our measure of foreign competition (Import) is the log of (1+imports/domestic sales), where imports are the value of shipments aggregated at the industry level and domestic sales are sales of domestic firms. Table 5, column 1 first confirms that our earlier result, using the Herfindahl index, holds in this smaller sample based on the NBER-CES data. Next, in column 2, the Herfindahl index is replaced by the measure of foreign competition (Import). Strikingly, we now find more competitive industries, i.e. higher Import, to be associated with better shareholder rights. Because the relation between shareholder rights and competition differs across foreign and domestic competition, these results indicate that the above alternative explanation is unlikely. Instead, since our hypotheses are confirmed only when competition is domestic and thus accompanied by a threat of acquisitions, these results support our interpretation that acquisitions and firm survival drive the choice of shareholder rights. In the following sections, we document more evidence supporting our framework and hence mitigating the concern that these results might be driven due to some omitted variables.

IV. 3. Evidence Using Product Characteristics

In the previous section, we document that concentrated industries have stronger shareholder rights, but only if the measure of concentration is also directly related to the threat of a takeover. This supports our framework where customer concerns of firm survival are mitigated through weak shareholder rights. Another important implication of our model is that this relation is stronger in industries where customer concerns about firm survival are likely to be higher (Hypothesis 2). Our framework suggests that the link between concentration and strong shareholder rights should exist only when customers care about firm survival.

To characterize which industries are more likely to cater to customers that care about firm survival, we use a simple classification. We expect customers that have longer relationships with the firms to be more concerned about firm survival. We use this notion to characterize industries into relationship and non-relationship industries, within two-digit-SIC industry groups. The following two-digit-SIC industries are classified as relationship industries: 15-17, 34-39, 42, 47,

50-51, 55, 60-65, 67, 75-76, and 87 (Appendix 2 contains a short description of those industries). Broadly, relationship industries are likely to operate in the service sector or the durable goods sector. Industries that provide services have an ongoing relationship with the client and hence are relationship-based. The software industry in which firms such as Oracle and PeopleSoft - as mentioned in the introduction – operate is an example. Industries that sell durable goods are likely to deal with the customer again, for either maintenance of servicing reasons. Prior literature has used this feature to argue that customers in durable industries are forward looking (see e.g. Chevalier and Goolsbee, 2005).[26] An example is the auto industry – as is confirmed by a recent article in the Wall Street Journal (Dec. 27, 2005) that reports that "only 26% of those polled in a recent survey said they would purchase or lease a new car from an auto maker that had declared bankruptcy."[27] Our classification also overlaps with Titman and Wessels' (1988) who classify manufacturing firms in the 3400-4000 SIC codes as firms producing goods that require future, specialized service or spare parts.

We first use this classification to investigate if the sales drop associated with unsolicited takeovers (as discussed in the introduction of the paper) is stronger in relationship industries. In a sample of 404 unsolicited bids between 1990 and 2004, 187 firms belong to industries classified as relationship-based. Changes in firm sales are tracked for five quarters around the takeover announcement. Since these takeovers are unsolicited, it is unlikely that the information of the takeover is leaked to the market participants. Therefore, sales changes in the quarter of the announcement indicate changes associated due to the takeover announcement.[28] We find that the drop in industry-adjusted sales between the quarter that precedes the takeover announcement and the quarter of the takeover announcement is 10% in relationship industries and is significant at

[26] At the same time, there are some durable goods where the customers are not likely to interact with the firm once the purchase has been made, and hence are less likely to be 'relationship industries'.

[27] Interestingly, based on our classification, the level of debt in relationship industries is significantly lower than the level of debt in non-relationship industries. See Titman (1984) and Campello and Fluck (2005) for more evidence on how firm survival affects capital structure decision.

[28] A potential concern with these changes might be that they are driven due to loss in employees, or due to managerial inattention to operations rather than customer loss. We partly mitigate this by showing that the results are stronger in industries where customer concerns for firm survival are higher. Additionally, this concern might also be less important if it might be easier to write termination contracts with employees than with customers.

the 1% level (see Table 6 and Figure 1). The analogous drop in non-relationship industries is only 4% and is not significant.[29] While the sales drop could come from existing customers switching or potential new customers not buy given the takeover threat, our assumption that customers buying decisions are affected by firm and product survival in a takeover situation – especially in relationship industries - is confirmed.

Next, our theory implies that the link between concentration and strong shareholder rights documented earlier is stronger in such relationship industries. To investigate this, we add two regression variables to the basic industry-level regression reported earlier in Table 3. The first is an interaction term between the Herfindahl measure and a dummy signifying whether the industry is a relationship industry or not, and the second is the relationship industry dummy by itself. Our framework suggests a negative and significant coefficient on the interaction term. Table 7 (column 1) reports that indeed in relationship industries, where customers are more likely to care about firm survival, more competition is associated with weaker shareholder rights. Table 7 (column 2) confirms this finding using only those years where the IRRC data is updated.[30] Strikingly, in non-relationship industries there is no such relation. There is even evidence of the opposite – that concentrated rather than competitive industries have weak shareholder rights. This would imply that customers would generally benefit from a takeover in non-relationship industries (in the context of our model, resulting in a negative L), especially in competitive industries, for example due to synergies that result in improved products. The synergistic benefits are more likely to be shared with customers if there is competitive price pressure.

The positive coefficient on the Herfindahl index for non-relationship industries is hard to reconcile with the hypothesis that competition is a substitute for other governance mechanisms. Even if competition works better as a substitute for governance in relationship industries, this would imply that competition would be less effective in non-relationship industries. However, it

[29] This drop in firm sales is robust to adjustments using a matched firm methodology based on size and industry.

[30] We also perform the robustness tests shown earlier that use a census based Herfindahl measure and a normalized Herfindahl measure and find similar results that, in the interests of space, are omitted.

would not suggest that competition becomes a complement mechanism to governance, as the data implies.

Finally, column 3 of Table 7 uses a modified industry classification based on Yogo (2005) that classifies firms into durable and non-durable industries and uses only industries in the manufacturing and the retail sector. This serves as an alternative classification of relationship industries as a robustness test. Again, we find that the link between industry concentration and strong shareholder rights exists only in durable industries, i.e., where customers are more likely to care about firm survival..

IV. 4. The Number of Firms

A potential concern with our model is that we only have two firms, such that customers do not really have a choice but to buy from the bidder. In this section, we extend our intuition to the scenario where there are more firms in an industry. We make an assumption that some customers of the target firm will now move to these 'other' firms and thus will not migrate to the acquirer. In particular, under this assumption we would expect to see more customers leaving the target when the number of other firms is high. This has implications for the bidder in that the synergies would be lower if more customers are departing. For some number of firms, it would then not pay to make an acquisition anymore. As a result, the link between shareholder rights and competition should be more important in industries with fewer firms.

