THIRTY YEARS OF SHAREHOLDER RIGHTS AND FIRM VALUATION

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Abstract

This paper introduces a new hand-collected dataset tracking approximately 1,000 firms' G- and E-index scores, as well the individual corporate governance provisions constituting these indexes, over the 1978-1989 period. Combining this data with the 1990-2006 IRRC data, we are able to track firms' shareholder rights over a thirty year period. Most governance changes occurred during the 1980s (with relative stability thereafter). We find a robustly negative association between the G- and E-Index and Tobin's Q for the 1978-2006 period, even when using firm fixed effects, and limited evidence for reverse causation. The negative firm valuation effects of classified boards, poison pills and G-Index was significantly greater after the judicial approval of the poison pill in 1985 in a landmark Delaware Supreme Court decision. This decision was largely an unanticipated, exogenous shock to corporate governance. Post-1985, the G-Index had a negative effect on firm valuation only for those firms without a poison pill, with the negative effect of having a poison pill being substantial. Moreover, G-Index changes have a stronger negative association with firm valuation when a firm is in an industry experiencing "high" levels of M&A activity.

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I. INTRODUCTION

In this paper, we introduce a new, hand-collected shareholder rights database starting in 1978 and ending in 1989, which tracks for a sample of approximately 1,000 unique firms whether these firms had any of the 24 variables that constitute the governance index or G-Index of Gompers, Ishii and Metrick (2003). The computation of this index for the 1990-2006 period is based on data compiled by the IRRC (Investor Responsibility Research Center) albeit with us correcting in some of our specifications some coding issues with the 1990-2006 IRRC data. The IRRC database became very prominent in empirical corporate governance research after the introduction of the G-Index and the documentation of its strong empirical link between governance as measured by the G-Index and equity prices in Gompers, Ishii and Metrick (2003). The G-Index is a composite of the twenty-four variables, adding one point if any of the provisions is present, where a higher score indicates more restrictions on shareholder rights or a greater number of anti-takeover measures. The E-Index of Bebchuk, Cohen, and Ferrell (2009) is based on six of the twenty-four G-Index provisions.

Based on our database, we calculate each firm's G-Index and E-Index scores starting in 1978. By combining our dataset with the IRRC database which covers the 1990-2006 time period, we obtain comprehensive data for the 1978-2006 time period inclusive. In turn, we combine this corporate governance data with data on M&A activity, firm financials, institutional ownership, and stock returns.

Besides the introduction of our database, our focus in this paper is the relationship between shareholder rights and firm valuation over the 1978-2006 time period. The importance of having data for the 1978–1989 period is underscored by the fact that this period is characterized by widespread corporate governance changes (i.e., changes in firms' G-Index and E-Index scores), while after 1990 such changes largely cease. For example, the median G-Index score equals 5 from 1978–1983, then increases by one a year until 1989, while the distribution of the G-Index remains basically constant after 1990. Further, four out of the six E-Index provisions (supermajority voting requirement for merger approval, classified board, poison pill and golden parachute) experienced dramatic increases in their incidence during the 1978-1989 period, with their incidences remaining relatively stable thereafter.

A second reason for the value of including data from this period in analyzing the relationship between shareholder rights and firm valuation, besides the time variation in corporate governance arrangements, is the fact that both M&A activity and the law surrounding the use of antitakeover defenses (and specifically when a target board can deploy them to fend off unwanted

acquisition offers in a manner consistent with the board's fiduciary obligations to its shareholders) was in considerable flux during the 1978-1989 period. As a result, this period is characterized by significant cross-sectional and time variation in how much governance can ex ante be expected to matter, both of which we will exploit in our analysis.

Turning to the central issue of the relationship between governance and firm valuation, we find a robust statistically significant negative association between weaker shareholder rights and firm valuation over the 1978-2006 period. Using both firm and year fixed effects, we document a robust negative and economically meaningful association between the G-Index and Tobin's Q. The inclusion of firm fixed effects in pooled panel regressions mitigates the endogeneity of firms adopting governance provisions depending on their heterogeneous circumstances. This finding survives various robustness checks. The economic magnitude of the association seems meaningful. For example, over the full time period and using both firm and year fixed effects, the coefficient of the G-Index equals -0.011, implying that a one standard deviation increase of the G-Index (3.0) is associated with a decrease in firm value of about 3.3%.

We find, however, only limited evidence in support of the "reverse causation" explanation for this negative association in the 1978-1989 period, i.e. that firms with lower firm value tended to adopt more G- and E-Index provisions. In fact, we find that the higher valued firms tended to adopt more G-Index provisions, although this relationship disappears once firm and year fixed effects are included. We find stronger evidence for "reverse causation" for the E-Index, and particularly the adoption of a poison pill. However, the role of lower firm values in explaining E-Index increases and firms' adopting poison pills seems economically relatively minor.

In order to more fully understand the relationship between governance and firm valuation, we explore whether governance affects firm valuation through a takeover channel, i.e. by affecting the probability of a firm receiving and accepting a takeover bid and, hence, target shareholders receiving an attractive takeover premium. We undertake three sets of analyses along these lines. First, we examine the impact on governance's firm valuation effects of the Delaware Supreme Court's seminal decision in 1985 in the *Moran v. Household International* decision, which for the first time judicially validated the adoption of a poison pill as within the authority vested with a target firm's board and subject to the most relaxed form of judicial review, the business judgment rule. This decision is widely seen, both at the time as well as today, by corporate law practitioners and corporate law scholars as a central legal event opening the way for target companies to deploy takeover defenses. The decision in *Household*, however, was not expected, as evidenced by the discussions and debates among prominent corporate lawyers and scholars prior to 1985 and the fact that the Securities and Exchange Commission filed a brief in *Household* arguing that the use

of the poison pill was illegal. Consistent with a causal relationship between governance and firm value and the potential importance of a takeover channel, we find that the negative effect on firm valuation of certain antitakeover provisions (classified boards, poison pills and the G-Index generally) only exists after the *Household* decision (with generally no effect before 1985).[1]

Second, if poor governance reduces firm value by reducing the likelihood of an attractive offer being received and accepted by the board, then the negative effects of poor governance should be particularly powerful when a firm in a given year happens to be in an industry experiencing "high" levels of M&A activity relative to firms in industries experiencing "low" levels. It is worth noting that M&A activity occurs in industry waves (see e.g. Mitchell and Mulherin (1996)) in response to unexpected exogenous shocks to industry structure, regulation or technological innovation. And, indeed, we document that increases in a firm's G-Index score have a larger negative effect on firm valuation when a firm happens to be in an industry that is experiencing "high" levels of M&A activity relative to a firm that increase its G-Index score but is in an industry experiencing "low" levels of M&A activity in that particular year. This interaction effect is economically meaningful with a one point increase in the G-Index during the 1978-2006 period being associated with an approximately 50% larger negative impact on firm valuation when that firm happens to be an industry with a "high" level of M&A activity relative to being in an industry with a "low" level of M&A activity.