As before, we run industry-level regressions with industry fixed-effects and year dummies, but with an additional variable that captures the interaction between the number of firms (1/#firms) and the Herfindahl measure. (1/#firms) is the inverse of the number of firms in each industry, based on firms reported in Compustat, and is computed for each year. A negative coefficient on this interaction term would indicate a stronger relation between strong shareholder rights and industry concentration when the number of firms in the industry is low. Thus, a negative coefficient on the interaction term would support our prediction that the reason for this prediction is that acquirers have a higher incentive to acquire when there are fewer firms since

customers of the target firm have fewer options. Indeed, as shown in Table 8, the coefficient on the interaction term is negative and significant at the 1% level. This suggests that the increase in shareholder rights associated with an increase in industry concentration is significantly stronger when the number of firms in the industry is lower. This finding is robust to the use of the normalized Herfindahl index (column 2), as well as to the use of the E-index (column 3) and the anti-takeover index (column 4).

Another way of testing whether the number of firms in an industry affects the choice of takeover defenses is to proxy for the probability of a takeover more directly. An important explanatory factor for a takeover is the size of the firm (e.g., Cremers, Nair and John, 2005). Smaller firms are more likely to be taken over than large ones. In Table 9, we use firm level data and investigate whether smaller firms in more competitive industries are more likely to have strong takeover defenses. We find that the coefficient on the interaction variable between our small firm size dummy (equal to one if the market value of the firm is below the sample median) and Herfindahl is significantly negative. This finding supports our theory to the extent that size is a proxy for becoming a target. Interestingly, the relation between Herfindahl and Gindex is positive and marginally significant for large firms, i.e., firms that are more likely to be bidders. Bidders seem less likely to impose switching costs on their customers and thus takeover defenses might not be optimal for such firms. The findings are robust to using OLS instead of industry fixed effects as shown in the second column. Further support for our theory comes from the addition of the relationship industry variable in the third column. In relationship industries the correlation between competition and takeover defenses is clearly strongest for small firms. The regression here is and OLS regression clustering the standard error at the firm level.

V. Implications for Performance

This section investigates the association between strong shareholder rights and profitability. Using accounting measures of profitability, previous research documented some evidence that weak shareholder rights is associated with poor performance (Gompers, Ishii and

Metrick, 2003 and Cremers and Nair, 2005). However, our theoretical structure suggests that firms that have weak shareholder rights should in fact be more profitable when operating in competitive industries. While there might be costs associated with weak governance that fall outside of our framework, we would at least expect to find the previously documented relation between poor performance and weak governance to be driven by firms in concentrated industries.

We use two firm-level measures of profitability that are directly related to product market performance, namely the return on assets (ROA) and the net profit margin (NPM).[31] ROA is defined as net income divided by total book value of assets and NPM is defined as income before extraordinary items available for common equity divided by sales.[32] Using these two measures, we compare the performances of firms with strong and weak shareholder rights. Following the cutoffs in Gompers et al. (2003), firms with G>13 are characterized as firms with weak shareholder rights and firms with G<6 are characterized as having strong shareholder rights.

In Table 10, we document some preliminary findings. We first note a finding that is consistent with the results documented in earlier studies. Within concentrated industries, i.e., with a Herfindahl measure that is above the median level of the Herfindahl measure, firms with strong shareholder rights have better performance measures than firms with weak governance measures. This improved performance is significant using NPM but not using ROA.

More interestingly, in competitive industries, firms with weak shareholder rights are associated with better performance than firms with strong shareholder rights in competitive industries. The difference in ROA between weak and strong shareholder rights firms is 0.8% and is significant at the 10% level. Similarly, the difference in NPM between weak and strong shareholder rights firms is 1.24% and again is significant at the 10% level.

Next, we test these performance implications more formally using a multivariate analysis. We estimate firm–level pooled panel regressions with firm-fixed effects, where the dependent

[31] These results are robust to using a firm's Q (not tabulated). However, interpreting the results based on Q is more problematic in our setting since a firm's Q is a function of the cost of capital, which itself might be related to shareholder rights (see, e.g., Cremers, Nair and John, 2005).
[32] We curtail NPM at the 1- and 99-percentile.

variable is one of the two performance measures and the independent variables include, among others, an interaction term between shareholder rights and a dummy variable signifying whether the firm is in an industry with a level of concentration that is below the median level of industry concentration.

Table 11 presents the results. The coefficients on the control variables are as expected, with larger firms with higher institutional holdings to be more profitable and dividend paying firms being less profitable. Directly relevant to our hypothesis, we find a negative and significant coefficient on the measure of managerial rights (G) in concentrated industries. For example, in concentrated industries an increase in shareholder rights from G = 15 to G = 5 is associated with an increase of 4% in terms of ROA and 3% in terms of NPM. However, in competitive industries there is no such underperformance associated with firms with weak shareholder rights. This is because the coefficient on the interaction term between shareholder rights and industry concentration is of the opposite sign and of a similar magnitude as the coefficient on the shareholder rights term. In fact, using NPM, it appears that in competitive industries firms with strong governance (low G) have lower performance measures.

Regressions 3 and 6 also include an interaction with the Relationship industry dummy. According to the data, those industries are even more likely to benefit from weaker shareholder rights.

Concluding, consistent with the framework presented in this paper, the costs of weak shareholder rights are higher in concentrated industries. In competitive industries, we find no such costs and some weak evidence of benefits to weak shareholder rights. Moreover, Gompers et al. (2003) document that firms with weaker shareholder rights have lower performance unconditional on product market competition. This suggests that the potential problem of reverse causality, wherein the most profitable firms increase takeover defenses, is not an issue affecting our results.

VI. An Extension: The Design of Governance

We have documented several strands of evidence in favor of the view that shareholder rights can have a detrimental impact on firm performance in competitive industries where customers care about firm survival. By designing weak shareholder rights, the firm is less likely to be acquired and is hence more likely to survive. However, in the presence of significant agency costs, it might be the case that firm survival itself depends on the extent to which shareholders can control managers. An undisciplined manager might drive the firm to bankruptcy and hence customers might lose due to such firm exit.[33]

Therefore, it is important to address how shareholders can still discipline the manager while having weak shareholder rights. Or equivalently, do weak shareholder rights always imply weak shareholder governance? Of course, among the different mechanisms that shareholders can use to discipline managers, shareholder rights provisions in the corporate charter are only one possible mechanism. If other mechanisms that do not expose a firm to the market for corporate control exist, shareholders are likely to use them. A simple example of a mechanism that does not expose the firms to takeovers is stock-based compensation.[34]

Thus, in cases where shareholder rights are optimally weak, shareholders might use a higher level of stock-based compensation to ensure managerial alignment with shareholder interests. Consequently, we investigate if competitive industries are associated not only with weak shareholder rights but with high performance-based pay as well. To characterize the level of performance based pay we use the ratio of equity compensation to the total compensation of the CEO from the ExecuComp database in Compustat. We compute the average performance-based pay in each industry and investigate if the average performance-based pay is lower in concentrated industries.[35] Indeed, as shown in Table 12 (column 1 and 2), we find that the

[33] A possible form of managerial indiscipline could be costly extraction of firm resources that, if left unchecked, can hurt the likelihood of firm survival.

[34] In the presence of a high performance based pay, managers would have a lower incentive to divert corporate resources.

[35] Cunat and Guadalupe (2005) find evidence that an increase in product market competition is accompanied by an increase in the pay-for-performance sensitivity using UK data.

fraction of equity compensation is lower in concentrated industries. Finally, this relation is also three times stronger in relationship industries.