Third, we examine the relationship between governance and operating performance, another plausible channel by which governance can affect firm valuation other than a takeover channel (recognizing of course that these two channels are not mutually exclusive and are complementary in that the disciplinary effect of a possible takeover could potentially improve existing management's incentives). While we fail to identify any strong and robust statistical association between accounting profits or sales growth and governance over the 1978-2006 period in the time series, we do document a strongly negative relationship between corporate governance and operating performance in the cross-section.

Finally, we examine effect of individual provisions on firm valuation over the 1978-2006 time period and during the period following the seminal *Household* decision in 1985. We find that poison pills are robustly negatively associated with lower firm valuation and that this negative association can only very weakly be explained by reverse causation, i.e. lower valued firms tending to adopt poison pills. Moreover, the importance of the poison pill is underlined by our finding that for firms with poison pills, the G-Index (exclusive of the pill) has no discernable

[1] Classified boards are far more potent as an antitakeover defense when used in conjunction with a poison pill, see e.g. Gilson (1981); Bebchuk and Cohen (2005); and Bebchuk, Coates, and Subramanian (2002).

negative effect on firm valuation. This suggests that poison pill adoption is the central shareholder rights decision, and for firms choosing to adopt one, the poison pill seems the key provision linked to lower firm value. For firms without a poison pill, the G-Index still has a negative and statistically significant negative relationship.

The remainder of this paper is organized as follows. Part II describes the data. As one of the major contributions of this paper is the introduction of the new dataset of corporate governance provisions over 1978-1989 (inclusive) period, we go into significant detail on the data collection process and how the data compares to the IRRC sample. Most of this detail is included in the data description appendix to this paper. Part III explores the relationship between shareholder rights and firm valuation over the 1978-2006 time period as well as the issue of whether low-valued firms tend to adopt more G-Index or E-Index provisions. In Part IV, we examine whether the negative firm valuation effects of poor governance are attributable to a takeover channel. This includes our analysis of the effect of the *Household* decision, the interaction of industry-level M&A activity and firms' G-Index scores, and the relationship between governance and operating performance. Part V examines the effect of individual provisions, including the poison pill, on firm valuation and their interaction with the G-Index. Part VI concludes.

II. Data and Descriptive Statistics

In this paper, we focus on the G-Index, a shareholder rights index introduced by Gompers, Ishii and Metrick (2003) that is based on 24 provisions, and its relationship with firm value and stock returns. A higher G-Index score indicates more restrictions on shareholder rights or a greater number of anti-takeover measures. We also consider the E-Index of Bebchuk, Cohen, and Ferrell (2009), which is based on six of the twenty-four G-Index provisions. In the remainder of this section, we provide significant detail of the various provisions of the G-Index and our coding of these variables for the 1978-1989 period.

Table I provides descriptive statistics of both indices, plus all of the other variables used in this paper. The main other variable of interest is our proxy for firm value, Tobin's Q.[2] This follows a substantial literature on the association between firm value and various corporate arrangements, which extensively used Tobin's Q as a measure of firm value (e.g., Demsetz and Lehn (1985); Morck, Shleifer, and Vishny (1988); Lang and Stulz (1994); Yermack (1996); and Gompers, Ishii,

[2] Tobin's Q is the ratio of market-to-book of the firm. We calculate Tobin's Q as (data199*data25+data6-data60-data74)/data6, where data199 is the stock price at the end of the fiscal year, data25 is the number of shares outstanding, data6 is the book value of total assets, data60 is the book value of equity, and data74 is the amount of deferred taxes. If data199 is missing, we use data24 instead. If data74 is missing, it is set to zero.

and Metrick (2003)). We industry-adjust Tobin's Q by deducting the median Q for that year of the firm's 48 Fama-French industry group, using all firm's in Compustat.

1. The 1978-2006 Corporate Governance Dataset

RiskMetrics (which acquired the Investor Responsibility Research Center (IRRC)) has maintained a corporate governance database which has served as an extremely important source of data on firms' corporate governance provisions beginning as of 1990 since the publication of Gompers, Ishii & Metrick (2003). The IRRC data has now been used in a large number of published academic articles on corporate governance plus many more that are currently still in working paper form. The IRRC database covers a number of firm-level corporate governance provisions, firms' states of incorporation, a firm's governing corporate law statutes and firm opt-ins and opt-outs thereto. A number of the firm-level provisions concern the presence of takeover provisions (such as classified boards and poison pills), the presence of certain types of compensation arrangements (such as golden parachutes and compensation plans), and a variety of additional provisions that affect the balance of power between managers and shareholders (such as supermajority voting requirements for amending the firm's charter or bylaw). The G-Index, which consists of twenty-four corporate governance provisions, is based on the IRRC's firm-level corporate governance provisions and a firm's governing state corporate law statutes (and opt-ins and opt-outs thereto).

In total, the IRRC corporate governance database covers twenty-three firm-level corporate governance provisions for selected firms in 1990, 1993, 1995, 1998, 2000, 2002, 2004 and 2006. Each volume contains data for between 1,400 and 1,800 firms for the selected year. In any given year of publication, the firms in the IRRC volume accounted for more than 90% of the total U.S. stock market capitalization (Bebchuk, Cohen and Ferrell (2009)). The IRRC also contains data on firm's governing state corporate law statutes and opt-ins and opt-outs thereto. The IRRC corporate governance database does not include any of this data prior to 1990. As a result, information on firms' G-Index scores has simply not been available on a similar comprehensive basis for earlier time periods. As a result, studies using the IRRC database have been forced to begin their analysis in 1990.

We have comprehensively hand-collected data for the 1978-1989 time period (inclusive) with annual updates on (i) firms' firm-level corporate governance provisions (including those variables tracked by the IRRC for the 1990-2006 time period); (ii) state corporate law statutes (including those tracked by the IRRC for the 1990-2006 time period); and (iii) states' corporate law default rules (this last category not being tracked by the IRRC at all). We also track firm-level

corporate governance provisions for the 1978-1989 time period beyond those tracked by the IRRC (and utilized by the G- and E-Indexes), but will not include a description here of the data collection process for these additional variables given that we confine our attention in this paper to the G- and E-Indexes and their constituent corporate governance variables.

We then combined our new dataset with the corporate governance data maintained by IRRC for the 1990-2006 period resulting in a corporate governance dataset covering a total of about 2,200 of firms over the 1978-2006 (inclusive) time period. Next, we combined the resulting 1978-2006 corporate governance database with (i) Compustat data containing financial data on each firm for the 1978-2006 period; (ii) CRSP return data for the 1978-2006 period; (iii) SDC Platinum's data on merger and acquisition activity for the 1979-2006 period, including data on friendly, leverage buyout and hostile takeovers;[3] and (iv) Thompson Financial data of institutional holdings (13F).

Subsection 2 will describe in more detail the content of our 1978-1989 corporate governance database, while Subsection 3 will describe our coding protocol compared to that used by the IRRC, which covers the subsequent 1990-2006 time period. A detailed description of (a) our extensive data collection efforts; (b) how firms were selected for inclusion in our dataset; and (c) various robustness checks to ensure the accuracy and completeness of our data are all contained in the corporate governance data description appendix to this paper for interested readers.

2. Content of the 1978-1989 Shareholder Rights Database

a. Firm-Level Corporate Governance Provisions

The twenty-three IRRC firm-level corporate governance variables we track, which are also used in part in the construction of the G- and E-Indexes, for the 1978-1989 (inclusive) time period are: (1) cumulative voting; (2) poison pill; (3) confidential (secret) voting; (4) unequal voting; (5) dual-class shares; (6) classified board; (7) fair price provisions; (8) director indemnification provisions; (9) limits on the ability of shareholders to amend the corporate charters; (10) limits on the ability of shareholders to amend the corporate bylaws; (11) supermajority voting requirements for mergers; (12) anti-greenmail provisions; (13) limits on director liability; (14) limits on the ability of shareholders to call special meetings; (15) limits on the ability of shareholders to act by written consent; (16) pension parachutes; (17) golden parachutes; (18) silver parachutes; (19) compensation plans; (20) severance agreements; (21) director indemnification contracts; (22) blank check preferred; and a (23) firm's state of incorporation. The definitions of these variables are contained in the introduction to the 1990 IRRC volume as well as the appendix to Gompers,

[3] The SDC Platinum merger and acquisition data begins in 1979 and not 1978.

Ishii, and Metrick (2003). For every year for every firm in our database for the 1978-1989 time period, we attempted to code the presence or absence of these twenty-three firm-level corporate governance variables.

b. State Defaults

Unlike the IRRC database, we also coded for several state defaults (i.e., the governing state rule when the company's charter or bylaw is silent on an issue) which can be quite important. Specifically, we coded for whether the state's default is to limit the ability of shareholders to call a special meeting (relevant to variable 14) and whether the state default is to limit the shareholders' ability to act be written consent (relevant to variable 15). State defaults were based on our researching the history of states' corporate law codes during the 1978-1989 period which was then double-checked against Coates (2001) and the Corporate Library's coding of these state defaults.

c. State Corporate Law Statutes

Whether a firm was subject to any of the following state corporate law statutes (information that is also necessary for constructing the G- and E-Indexes) was also coded: (1) business combination laws; (2) control share cash-out statutes; (3) control share acquisition statutes; (4) fair price statutes; (5) directors' duties statutes; (6) anti-greenmail statutes; (7) mandatory cumulative voting statutes; and (8) director liability statutes. The year of a statute's adoption was also coded to ensure that prior to adoption firms incorporated in that state were not treated as subject to the statute. The IRRC coded the first six types of antitakeover statutes, but not the last two – mandatory cumulative voting and director liability statutes – although the IRRC did track cumulative voting and director liability provisions if they were adopted by a firm by virtue of a provision in their charter or bylaw.

We collected information on state corporate law statutes from a number of sources. We gathered information on state antitakeover statutes from Jarrell & Bradley (1980), Bhagat & Brickley (1984), Gilson (1988), Karpoff & Malatesta (1989), Mahla (1991), IRRC STATE TAKEOVER LAWS (1999), and Betrand and Mullainathan (2003). For some state statutes, firms in their charters or bylaws could, if they wanted to, opt-out (or more rarely opt-in) of a state statute. Accordingly, whether firms opted-out or opted-in to any of the above state statutes in their charter or bylaw was also coded for when we coded firms' charters and bylaws.

Based on this data we coded for each firm in our database their E-Index score and their G-Index score.[4]

3. Coding Protocol and the IRRC Database

Substantial effort was taken to ensure that our coding of the IRRC variables during the 1978-1989 time period was consistent with the coding by the IRRC over the 1990-2006 time period. This was important given our goal of combining our database with the IRRC database to construct a comprehensive corporate governance database covering the entire 1978-2006 period.

Given the importance we attached to compatibility, we began our data collection by developing a detailed coding protocol for the twenty-three firm-level provisions that the G-Index is, in part, based on.[5] The coding protocol was based on replicating IRRC's coding for these twenty-three firm-level variables in the year 1990 for two hundred randomly selected firms covered by the 1990 IRRC volume. This was done by collecting and analyzing the two hundred firms' 1990 10-K, 10-Q, and documents and contracts attached thereto (which included firms' charters and bylaws and contracts relating to compensation arrangements). We then researched the applicable state corporate law, including state default rules, to calculate the presence or absence of each of the twenty-four G-Index provisions as of 1990.