In sum, industries that we predict to benefit from weak shareholder rights appear to be accompanied by a higher level of stock-based compensation. To the extent such performance-based pay is viewed as a device to align managers with shareholders, we don't expect dramatic misalignment between managers and shareholders despite weak shareholder rights.

VII. Conclusion

Several proponents of shareholder activism have advocated strengthening shareholder rights, making firms more vulnerable to takeovers and the discipline imposed by the market for corporate control (see, e.g., Bebchuk, 2005). However, these arguments ignore the implications of such vulnerability to the market for corporate control on customer decisions. If customers are less likely to consume products from a firm whose future existence is uncertain, such strong shareholder power can have a detrimental impact on firm performance. In this paper, we determine the optimal level of shareholder rights by investigating the impact of shareholder rights on customer choices. While strong shareholder power can make the firm less attractive to customers, it also opens up the possibility of a value increasing merger.

This tradeoff generates two new hypotheses. First, we show that it is optimal to have weak shareholder power in competitive markets. This result arises because the customer loss resulting from takeover threats is more severe in competitive markets. In addition, this greater loss of market share lowers any synergies from the acquisition and hence reduces the potential benefit to the target of having strong shareholder rights. Our model predicts that those effects are stronger in industries where customers face higher switching costs in case of a takeover. Such switching costs would thus lead customers to choose to buy from a firm which can offer a longer term survival.

The paper documents several findings to support our framework. First, we find that firms in more competitive environments (as measured by the Herfindahl index and the industry average

net profit margin) have weaker shareholder rights. Second, the documented link between weak shareholder rights and competition exists only when we consider domestic competition. Since foreign competition is not likely to provide a takeover threat (Rossi and Volpin, 2004), we view this finding as further evidence of the importance of the takeover channel. Third, we document that the link between shareholder rights and industry concentration is stronger in relationship and durable goods industries. Fourth, we find that the drop in quarterly sales around takeover announcements is 10% and is significant only in such relationship industries. Finally, we find weak shareholder rights to be associated with poor profitability, but only in non-competitive industries.

The importance of taking into account customer concerns when designing shareholder power has implications beyond vulnerability to the market for corporate control and bears more generally on the mix between different corporate governance mechanisms. Specifically, and especially in competitive relationship industries, governance mechanisms that alleviate agency conflicts between managers and shareholders should focus on threatening managerial survival without threatening firm survival. Thus, in those industries where firm survival is important for customer choices, governance is more likely to be based on internal mechanisms such as monitoring and incentives rather than through takeover threats. We document evidence consistent with this view, and show that in conditions where weak shareholder rights are justified, we also find high stock based compensation. Specifically, we find that stock based compensation is higher in competitive environments with higher domestic competition and relationship products. By showing the importance of product markets in the design of governance, we hope to have made a first step in understanding the fundamental limitations of strong shareholder power, or vice-versa the benefits of weak shareholder power.

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Appendix 1

Changes in industry Level Shareholder Rights around Deregulation Events

One concern with the use of shareholder rights to solve the time inconsistency problem is that charters and bylaws might not be updated very frequently. To study whether expected changes in the level of competition within an industry leads firms to adjust their shareholder rights, we investigate the effects of eleven major deregulation events. These events are taken from Harford (2005) and affect six different industries. Industries are defined as the 48 Fama-French industries.

The eleven deregulation initiatives, the industry they affect and the event year are: (Banking, 1991) Federal Deposit Insurance Corporation Improvement Act; (Entertainment, Petrol and Natural Gas, Utilities, 1992) Cable Television consumer Protection and Competition Act, Energy Policy Act, FERC Order 636; (Communications, Transportation, 1993) Elimination of State Regulation of Cellular Telephone Rates, negotiated Rates Act; (Transportation, Banking, 1994) Trucking Industry and Regulatory Reform Act, Interstate Banking and Branching Efficiency Act; (Transportation, 1995) interstate Commerce Commission Termination Act; (Communications, Utilities, 1996) Telecommunications Act, FERC Order 888.

In Figure 2, we display the industry average G-index around the deregulation year. We expect firms to increase takeover protection in anticipation of more competition. Up to the year before the event year, all industries increase their average G-index, consistent with the prediction that that expected higher future competition is more likely to lead to takeovers.

We also consider which firms change their charters or bylaws before the industry deregulation events. We would expect that firms exposed to higher takeover threats after the deregulation are more likely to change their takeover provisions ex ante. In the eleven industries we find that smaller firms increase the G-index more than large firms. We classify small firms as those with below industry median book value of assets among the sample firms in a given year. For example, the increase in average G-index from four years prior to the deregulation to the year of the deregulation is 0.99 (0.38) among small (large) firms. This average is based on the six events for which we have data four years prior to the event. The change in the two years prior (for

ten events) to the event is 0.46 (0.08). This difference is significant with a p-value of 0.03 based on a mean comparison test assuming unequal variances between the two samples. Thus, the data suggests that smaller firms are more likely to increase their takeover defenses in anticipation of greater competitive pressure. This conclusion is true even if we restrict our sample to firms that survive the two years prior to the deregulation, suggesting that existing firms adjust their charters and bylaws in anticipation of the change in competition (not tabulated).

Appendix 2 - Relationship Industries

The following table contains the description of the relationship industries. The industry classification is based on the two-digit SIC code. The detailed description is from the webpage of the U.S. Department of Labor at http://www.osha.gov/pls/imis/sic_manual.html.

SIC code	Industry	Detailed description
15	Building construction – general contractors and operative builders	This major group includes general contractors and operative builders primarily engaged in the construction of residential, farm, industrial, commercial, or other buildings. General building contractors who combine a special trade with the contracting are included in this major group.
16	Heavy construction other than buildings construction – contractors	This major group includes general contractors primarily engaged in heavy construction other than building, such as highways and streets, bridges, sewers, railroads, irrigation projects, flood control projects and marine construction, and special trade contractors primarily engaged in activities of a type that are clearly specialized to such heavy construction and are not normally performed on buildings or building-related projects. Specialized activities that are covered here include grading for highways and airport runways; guardrail construction; installation of highway signs; trenching; underwater rock removal; and asphalt and concrete construction of roads, highways, streets and public sidewalks.
17	Construction – Special trade contractors	This major group includes special trade contractors who undertake activities of a type that are specialized either to building construction, including work on mobile homes, or to both building and nonbuilding projects. These activities include painting (including bridge painting and traffic lane painting), electrical work (including work on bridges, power lines, and power plants), carpentry work, plumbing, heating, air-conditioning, roofing, and sheet metal work.
34	Fabricated metal products	This major group includes establishments engaged in fabricating ferrous and nonferrous metal products, such as metal cans, tinware, handtools, cutlery, general hardware, nonelectric heating apparatus, fabricated structural metal products, metal forgings, metal stampings, ordnance (except vehicles and guided missiles), and a variety of metal and wire products, not elsewhere classified.
35	Industrial machinery and equipment	This major group includes establishments engaged in manufacturing industrial and commercial machinery and equipment and computers. Included are the manufacture of engines and turbines; farm and garden machinery; construction, mining, and oil field machinery; elevators and conveying equipment; hoists, cranes, monorails, and industrial trucks and tractors; metalworking machinery; special industry machinery; general industrial machinery; computer and peripheral equipment and office machinery; and refrigeration and service industry machinery. Machines powered by built-in or detachable motors ordinarily are included in this major group, with the exception of electrical household appliances. Power-driven handtools are included in this major group, whether electric or otherwise driven.
36	Electronic and other electric equipment	This major group includes establishments engaged in manufacturing machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. Included are the manufacturing of electricity distribution equipment; electrical industrial apparatus; household appliances; electrical lighting and wiring equipment; radio and television receiving equipment; communications equipment; electronic components and accessories; and other electrical equipment and supplies. The manufacture of household appliances is included in this group.
37	Transportation equipment	This major group includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water. Important products produced by establishments classified in this major group include motor vehicles, aircraft, guided missiles and space vehicles, ships, boats, railroad equipment, and miscellaneous transportation equipment, such as motorcycles,