Based on our (re-)construction of the IRRC coding protocol, we adopted the same coding protocol for nineteen of the twenty-four G-Index corporate governance variables. The remaining five G-Index variables – limits on the ability of shareholders to call special meeting, limits on the ability of shareholders to act by written consent, limits on anti-greenmail, limits on director liability and director duties – were not coded using the IRRC coding protocol we developed. The reason for this divergence with respect to the limits on the ability to call a special meeting variable is that the IRRC treats a firm as having no limit on the ability to call a special meeting if the firm's charter or bylaw is silent on the issue. However, for a number of states, including most prominently Delaware, the default is that shareholders cannot call a special meeting. A similar issue arises for limits on written consent. The state default in a number of states, such as New York and Ohio, is that a majority of shareholders cannot act by written consent. In other words, for both

[4] The G-Index of a firm is the sum of the number of the following 24 provisions a firm has either by virtue of state law or a firm-level provision: (1) classified board; (2) limitation on amending bylaws; (3) limitation on amending the charter; (4) supermajority to approve a merger; (5) golden parachute; (6) poison pill; (7) limitation on special meeting; (8) limitation on written consent; (9) elimination of cumulative voting; (10) no secret ballot; (11) director indemnification; (12) director indemnification contract; (13) limited director liability; (14) compensation plan; (15) severance agreement; (16) unequal voting rights; (17) blank check preferred; (18) fair price requirements; (19) control share cash-out; (20) director duties; (21) business combination statute; (22) anti-greenmail provision: (23) pension parachute; and (24) silver parachute. A firm's E-Index is the sum of the first six of these provisions.

[5] The only G-Index provision that is calculated purely by examining a firm's governing state corporate law (and opt-ins and opt-outs thereto) is the control share cash-out variable.

limits on special meeting and written consent, silence in the charter or bylaws does not necessarily mean there are in fact no limits. A second difference from IRRC is the number of state corporate law statutes we identify. This affects our coding of the anti-greenmail, limits on director liability and director duties variables.[6]

III. Governance Changes and Firm Valuation

In a seminal paper on whether firm valuation is related to a firm's corporate governance arrangements, Gompers, Ishii and Metrick (2003) document a strong cross-sectional association between corporate governance, proxied by their G-Index, and firm value. They find that higher G-Index scores (i.e., more anti-takeover provisions) are associated with lower Tobin's Qs. They propose different explanations for this, including investors learning about the importance of good governance over their 1990-1999 time period and thereby increasing firm values for well-governed firms. Bebchuk, Cohen and Ferrell (2009) also document a strong association between corporate governance, proxied by their E-Index, and lower firm value.

The significant variation of shareholder rights provisions within firms across time in our sample allows for an out-of-sample re-examination of this association between governance and firm value. In particular, the inclusion of firm fixed effects in pooled panel regressions mitigates the endogeneity of firms adopting shareholder rights provisions depending on their circumstances, effectively relating lagged changes in governance to changes in firm value. Using both firm and year fixed effects, we document a robust negative association between the G-Index and Tobin's Q for 1978-2006. This is our first primary finding. However, the negative association of the G-Index with firm valuation does not survive the introduction of firm fixed effects for 1990-2006 or other sub-periods, only doing so for the full period.

We begin our exploration of the firm valuation effects of shareholder rights by first documenting in Section 1 the significant changes in firms' G- and E-Index scores during the 1978-1989 period and the relative stability thereafter, variation which we will exploit in our regressions. Section 2 will then present our Q regressions. Finally, Section 3 will document that the association we find between poor corporate governance (or fewer shareholder rights) and lower firm valuation

[6] As for anti-greenmail statutes, we agree with all five states identified as having anti-greenmail statutes in the IRRC database (AZ, MN, NY, TN and WI) but with one addition. Michigan as of 1988 had an anti-greenmail statute, still in effect as of 1990, which is not coded as such in the IRRC. In addition to coding for charter and bylaw provisions that limit director liability, as IRRC also does, we identified five state statutes adopted during the 1980s that limited director liability without the need for a charter or bylaw provision (IN, OH, FL, WI and ME), so-called self-executing director liability statutes. Finally, as for director duties statutes, only two states (IN and PA) were identified as having these statutes in 1990 in the IRRC. We have identified a total of nineteen states (GA, HI, IA, ID, IL, IN, KY, LA, MA, ME, MI, MN, MY, NJ, NM, NY, OH, OR, and WI) that had a director duties statute at some point in the 1980s, all of which were in effect in 1990 (with a number of additional states passing director duties statutes in the 1990s such as Pennsylvania in 1990).

is not explained by "reverse causation," i.e. low valued firms tending to adopt "poor" corporate governance.

1. The Changing Corporate Governance Landscape in the 1980s

The 1980s saw dramatic changes in firms' corporate governance arrangements, with far more stability in those arrangements prevailing during the 1990s. As a result, it is imperative to have shareholder rights data for a large sample of firms over the 1980s in order to investigate why firms have the shareholder rights arrangements they currently do and the effects of variation in corporate governance arrangements over time rather than just in the cross-section.[7] Both inquiries are useful in helping to identify whether any association between firm valuation and governance is causal in nature.

Figure 1 tracks the evolution of the G-Index of all the firms in our sample (with fewer than 8 missing provisions) over the 1978-2006 time period. We plot the 10%, 20%, 50%, 80% and 90% percentiles in each year. As Figure 1 illustrates, the distribution of the G-Index significantly shifted upward across all the percentiles over this time period. The median G-Index score equals 5 from 1978-1983, then increases by exactly one point a year from 1983-1989 to reach 11 in 1989, shifts to 9 in 1990 and remains almost constant thereafter.[8]

Firms likewise also experienced substantial increases in the E-Index scores during the 1980s. Changes in firms' E-Index scores, again broken down by their percentile rankings, is graphed in Figure 2. As is also evident from Figure 2, the variation between firms in their E-Index scores, particularly in the first half of the 1980s, was lower than that for firms' G-Index scores.