		bicycles, and snowmobiles.
38	Instruments and related products	This major group includes establishments engaged in manufacturing instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; hydrological, hydrographic, meteorological, and geophysical equipment; search, detection, navigation, and guidance systems and equipment; surgical, medical, and dental instruments, equipment, and supplies; ophthalmic goods; photographic equipment and supplies; and watches and clocks.
39	Miscellaneous manufacturing industries	This major group includes establishments primarily engaged in manufacturing products not classified in any other manufacturing major group. Industries in this group fall into the following categories: jewelry, silverware, and plated ware; musical instruments; dolls, toys, games, and sporting and athletic goods; pens, pencils, and artists' materials; buttons, costume novelties, miscellaneous notions; brooms and brushes; caskets; and other miscellaneous manufacturing industries.
42	Motor freight transportation and warehousing	This major group includes establishments furnishing local or long-distance trucking or transfer services, or those engaged in the storage of farm products, furniture and other household goods, or commercial goods of any nature. The operation of terminal facilities for handling freight, with or without maintenance facilities, is also included.
47	Transportation services	This major group includes establishments furnishing services incidental to transportation, such as forwarding and packing services, and the arrangement of passenger and freight transportation.
50	Wholesale trade – durable goods	This major group includes establishments primarily engaged in the wholesale distribution of durable goods.
51	Wholesale trade – nondurable goods	This major group includes establishments primarily engaged in the wholesale distribution of non-durable goods.
55	Automotive dealers and gasoline service stations	This major group includes retail dealers selling new and used automobiles, boats, recreational vehicles, utility trailers, and motorcycles including mopeds; those selling new automobile parts and accessories; and gasoline service stations. Automobile repair shops maintained by establishments engaged in the sale of new automobiles are also included.
60	Depository institutions	This major group includes institutions that are engaged in deposit banking or closely related functions, including fiduciary activities.
61	Nondepository credit institutions	This major group includes establishments engaged in extending credit in the form of loans, but not engaged in deposit banking.
62	Security and commodity brokers, dealers, exchanges, and services	This major group includes establishments engaged in the underwriting, purchase, sale, or brokerage of securities and other financial contracts on their own account or for the account of others; and exchanges, exchange clearinghouses, and other services allied with the exchange of securities and commodities.
63	Insurance carriers	This major group includes carriers of insurance of all types, including reinsurance.
64	Insurance agents, brokers and services	This major group includes agents and brokers dealing in insurance, and also organizations offering services to insurance companies and to policy holders.
65	Real estate	This major group includes real estate operators, and owners and lessors of real property, as well as buyers, sellers, developers, agents, and brokers.
67	Holding and other investment offices, except trusts	This major group includes investment trusts, investment companies, holding companies, and miscellaneous investment offices.
75	Automotive repair, services, and parking	This major group includes establishments primarily engaged in furnishing automotive repair, rental, leasing, and parking services to the general public. Similar facilities owned and operated by concerns for their own use and not for the general public are treated as auxiliary establishments.
76	Miscellaneous repair services	This major group includes establishments engaged in miscellaneous repair services.
87	Engineering, accounting, research, management, and related services	This major group includes establishments primarily engaged in providing engineering, architectural, and surveying services; accounting, auditing, and bookkeeping services; research, development, and testing services; and management and public relations services.

Table 1
Sales Changes Associated with Takeovers

This table presents the average sales growth around takeover announcements using quarterly data from 1991 - 2004 using Compustat sales data. The total number of unsolicited takeover announcements (from the SDC database) equals 404. We give the average sales growth ('Average') and the t-statistic of the average ('T-stat'). We adjust for 2-digit and 4-digit industry classifications by deducting the growth of the average sales in the industry in panels A and B, respectively. Finally, 'Quarter 0' gives the sales growth after the announcement, 'Quarter -1' is the sales growth in the quarter before. For comparison and robustness, we also present the numbers for the two quarters before and after these.

Panel A. Sales growth, adjusted for 4-digit SIC industries

Quarter	*Average sales growth*	*T-stat*
-2	0.01	0.18
-1	-0.04	-0.97
0	**-0.07**	**-1.78**
1	-0.01	-0.29
2	-0.05	-1.04

Panel B. Sales growth, adjusted for 2-digit SIC industries

Quarter	*Average sales growth*	*T-stat*
-2	-0.05	-1.62
-1	-0.01	-0.26
0	**-0.07**	**-2.23**
1	0.04	1.24
2	-0.08	-2.36

Table 2
Industry Level Univariate Statistics and Correlations

The table presents univariate statistics and correlations for equally-weighted averages at the industry level using firms between 1990 and 2003. Industries are defined as the 48 Fama-French (FF48) industries. G-index is the governance index based on IRRC data and is constructed following Gompers, Ishii and Metrick (2003) based on 24 anti-takeover provisions. E-index is the entrenchment index of Bebchuk, Cohen, and Ferrell (2004), which is based on staggered boards, limits to shareholder bylaw amendments, supermajority requirements for mergers, and supermajority requirements for charter amendments, and two "takeover readiness" provisions that boards put in place to be ready for a hostile takeover (poison pills and golden parachutes). The ATI governance index is using three common anti-takeover provisions that create significant obstacles for takeovers: preferred blank check, staggered boards, and restrictions on calling special meetings and action through written consent. The equally-weighted average per industry of the G, E and ATI-indices are computed based on firms with available information only and assessed in 1990, 1993, 1995, 1998, 2000, and 2002. We assume no change for years where the provisions are not updated.

Herfindahl-index is based on sales of all firms with data available in Compustat: $H = \sum_{i=1}^{n} (\Pi_i)^2$, where Π_i is the market share of company *i* and *n* is the number of firms in the industry. The Normalized Herfindahl-index is defined as (n x herf – 1)/(n – 1). Import is computed as ln(1+imports/domestic sales) based on Irvine and Pontiff (2005). Imports and domestic sales are the value of shipments aggregated at the industry level of imports and the sales of US firms, respectively, based on data from the NBER-CES Manufacturing Industry Database (Feenstra, 1996). This data is available annually from 1990-2001 for a subset of the FF48 industries. 1/#firms is the inverse of the number of firms per industry, each year. Net profit margin (NPM) is defined following Gompers, Iishi and Metricks (2003) as income before extraordinary items available for common equity divided by sales (Compustat items #237/#12). The industry/year level variable is the median net profit margin of the firms in the industry in a particular year. Panel A shows univariate statistics. Panel B contains the piece-wise correlation coefficients and their p-value underneath.