Not surprisingly, this significant time variation also appears when one examines the incidence of individual provisions during the 1978-1989 period. Moreover, there is significant variation across individual corporate provisions in terms of their incidence during any given year in the 1978-1989 period.

Figures 3A, 3B and 3C graph the annual incidence in our sample of the 24 provisions constituting the G-Index. First, in Figure 3A, we graph the incidence of the six provisions in the E-Index: supermajority voting requirements for charters, by-laws and mergers, classified boards, poison pills and golden parachutes.[9] Of the six E-Index provisions, four provisions enjoyed very

[7] We hope to focus on explaining firm corporate governance choices in more detail in future work, after having collected more data on alternative governance mechanisms, in particular board and ownership data. In this paper, we limit attention to the relation between changes in the shareholder rights provisions in the G-Index and lagged firm value (plus controls).

[8] The shift from 1989 to 1990 is most likely due to the change in database, from our own gathered data (1978-1989) to the IRRC database (1990-2006). We will verify that our results are not driven by any shift across databases, or differences in the coding protocol, e.g. by controlling for the G-Index in 1989 as well as using the G-Subgroup Index.

[9] Some series start in 1980 due to too many missing observations for 1978 and 1979.

substantial increases in their incidence in the 1980s (supermajority merger, classified board, poison pill and golden parachute), one enjoying a meaningful increase (supermajority by-law), and one experiencing little change (supermajority charter). Moreover, the timing of these increases differed, with classified boards enjoying a steady increase for most of the 1980s while poison pills experienced dramatic growth after 1985 (changes that will be explored in the next section). In contrast, there is very little in the way of time variation over the 1990s in the incidence of any of these variables.

Figure 3B plots the occurrence of 9 other G-Index provisions that exhibit significant time variation and where our database also seems quite consistent with the IRRC data (compensation plan, director indemnification contract, severance agreement, anti-greenmail, fair price requirements, business combination statute, secret ballot, cumulative voting and director liabilities). The incidence of most of these provisions are, as a general matter, substantially increasing over time. Particularly noticeable are the sharp increases in the incidence of fair price provisions between 1982 and 1985 and the even more dramatic increase in limitations on director liabilities in 1986 and business combination provisions in 1987. The incidence of the cumulative voting provision, however, shows a general decline over the whole period, while the incidence of severance agreements increases substantially in the 1980s but then subsequently experiences a decline thereafter.

Various important events in legal history can explain much of this time variation. For example, the sharp increase in the state law business combination statute from 0% until 1985 to over 80% in 1990 is due to states adopting second-generation anti-takeover laws during this period. Most importantly, Delaware adopted a business combination statute in 1987. A number of states also passed fair price statutes, beginning with Maryland in 1983. The spike in limitations on director liabilities was in large part a direct response to the 1985 Delaware Supreme Court decision in *Smith v. Van Gorkom*[10] which found in that case that the independent directors of a corporation were personally liable for breaching their fiduciary obligations. This decision was unexpected[11] and created a major backlash, including the passage by the Delaware legislature in 1986 of Section 102(b)(7) to the Delaware Corporation Law[12] permitting Delaware corporations, for the first time, to adopt a charter provision limiting director liability. Many Delaware corporations quickly adopted just such a charter provision. Other states (Indiana, Ohio, Florida, Wisconsin and Maine) went even further than Delaware in the aftermath of *Van Gorkom* passing so-called self-executing

[10] 488 A.2d 859 (1995).
[11] See, e.g., Bayless Manning, *Reflections and Practical Tips on Life in the Boardroom After Van Gorkom*, 41 BUS. LAW. 1, 1 (1985) ("The Delaware Supreme Court in *Van Gorkom* exploded a bomb.").
[12] 65 Delaware Law 544.

director liability statutes that limited director liability even without the firm changing the corporate charter. Most states, however, followed Delaware in permitting firms to adopt charter (and sometimes bylaw) provisions limiting director liability. For cumulative voting, a number of states had mandatory cumulative voting laws as of the end of the 1970s, that they subsequently either repealed outright (such as New Hampshire) or changed to a default cumulative voting statute (such as California).

Figure 3C graphs the incidence of the remaining 9 provisions. For four of those, there is basically no time variation at all (silver parachute, pension parachute, unequal voting rights and control share cash-out provisions) with fewer than 5% of firms adopting these provisions. For three provisions (director duties, limits on special meetings and limitations on written consent), there is a significant difference in our database versus IRRC, which much more frequent occurrence in our database. For these three provisions, the discrepancies can be explained by IRRC apparently not incorporating various state defaults and state statutes into their coding protocol. Using our best efforts to 'correct' the IRRC data, these discrepancies largely disappear, as illustrated by the 'corrected' time series of these provisions in Figure 3C (starting in 1990, when IRRC data start).

For the final two provisions in Figure 3C (blank check and director indemnification), there are differences in our coding protocol with IRRC that we could not reconcile. After checking a number of instances in which the IRRC reports no director indemnification provision against the firm's charter, we conclude that the IRRC has very substantially underreported the incidence of this provision (which we believe is in place in almost all firms in our sample throughout 1978-2006). The blank check provision is underreported in our sample, caused by the spotty reporting of blank checks in firm's 10-Ks, our primary source of information for this variable.[13]

We also create a G-Subgroup Index consisting of eighteen of the twenty-four G-Index provisions for which coding differences between our and IRRC's protocol were not an issue and calculated the value of this Subgroup for both the 1978-1989 time period as well as the 1990-2006 period (the latter using IRRC data). We used this G-Subgroup Index in various robustness checks to ensure that our results were not being driven by these differences in coding between our coding of the G-Index provisions for 1978-1989 versus the IRRC's coding for 1990-2006.[14] Finally, we

[13] The incidence of blank check is far higher in the IRRC database (76% in IRRC's 1990 report versus 24% in 1989 in our database), about which we have concluded that the IRRC's figure is likely the more accurate number given the spotty reporting of blank checks in firm's 10-Ks, our primary source of information for this variable. It is worth noting that the error in our blank check variable is a Type II error, i.e. our identification of firms with blank check is accurate but does not identify all firms with blank check. We have rerun the results reported in this paper without using the blank check variable and they remain qualitatively unaltered.