Panel A: Univariate statistics

Industry Level Variables	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
Gindex	665	9.031	1.089	5.000	13.000
Eindex	665	2.058	0.529	0.000	5.000
ATI	665	1.735	0.305	0.500	3.000
Herfindahl	672	0.141	0.140	0.013	0.789
Normalized Herfindahl	672	0.119	0.126	0.001	0.759
Import	341	0.193	0.206	0.003	1.120
1/#firms	672	0.028	0.046	0.001	0.500
Net Profit Margin	665	0.347	0.040	-0.339	0.316

Panel B: Pair-wise correlation coefficients and p-value (underneath)

Industry Level Variables	*Gindex*	*Eindex*	*ATI*	*Herf.l*	*Norm.Herf.*	*Import*	*1/#firms*
Eindex	0.790						
	0.000						
ATI	0.620	0.641					
	0.000	0.000					
Herfindahl	-0.141	-0.184	-0.332				
	0.000	0.000	0.000				
Normalized Herfindahl	-0.121	-0.166	-0.296	0.968			
	0.002	0.000	0.000	0.000			
Import	0.130	0.179	0.174	-0.231	-0.157		
	0.017	0.001	0.001	0.000	0.004		
1/#firms	-0.131	-0.175	-0.307	0.681	0.481	-0.518	
	0.001	0.000	0.000	0.000	0.000	0.000	
NPM	0.006	-0.087	-0.018	0.028	0.051	-0.159	-0.015
	0.879	0.029	0.644	0.475	0.197	0.004	0.714

Table 3
Industry Level Shareholder Rights and Industry Concentration

The table displays coefficients and p-values of pooled panel regressions with industry-fixed effects (FE) and year-dummies. Errors are clustered at the industry level. Regressions three is an ordinary least squares (OLS) regression using the panel data and clustering the errors by industry. Regression four is a Fama-MacBeth type regression where coefficients are based on the average of year-by-year cross-sectional OLS regressions. The t-statistics are based on the standard errors of the 14 annual observations. All variables are equally-weighted at the industry level using firms between 1990 and 2003. The dependent variables are the G-index, the entrenchment E-index, and the anti-takeover index (ATI). See Table 2 for a description of these indices and the Herfindahl-index. Equity Value is the average of the market value of equity of all firms in a particular industry in a particular year, measured in millions. TQ is the average Tobin's Q computed as market value of equity + book value of assets – book value of equity – deferred taxes divided by book value of assets. If deferred taxes are missing then it is set to zero. TradingVolume is the average trading volume divided by the number of shares outstanding over the past five years. Prior Return is the average monthly return over the five years prior to the fiscal year end. ROA is the average return-on-assets calculated as net income divided by book value of assets. Sales Growth is the average growth of sales in the prior five years. Dividend Yield is the average dividend-to-share price ratio at fiscal year end. Institutional Ownership is the average fraction of shares owned by institutional owners as identified by 13-D filings. Block Ownership is the average fraction of shares held (in percent) by the largest institutional owner. The block ownership is measured in the 4th quarter of the prior fiscal year. The R-square reported is the within r-square.

	Gindex		*Gindex*		*Gindex*		*Gindex*		*Eindex*		*ATI*	
Industry Level Variables												
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*t-stat*	*coef*	*p-value*	*coef*	*p-value*
Herfindahl	-3.999	0.000	-3.998	0.000	-2.972	0.003	-2.934	-2.644	-1.315	0.000	-1.394	0.000
Equity Value			-0.088	0.000	-0.047	0.053	-0.042	-1.614	-0.054	0.000	-0.024	0.002
TQ			0.183	0.059	0.123	0.156	0.175	1.231	0.120	0.029	0.023	0.449
TradingVolume			-2.767	0.058	-5.848	0.000	-8.828	-3.849	-0.570	0.489	-1.327	0.004
Prior Return			4.294	0.303	13.123	0.045	15.616	1.757	-0.326	0.890	2.518	0.053
ROA			-0.561	0.584	-0.681	0.481	-0.173	-0.241	0.229	0.692	-0.080	0.801
Sales Growth			0.014	0.470	0.070	0.060	0.084	2.100	0.026	0.013	0.009	0.129
Dividend Yield			6.758	0.416	18.728	0.018	16.852	1.333	2.708	0.565	4.394	0.091
Institutional Ownership			1.240	0.095	2.585	0.000	2.069	3.055	0.614	0.144	-0.508	0.029
Block Ownership			0.001	0.951	-0.038	0.116	-0.042	-1.518	-0.002	0.802	-0.005	0.314
Regression type	FE		FE		OLS		Fama-MacBeth		FE		FE	
Errors Clustered	Industry		Industry		Industry		No		Industry		Industry	
R-square	0.16		0.20		0.11		NA		0.17		0.43	
Observations	665		665		665		14		665		665	

Table 4
Industry Level Shareholder Rights and Industry Concentration: Robustness Tests

The table displays coefficients and p-values of pooled panel regressions with the G-index as the dependent variable. Errors are clustered at the industry level. All variables are equally-weighted at the industry level using firms between 1990 and 2003. See Table 2 and 3 for a description of this index and the regression variables. Industry is defined as the 48 Fama-French industries (FF48) except for the second to forth regressions where industry is defined at the two-digit SIC (SIC2). The regressions are industry fixed effects with year dummies, except for the third regression. The first regression restricts the sample to years where the IRRC updates the governance index (years: 1990, 1993, 1995, 1998, 2000, and 2002). The second regression shows results using the two-digit SIC as industry unit. The third regression is an OLS regression using a Census Bureau measure of concentration (Census). It is defined as the shipment value weighted average of the market share of the largest four firms in each four-digit SIC by aggregating it at the two-digit SIC level. It is established in 1992 and is only available for SIC2>=20 and SIC2<40. The forth and last regressions use industry median net profit margin as a proxy for the Lerner Index. The fifth regression uses the Normalized Herfindahl index using the full sample and the FF48 industry definition, which is defined as (n x herf – 1)/(n – 1).

	Gindex		*Gindex*		*Gindex*		*Gindex*		*Gindex*		*Gindex*	
Industry Level Variables												
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*
Herfindahl	-3.635	0.000	-1.647	0.000								
Census					-0.196	0.076						
Net Profit Margin							-4.683	0.017			-1.716	0.023
Normalized Herfindahl									-3.884	0.000		
Equity Value	-0.144	0.001	0.020	0.098	0.006	0.537	0.087	0.000	-0.092	0.000	-0.084	0.001
TQ	0.119	0.461	0.415	0.000	0.071	0.510	-0.283	0.083	0.213	0.030	0.078	0.454
TradingVolume	-2.754	0.250	-1.238	0.379	-4.295	0.026	-1.510	0.458	-2.521	0.083	-0.210	0.889
Prior Return	-0.648	0.924	4.309	0.300	-16.558	0.102	-7.961	0.274	5.640	0.177	3.987	0.372
ROA	0.796	0.629	-3.143	0.002	-1.880	0.116	-2.666	0.093	-0.301	0.768	1.064	0.368
Sales Growth	0.029	0.326	-0.062	0.001	0.056	0.135	-0.004	0.903	0.010	0.577	0.038	0.050
Dividend Yield	23.713	0.051	22.030	0.001	28.657	0.003	45.682	0.000	7.822	0.346	22.091	0.010
Institutional Ownership	0.310	0.794	-2.133	0.003	-0.568	0.607	0.170	0.883	0.599	0.424	1.467	0.060
Block Ownership	-0.033	0.154	-0.002	0.838	0.009	0.725	-0.015	0.284	0.009	0.529	0.008	0.589
Industry	FF48		SIC2		SIC2		SIC2		FF48		FF48	
Errors Clustered	Industry		Industry		Industry		Industry		Industry		Industry	
R-square	0.26		0.15		0.19		0.30		0.20		0.11	
Observations	285		876		280		876		665		665	

Table 5
An Alternative Measure of Competition: Import

The table displays coefficients and p-values of pooled panel regressions with industry-fixed effects and year-dummies. Errors are clustered at the industry level. All variables are equally-weighted at the industry level using firms between 1990 and 2003. The dependent variable is the G-index. See the previous tables for a description of this index and the regression variables. Import is computed as ln(1+imports/domestic sales) based on Irvine and Pontiff (2005). Imports (domestic sales) is the value of shipments aggregated at the industry level of imports (sales of US firms) based on data from the NBER-CES Manufacturing Industry Database (Feenstra, 1996). The import measure is only available for manufacturing industries and the sample years are limited to 1990-2001. The R-square reported is the within r-square.

	Gindex		*Gindex*	
Industry Level Variables				
	coef	*p-value*	*coef*	*p-value*
Herfindahl	-5.258	0.000		
Import			-1.024	0.076
Equity Value	0.023	0.510	0.032	0.413
TQ	0.000	0.997	-0.183	0.173
TradingVolume	-3.620	0.056	0.853	0.684
Prior Return	2.719	0.591	-0.467	0.934
ROA	-1.837	0.125	-0.220	0.868
Sales Growth	-0.003	0.878	0.035	0.134
Dividend Yield	7.256	0.474	28.085	0.012
Institutional Ownership	1.562	0.104	2.029	0.060
Block Ownership	0.054	0.009	0.045	0.052
Errors Clustered	Industry		Industry	
R-square	0.35		0.18	
Observations	341		341	

Table 6
Relationship Industries and Sales Changes Associated with Takeovers

This table presents the average sales growth around unsolicited takeover announcements using quarterly data from 1991 - 2004 using Compustat sales data. The total number of takeover announcements (from the SDC database) equals 404, out of which 187 are of firms in industries that we classify as 'relationship' based (see the text for a description). In Panel A, we give results for firms in the relationship industries only, and in panel B for the other industries. We report the average sales growth ('Average') and the t-statistic of the average ('T-stat'). Further, we adjust for 4-digit (2-digit) industry classifications by deducting the growth of the average sales in the industry. Finally, 'Quarter 0' gives the sales growth after the announcement, 'Quarter -1' is the sales growth in the quarter before. For comparison and robustness, we also present the numbers for the two quarters before and after these.

Panel A. Relationship industries.

Adjusted for 4-digit SIC codes			*Adjusted for 2-digit SIC codes*		
Quarter	*Average sales growth*	*T-stat*	*Quarter*	*Average sales growth*	*T-stat*
-2	-0.05	-0.9	-2	-0.11	-2.42
-1	0.02	0.47	-1	0.02	0.74
0	**-0.10**	**-2.06**	**0**	**-0.09**	**-2.02**
1	-0.05	-1.04	1	0.03	0.68
2	0.01	0.24	2	-0.04	-0.58

Panel B. Non-relationship industries.

Adjusted for 4-digit SIC codes			*Adjusted for 2-digit SIC codes*		
Quarter	*Average sales growth*	*T-stat*	*Quarter*	*Average sales growth*	*T-stat*
-2	0.05	0.91	-2	0.00	0.06
-1	-0.08	-1.65	-1	-0.05	-1.14
0	**-0.04**	**-0.62**	**0**	**-0.05**	**-1.12**
1	0.03	0.47	1	0.05	1.09
2	-0.10	-1.54	2	-0.12	-2.79

Table 7
Relationship Industries and Industry Level Shareholder Rights

The table displays coefficients and p-values of pooled panel OLS regressions with year-dummies. Errors are clustered at the industry level. All variables are equally-weighted at the industry level using firms between 1990 and 2003. The dependent variable is the G-index. See the previous tables for a description of this index and the regression variables. The following two-digit-SIC industries are classified as Relationship industries: 15-17, 34-39, 42, 47, 50-51, 55, 60-65, 67, 75-76, 87. The variable *Relationship Industry* takes a value of one if the company operates in one of those two-digit-SIC industries and zero otherwise. In order to classify the industries, we ask whether customers might care whether the products or services are delivered by this particular company or people. For the second regression, the sample is limited to years where the IRRC data is updated (i.e., 1990, 1993, 1995, 1998, 2000, and 2002). The third regression uses the classification of durables in the manufacturing and retail industries only, following Yogo (2005). The following two-digit-SIC industries are classified as *Durable Goods Industries*: 25, 36, 37, 39, 50, 52, 53, 55, and 57. Non-durable industries are: 20-23, 26-28, 31, 51, 54, 56, 58, and 59. The remaining industries are excluded from the forth regression. We report the p-value of the F-test that the sum of the coefficients on Herfindahl and Herfindahl x Relationship Industry (durable good industry) is equal to zero.

	Gindex		*Gindex*		*Gindex*	
Industry Level Variables						
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*
Herfindahl	1.135	0.001	0.836	0.110	1.137	0.083
Herfindahl x Relationship Industry	-2.099	0.000	-2.349	0.010		
Herfindahl x Durable Goods Industry					-2.575	0.006
Relationship Industry	0.257	0.028	0.277	0.110		
Durable Goods Industry					0.355	0.028
Equity Value	0.001	0.850	0.001	0.860	-0.036	0.128
TQ	0.055	0.532	0.118	0.383	0.104	0.503
TradingVolume	-1.386	0.321	-2.528	0.227	-4.957	0.016
Prior Return	3.801	0.477	-5.038	0.516	5.508	0.528
ROA	-1.101	0.206	-0.382	0.768	-0.790	0.593
Sales Growth	-0.037	0.080	-0.045	0.147	0.072	0.042
Dividend Yield	17.830	0.001	20.521	0.004	37.752	0.000
Institutional Ownership	0.956	0.093	0.877	0.307	1.094	0.214
Block Ownership	-0.052	0.000	-0.044	0.010	-0.040	0.028
F-test: p-value	0.045		0.048		0.033	
Errors Clustered	Industry		Industry		Industry	
R-square	0.08		0.11		0.17	
Obs	876		375		308	

Table 8
Number of Firms in the Industry and Industry Level Shareholder Rights

The table displays coefficients and p-values of pooled panel regressions with industry-fixed effects and year-dummies. Errors are clustered at the industry level. All variables are equally-weighted at the industry level using firms between 1990 and 2003. The dependent variables are the G-index, the entrenchment Eindex, and the anti-takeover index (ATI). See the previous tables for a description of these indices and the regression variables. 1/#firms is the inverse of the number of firms in the industry. The number of firms per industry is calculated based on the number of firms in Compustat. Among the independent variables are interaction terms between the (Normalized) Herfindahl index and the inverse of the number of firms. The R-square reported is the within r-square.