[14] The six provisions that were not included in our G-Subgroup Index were: limitation on special meeting, limitation on written consent, limits on director liability, director duties, director indemnification, and blank check preferred.

also use as a robustness check the actual G-Index score as reported in IRRC for the 1990-2006 time period, which we label 'G-Index Uncorrected.'

Finally, descriptive statistics of the G-Index, the E-Index, industry-adjusted Tobin's Q, return on assets (ROA), net profit margin (NPM), and sales growth, as well as various controls (see the table description for details) are given in Table I, while the percentages of firms changing their G-Index, E-Index and the poison pill provision are presented in Table II. These changes are calculated from one database update to the next, where updates are annually from 1978-1989, after which IRRC updates their data about every two years. Table II further confirms that most governance changes happened in the 1980s, especially in 1985-1989. In this period, on average about 60% of firms increase their G-Index score each year, less than 2% decrease their G-Index score, and about 11% add a poison pill.

2. Shareholder Rights and Firm Valuation

Panel A of Table III presents annual cross-sectional regressions of firms' year-end industry-adjusted Tobin's Q on the lagged G-Index over the 1978-2006 time period for a total of twenty-nine regressions. For each of these annual regressions the coefficient value on the G-Index was consistently negative, except for one year (1981, though the point estimate is not statistically significant) with an average coefficient of -1.71%. As for the E-Index, all twenty-nine annual cross-sectional regressions of firms' industry-adjusted Tobin's Q on the E-index covering the 1978-2006 time period are negative as well, with an average coefficient value of -4.50% (results not reported to save space).

Panel B of Table III contains pooled regressions of fiscal year-end industry adjusted Tobin's Q on the lagged G-Index, along with a number of other controls, including fiscal year fixed effects throughout, robust standard errors clustered by firm, and either industry or firm-fixed effects in some regressions. A higher G-Index is again associated with lower firm valuation with the coefficient estimate (-0.020) being negative and statistically significant at the 1% level for 1978-2006. This basic finding of a negative and statistically significant relationship between a firm's G-Index and a firm's industry-adjusted Tobin's Q survives the introduction of industry fixed effects (coefficient value -0.018 and 1% statistical significance) and firm fixed effects (coefficient value of -0.011 with p value of 6%). Perhaps not unsurprisingly given the data demands of these regressions, when one looks at sub-periods (1978-1989 and 1990-2006) the coefficient value on the G-Index with firm fixed effects is not statistically significant, although the negative coefficient estimate for the G-Index of -0.016 for 1990-2006 is suggestive with a t-statistic of 1.61 with a corresponding p-value of 11%.

Panel C of Table III presents the results of various robustness checks for our primary finding of a negative association between firm value and poor governance over the 1978-2006 time period. As before, we use pooled panel regressions of industry-adjusted Tobin's Q, year fixed effects throughout, the Panel B controls and, in some regressions, either industry or firm fixed effects. Columns (1) – (3) document that using different cut-offs in terms of the acceptable number of missing G-Index variables (cut-off of no more that 5 missing; no more than 11 missing; no more than 15 missing) changes neither the point estimates of the firm valuation effects of governance nor their statistical significance. This is not surprising given the annual cross-section regression results in Panel A which document a negative association between firm value and governance for every year between 1982-1989, years for which there were very few missing variables (see the data appendix).

In columns 4 – 6, we use a maximum of 7 missing provisions. In column 4, we add industry fixed effects that change each year (Industry x Year fixed effects), and find that the G-Index coefficient remains negative and statistically significant. In column 5, we use the G-Index where missing G-Index provisions are replaced with the following year's value, if non-missing, together with firm fixed effects. Naturally increasing the sample, this method of imputing missing provisions can be motivated by the fact that only 1-5% of provisions change year-on-year in our sample. The coefficient of this alternative G-Index remains similar and significant with a 8% p-value. Column 6 again uses firm fixed effects, with an additional control of the 'G-Index in 1989' (which is set to zero every other year). This is to ensure that our results are not driven by any discontinuities caused by the partly different coding protocols in 1989 versus 1990. We find that the coefficient of the G-Index is unchanged from Panel B and significant, while the 'G-Index in 1989' variable is insignificant.

Panel C of Table III also examines of the effect of the E-Index on firm valuation during this period documenting a strong negative association (-0.05 with 1% statistical significance, see column 7) for the 1978-2006 period, a finding that does not survive the introduction of firm fixed effects (column 8). This latter finding may not be surprising given Figure 2, which documents the lack of a spread in the E-Index for much of the 1978-1989 period. In contrast, Bebchuk, Cohen, and Ferrell (2009) document a robust cross-sectional association between the E-Index and firm valuation during the 1990-2006 period, for which there was a meaningful spread among firms in terms of their E-Index scores.

Panel C also presents the results when we use our G-Subgroup Index, which is based on eighteen of the twenty-four G-Index provisions, rather than the full G-Index. The negative association between shareholder rights and firm valuation remains statistically significant (with the

same point estimate as that of the full G-Index) even with firm fixed effects (see columns 9 – 10). Finally Panel C presents the results, again with firm fixed effects, when the G-Index Uncorrected is used (column 11). And, again, there is a negative association with a -0.01 coefficient, albeit with a p-value of only 12%. This suggests the importance of correctly incorporating the state statutes and state defaults.

3. The Effect of Firm Valuation on Firms' Corporate Governance Choices

A common "reverse causation" story in the corporate governance literature is the possibility that a firm with lower firm valuation will tend to limit shareholders rights, adopting more G-Index provisions in order to insulate the firm from hostile takeovers (see e.g. Lehn, Patro & Zhao 2006). As a result, the documented correlation between low firm valuation and the G-Index index, according to this story, might be at least in part due to reverse causation.[15]

With this "reverse causation" story in mind, we examine whether a firm's valuation, as measured by that firm's lagged Tobin's Q, helps explain changes in a firm's G-Index score. In our firm fixed effects regressions, we control for a number of other variables as well. All independent variables, including Tobin's Q, are lagged by one year to the firm's G-Index score (the dependent variable). All our regressions cluster standard errors at the firm-level. The results of this analysis are presented in panel A of Table IV for the G-Index and in panel B of Table IV for the E-Index.