	Gindex		*Gindex*		*Eindex*		*ATI*	
Industry Level Variables								
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*
Herfindahl	-2.375	0.001			-1.035	0.008	-1.193	0.000
Normalized Herfindahl			-1.712	0.015				
1/#firms	13.640	0.002	-2.354	0.149	-2.303	0.352	-2.450	0.070
Herfindahl x 1/#firms	-28.441	0.000			-2.880	0.000	-0.588	0.004
Normalized Herfindahl x 1/#firms			-26.616	0.000				
Equity Value	-0.087	0.000	-0.079	0.001	-0.050	0.000	-0.020	0.008
TQ	0.219	0.025	0.223	0.021	0.101	0.070	0.005	0.868
TradingVolume	-2.858	0.048	-2.731	0.057	-0.626	0.446	-1.374	0.002
Prior Return	4.620	0.269	4.336	0.295	-1.177	0.620	1.753	0.177
ROA	-1.351	0.196	-1.308	0.202	0.044	0.941	-0.222	0.495
Sales Growth	0.010	0.592	0.013	0.497	0.029	0.006	0.011	0.052
Dividend Yield	1.671	0.842	2.339	0.776	2.149	0.652	4.048	0.120
Institutional Ownership	0.843	0.296	1.628	0.039	1.045	0.023	-0.113	0.651
Block Ownership	-0.004	0.808	-0.003	0.855	-0.007	0.394	-0.009	0.052
Errors Clustered	Industry		Industry		Industry		Industry	
R-square	0.22		0.23		0.18		0.45	
Observations	665		665		665		665	

Table 9
Firm Level Shareholder Rights and Takeover Probability

We report coefficients of industry fixed effects (FE) and ordinary least square (OLS) regressions using the panel of firm level data for the years 1990-2003. The p-values are based on clustered standard errors by industry or firm, respectively. The dependent variable is the firm's Gindex. Herfindahl is the Herfindahl of the industry, defined as the 48 Fama-French industries. The small firm dummy is equal to one if the firm's equity value is below the sample firms' median in a given year. The following two-digit-SIC industries are classified as Relationship industries: 15-17, 34-39, 42, 47, 50-51, 55, 60-65, 67, 75-76, 87. The variable *Relationship Industry* takes a value of one if the company operates in one of those two-digit-SIC industries and zero otherwise. The other control variables are at the firm level and are defined in Table 3.

	Gindex		*Gindex*		*Gindex*	
Firm Level Variables						
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*
Herfindahl	1.118	0.075	1.271	0.017	3.326	0.000
Herfindahl x Small Firm Dummy	-2.604	0.000	-1.828	0.001	-3.075	0.000
Herfindahl x Relationship Industry x Small Firm Dummy					-8.084	0.000
Herfindahl x Relationship Industry					-6.321	0.000
Relationship Industry					0.415	0.000
Equity Value	-0.004	0.001	-0.004	0.001	-0.004	0.003
TQ	-0.097	0.000	-0.104	0.000	-0.101	0.000
TradingVolume	-2.719	0.000	-3.296	0.000	-3.355	0.000
Prior Return	-11.328	0.000	-11.797	0.000	-11.842	0.000
ROA	-0.324	0.125	-0.309	0.101	-0.178	0.354
Sales Growth	-0.047	0.449	-0.065	0.387	-0.069	0.328
Dividend Yield	17.423	0.000	15.494	0.000	16.290	0.000
Institutional Ownership	3.230	0.000	3.431	0.000	3.428	0.000
Block Ownership	-0.049	0.000	-0.050	0.000	-0.051	0.000
Regression type	FE		OLS		OLS	
F-test: p-value	0.000		0.058			
Errors Clustered	Industry		Firm		Firm	
R-square	0.07		0.08		0.09	
Observations	16658		16658		16658	

Table 10
Firm Performance, Shareholder Rights and Industry Concentration: Univariate Statistics

The table displays univariate statistics about return on assets (ROA) in panel A and net profit margin in panel B, using various subsamples based on firm level data between 1990 and 2003 and concentration measures based on the 48 Fama-French industry classification. Columns are divided into competitive versus concentrated industries. The cut is determined yearly as the median Herfindahl index across all industries. In the rows we display the subsamples stratified by the Gindex, using firms with a Gindex less than 6 and more than 13. P-values indicate the significance of the difference in the means either per row or column. Underneath the mean, we report the number of observations in brackets. ROA is the return-on-assets calculated as net income divided by book value of assets. Net profit margin is defined following Gompers, Ishii and Metrick (2003) as income before extraordinary items available for common equity divided by sales (Compustat items #237/#12). Net profit margin is curtailed at the 1 and 99 percentiles.

Panel A. ROA
Firm level data

	Competitive	*Concentrated*	
G-index	*Average*	*Average*	*p-value of difference*
<6	11.0%	13.3%	0.001
	[1556]	[534]	
>13	11.8%	12.2%	0.609
	[850]	[262]	
p-value of difference	0.074	0.227	

Panel B. Net Profit Margin
Firm level data

	Competitive	*Concentrated*	
G-index	*Average*	*Average*	*p-value of difference*
<6	3.73%	4.95%	0.092
	[1569]	[533]	
>13	4.49%	2.31%	0.000
	[862]	[262]	
p-value of difference	0.058	0.002	

Table 11
Firm Performance, Shareholder Rights and Industry Concentration: Regression Analysis

The table displays coefficients and p-values of pooled panel regressions with firm-fixed effects and year-dummies. Errors are clustered by firm. All variables are at the firm level using firms between 1990 and 2003. Industry concentration measures are based on the 48 Fama-French industry classification except for the regressions that include the relationship industry dummy where the industry is defined at the two-digit SIC level. The dependent variables are ROA and the Net Profit Margin. ROA is the return-on-assets calculated as net income divided by book value of assets. Net profit margin is defined following Gompers, Ishii and Metrick (2003) as income before extraordinary items available for common equity divided by sales (Compustat items #237/#12). Net profit margin is curtailed at the 1 and 99 percentiles. Low Herfindahl Dummy is equal to one if the Herfindahl of the industry in which the firm operates is below the median Herfindahl in that year for all industries. See the previous tables for a description of other variables. We report the p-value of an F-test whether the sum of the coefficients on Gindex and Gindex x Low Herfindahl Dummy (x Relationship Industry Dummy) is equal to zero (respectively).

Firm Level Variables	*ROA*						*Net Profit Margin*					
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*	*coef*	*p-value*
Gindex	-0.003	0.006	-0.004	0.001	-0.002	0.009	-0.004	0.021	-0.003	0.000	-0.004	0.000
Gindex x Low Herfindahl Dummy	0.003	0.007	0.003	0.004	0.000	0.877	0.005	0.015	0.007	0.000	0.004	0.002
Gindex x Durable Goods x Low Herfindahl Dummy					0.002	0.040					0.005	0.063
Low Herfindahl Dummy	-0.031	0.004	-0.032	0.002	-0.034	0.100	-0.037	0.013	-0.037	0.000	-0.034	0.004
Relationship Industry					0.030	0.000					-0.009	0.834
Relationship Industry x Low Herfindahl Dummy					-0.019	0.106					-0.001	0.918
Equity Value			0.000	0.000	0.000	0.160			0.001	0.000	0.001	0.000
Sales Growth			0.000	0.628	0.000	0.000			0.000	0.865	0.000	0.989
Dividend Yield			-0.441	0.000	-0.404	0.000			-0.314	0.000	-0.376	0.000
TradingVolume			-0.118	0.000	-0.135	0.000			-0.271	0.000	-0.183	0.000
Institutional Ownership			0.114	0.000	0.149	0.000			0.128	0.000	0.159	0.000
F-test: p-value	0.647		0.159		0.755		0.160		0.000		0.059	
Errors Clustered	Firm		Firm		Firm		Firm		Firm		Firm	
R-square	0.037		0.077		0.086		0.001		0.012		0.058	
Obs	19557		19398		19398		19519		19358		19358	

Table 12
Industry Concentration and Industry Level Equity Compensation

The table displays coefficients and p-values of pooled panel regressions with industry-fixed effects (FE) and year-dummies for the first two columns and an OLS regression in the third column. Errors are clustered at the industry level. All variables are equally-weighted at the industry level using firms between 1990 and 2003. The dependent variable is the proportion of total CEO compensation that consists of equity compensation using data from ExecuComp. See the previous tables for a description of all other variables. Industries are defined as either the Fama-French (1997) industries (FF48) or at the two-digit SIC level (SIC2). The variable *Relationship Industry* takes a value of one if the company operates in one of those two-digit-SIC industries and zero otherwise. A list of the relationship industries is provided in table 7.

	Equity Compensation Relative to Total Compensation					
Industry Level Variables						
	coef	*p-value*	*coef*	*p-value*	*coef*	*p-value*
Herfindahl	-0.325	0.008			-0.154	0.014
Normalized Herfindahl			-0.277	0.021		
Relationship Industry					0.019	0.319
Herfindahl x Relationship Industry					-0.279	0.020
Equity Value	0.000	0.414	0.000	0.430	0.001	0.051
TQ	0.033	0.174	0.032	0.185	-0.021	0.153
TradingVolume	0.300	0.389	0.310	0.375	1.816	0.000
Prior Return	2.582	0.007	2.633	0.006	0.223	0.817
ROA	-0.725	0.004	-0.730	0.004	-0.486	0.001
Sales Growth	0.014	0.005	0.014	0.005	0.016	0.001
Dividend Yield	0.811	0.691	0.806	0.694	1.272	0.282
Institutional Ownership	0.084	0.658	0.077	0.686	0.034	0.723
Block Ownership	-0.005	0.173	-0.005	0.186	0.004	0.092
Industry	FF48		FF48		SIC2	
Regression type	FE		FE		OLS	
Errors Clustered	Industry		Industry		Industry	
R-square	0.34		0.33		0.20	
Obs	566		566		747	

Figure 1. Relationship Industries and Sales Changes Associated with Takeovers

This figure presents the average industry adjusted sales growth and the 95% confidence interval around unsolicited takeover announcements using quarterly data from 1991 - 2004 using Compustat sales data. We adjust for 4-digit industry classifications by deducting the growth of the average sales in the industry. The figure combines results from Table 1 and Table 6. We give the average sales growth for all firms in all industries and within two industry groups: those in industries that we classify as 'relationship' based (see the text for a description) as one group, and the remainder group of industries. The total number of takeover announcements (from the SDC database) equals 404, out of which 187 are of firms in relationship industries.

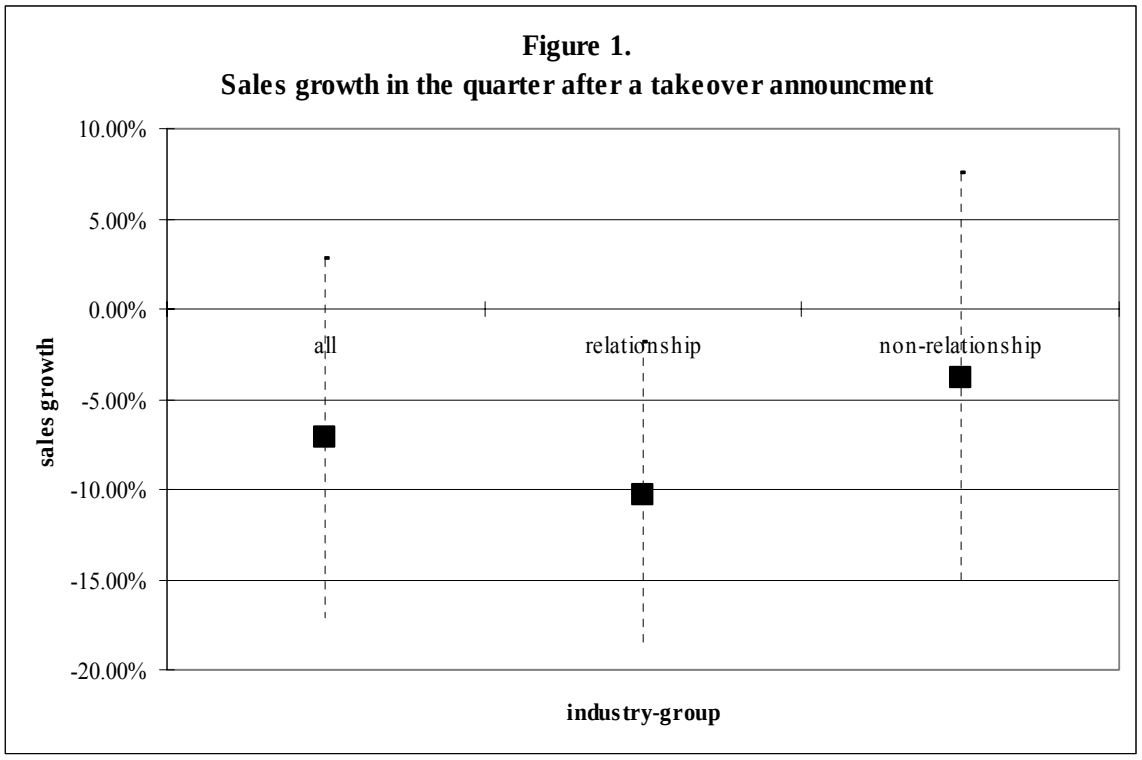

Figure 2. Changes in Industry Level Shareholder Rights around Deregulation Events

The figure shows industry level G-indices around eleven major deregulation events as listed in Harford (2005), Table 3, Panel B, after 1990. There are six different industries, some with multiple deregulation events. The industry level G-index is the equally-weighted average of firm level G-indices in the industry and the industry is defined as the 48 Fama-French industries. The eleven deregulation initiatives, the industry they affect and the event year are: (Banking, 1991) Federal Deposit Insurance Corporation Improvement Act; (Entertainment, Petrol and Natural Gas, Utilities, 1992) Cable Television consumer Protection and Competition Act, Energy Policy Act, FERC Order 636; (Communications, Transportation, 1993) Elimination of State Regulation of Cellular Telephone Rates, negotiated Rates Act; (Transportation, Banking, 1994) Trucking Industry and Regulatory Reform Act, Interstate Banking and Branching Efficiency Act; (Transportation, 1995) interstate Commerce Commission Termination Act; (Communications, Utilities, 1996) Telecommunications Act, FERC Order 888.