Interestingly, the coefficient on Tobin's Q is actually positively and significantly associated with increasing the G-Index index for both the entire 1978-2006 period (coefficient of 0.29) as well as the 1978-1989 period separately (1.23) when year fixed effects were not controlled for. However, when year fixed effects are added, this statistically significant positive association disappears for both the entire 1978-2006 period (coefficient of -0.07, 1% statistical significance) and the 1978-1989 period considered separately (0.05, no statistical significance even at the 10% level). This substantial change in the regression results of adding year fixed effects indicates that firms tended to increase their G-Index scores in years in which firm valuations were generally rising, with the result that the positive association between firms' valuation and changes in firms' G-Index scores either disappears (1978-1990 time period) or actually reverses (1978-2006 time period). As for the 1990-2006 time period, there is a negative association that is very minor economically between Tobin's Q and a firm's G-Index score controlling for both year and fixed effects (-.05, 1% statistical significance).

[15] However, the cause for why firms can maintain their low firm valuation after insulating themselves from hostile takeovers might be the corporate governance provisions that provide such insulation. In other words, the ability to maintain a low firm valuation might be caused by the corporate governance provisions.

The results for the E-Index in panel B of Table IV are similar, with again a positive coefficient for 1978-2006 without year fixed effects and a negative coefficient once year fixed effects are added. This negative coefficient seems entirely due to the 1990-2006 period.

In Table V, we use ordered logit regressions to further gauge the evidence for reverse causality. The dependent variable equals 1 if the firm's governance index value (using the G-Index in panel A and the E-Index in panel B) increases in the next fiscal year, relative to the previous data update, equals -1 if it decreases, and 0 if it does not change.[16] All specifications include 48 Fama-French industry group fixed effects, the lagged governance index score plus several lagged controls and are run without and with year fixed effects. We report the marginal effects associated with an increase in the index, where the t-statistics are based on robust standard errors clustered by firm. Next to the full time period of 1978-2006, three sub-periods are used: 1978-1989, 1990-2006, as well as the period during which most governance changes took place, 1985-1989.

The variable most strongly predicting G-Index in Panel A of Table V increases is the lagged G-Index score. Further, in the first half of our sample larger firms are more likely to increase the G-Index, while in 1990, smaller firms and those with higher leverage are more likely to do so. However, there is no evidence that lower valued firms are more likely to increase their G-Index score, as the coefficient on lagged Q is either positive (without year fixed effects) or negative (with year fixed effects) but insignificant. These results are robust to not including the lagged G-Index value in the ordered logit regressions or to estimating the likelihood of G-Index increases (ignoring decreases).

In contrast, results for the E-Index in Panel B of Table V show some evidence for reverse causality, especially for 1985-1989, when the coefficient of Q is negative and significant both with and without year fixed effects. The economic magnitude suggested by the marginal effects seems modest though relevant. For example, a standard deviation decrease in lagged industry-adjusted Q (0.80) is associated with an increased likelihood of increasing the E-Index in the following fiscal year by about 3.2% (=0.80 x 0.039) over 1985-1989, with similar results for 1978-1989 (the economic magnitude is about a third as small for the full time period or after 1989). To put this into context, about 25% of firms increase their E-Index in any given year over 1985-1989.

In short, for the period in which firms' corporate governance arrangements were changing most rapidly (the 1978-1989 period), there was no identifiable or economically very minor effect of firm valuation on firms' G-Index choices, though the effect of a low firm valuation on a firm's corporate governance choices predicted by the "reverse causation" story does hold true to some

[16] For 1990-2006, we only use years in which the indices are updated. All the independent variables are the previous fiscal year end's values (i.e., one year lagged).

extent for the E-Index, especially during the 1985-1989 time period. However, the association seems economically most, which a one standard deviation decrease in Tobin's Q being associated with the likelihood of an increase of the E-Index score being about 3.2% higher over 1985-1989, and significantly smaller over the full time period or after 1989. We will investigate this issue in more detail in section V, focusing on the individual provisions in the E-Index.

IV. THE TAKEOVER CHANNEL

An important issue in exploring the relationship between shareholder rights and firm valuation is the potential channels by which governance can affect firm valuation. Identification of such channels is of interest in its own right as well potentially providing evidence that governance does in fact affect firm valuation. The main channel we consider in this section is the importance of the market for corporate control. The governance provisions in the G-Index could affect the likelihood of receiving a successful takeover bid and thus a significant takeover premium. Another plausible (though not mutually exclusive and possibly complementary) channel through which governance could affect firm valuation is through governance's effects on a firm's operating performance. Of course, one mechanism by which governance can affect a firm's operating performance is by affecting whatever disciplinary effect the possibility of any (and especially hostile) takeover has on the incentives of existing management.

We begin our exploration of this issue by first documenting in Subsection 1 the incidence and composition of takeover activity in the 1980s and thereafter. Next, we examine in Subsection 2 the change in the association of shareholder rights with firm valuation that resulted from a dramatic increase in the potency of poison pills and classified boards as a takeover defense due to a seminal 1985 takeover decision by the Delaware Supreme Court. In Subsection 3 we then explore the association of the G-Index with firm valuation for firms who happened to be in industries experiencing "high" levels of M&A activity relative to firms in industries experiencing "low" M&A activity levels at a particular point in time. Finally, in Subsection 4 we examine the direct association of the G-Index on operating performance (net profit margins, return on assets and sales growth).

The results of these analyses suggest that the association between shareholder rights and firm valuation arises primarily through a "takeover channel", i.e., through the probability of takeover and, hence, the probability of target shareholders receiving a takeover premium. In considering the plausibility of the "takeover channel" as an important channel for governance effects on firm valuation, it is worth bearing in mind the finding of Andrade, Mitchell and Stafford

(2001) that the median bid premium is approximately 38%, suggesting that takeovers generally are very beneficial to the target shareholders.

1. M&A Activity in the 1980s and Thereafter

Not only was the 1980s a period of substantial change in firms' corporate governance arrangements, as documented by Figures 1-3, but it was also a period of substantial changes in M&A activity. Figure 4 displays the incidence of M&A activity broken down into three categories – friendly takeovers, hostile takeovers, and leveraged buyouts (LBOs) – over the 1979-2006 time period for all the companies in our sample.

For each of our three categories of M&A activity, we graph in Figure 4 their incidence as measured by (i) the aggregate dollar value of M&A activity in any given category and year, divided by the total market capitalization of all firms in our sample as of the beginning of the year (represented by the solid "DV" lines, henceforth the aggregate percentage of firm capitalization undergoing M&A); and (ii) the aggregate number of firms subject to M&A activity in a given year, divided by the total number of firms in our sample (represented by the dotted "#" lines, henceforth the aggregate proportion of firms undergoing M&A).

As is apparent from Figure 4, M&A activity, while starting at a very low base at the beginning of this period, occurred on an extensive scale both during the 1980s and the 1990s. The dramatic uptick in M&A activity of all kinds began around 1982. As is also obvious from Figure 4, the composition of M&A activity was substantially different in the 1980s relative to the 1990s, particularly in the incidence of hostile and LBO M&A activity. This is of course well-recognized in the literature (see, e.g., Andrade, Mitchell and Stafford 2001).

2. Governance and the Changing Law of Takeover Defenses

The law surrounding the use of takeover defenses was also in considerable flux in the 1980s, especially as pertaining to the validity of the poison pill, which is arguably the most potent defense available to the board of directors against unwanted takeovers.[17] As was seen in Figure 3, poison pills were first deployed in 1982 and were adopted by a handful of firms in 1983 and 1984. From 1985 to 1986 the rate of adoption increased dramatically, from 4% of all firms in the sample

[17] If a takeover bid is approved by the board of directors, they can revoke the poison pill, but if the board does not approve the deal and the bidder proceeds, the pill is triggered if the bidder owns more than a certain percentage of the shares (often 15%). Poison pills are potent takeover defenses, as they make the target's stock much less attractive to the acquirer by giving the holders of the target's stock other than the bidder the right to purchase stock in the target or the bidder's company at a steep discount. There are two types of poison pills: 1. A "flip-in" allowing existing shareholders (*except the acquirer*) to buy more shares at a discount, and 2. A "flip-over" allowing stockholders to buy the acquirer's shares at a heavily discounted price after the merger. Both can greatly dilute the shares held by the acquirer. This makes the takeover attempt more difficult and more expensive.

as of 1985 to 26% of all firms as of 1986. And every year thereafter that percentage steadily increased so that, by 1989, 52% of firms in our sample had a poison pill.

The year of the dramatic increase in the incidence of poison pills, 1985, was the same year as the seminal case of *Moran v. Household International*,[18] which judicially validated the poison pill for the first time. The Delaware Supreme Court in this decision cleared away three hurdles to a target board's use of poison pill to block unwanted takeover bids. First, the Court held that the decision of the Household Corporation to adopt a poison pill was within the legal authority vested in the firm's board of directors pursuant to a provision in the Delaware General Corporation Law (section 157) granting boards the authority to issue share rights.

Second, the Court held that, in determining whether a target board's decision to exercise this legal authority and adopt a poison pill was consistent with the board's fiduciary duties to its shareholders, it would use the most relaxed form of judicial review possible, the business judgment rule.[19]

Third, the Court rejected the argument that Household Corporations' poison pill was invalid given its impact on the right of shareholders to conduct a proxy contest. Most non-Delaware state courts that addressed the issue, as is quite common on corporate law issues, followed *Moran's* lead in their treatment of poison pills[20] with a couple of states passing legislation to statutorily codify the poison pill's legality.[21]

The *Household* decision was far from a pre-ordained result. The decision resolved significant legal uncertainty that existed till that point concerning the legality of poison pills. The prominent corporate lawyer and creator of the poison pill, Martin Lipton, explained that of all the Delaware decisions on the use of defensive tactics at the time "the one that proved to have the greatest practical impact was undoubtedly *Household* – the pill changed everything" (Lipton and Rowe 2002). He went on to explain that, "*Household* recognized that the pill gave boards the power to 'just say no' until such time as the shareholders replaced the incumbent directors, if they so wished." Or as a contemporary commentator put it, "This is probably the single most important corporate law case to come before the courts in years" (Stevenson (1985, p.58) quoting a

[18] 500 A.2d 1346 (Del. 1985).

[19] The Moran Court further emphasized the fact that the poison pill it was reviewing had already been adopted, suggesting that the level of judicial review might be different if the pill had been adopted in response to a hostile bid: "[I]n reviewing a *pre-planned* defensive mechanisms it seems even more appropriate to apply the business judgment rule." *Id.* (emphasis added). In other words, it was not at all clear at that time that all firms had in effect a "shadow pill" in the sense that they could quickly adopt a pill when a hostile bidder arrived on the scene and receive the same level of judicial deference for that adoption as a pill that had already been adopted outside the "heat of battle."

[20] See, e.g. Velasco (2002), p.400 ("As is often the case in corporate law matters, courts often turned to Delaware in assessing the validity of the poison pill. . . . The impact of *Moran* in such cases is undeniable.")

[21] See, e.g., Wis. Stat. section 180-0624 (1999).

prominent corporate lawyer))." A *Business Week* article at the time explained that the "*Household* case in Delaware is the crucial one."

Numerous commentators pre-*Household* commented on the significant legal uncertainty surrounding the use of the poison pill. As one article at the time explained, some corporate lawyers were "skeptical about poison pill plans, and questioned whether the plans will withstand legal scrutiny" (Masters (1983), p.9). Much of the legal uncertainty in the *Household* case concerned whether the issuance of a poison pill was within the power vested in the board of directors under Delaware's General Corporation Law statute and whether the use of a poison pill to block an unwanted acquisition would violate a target board's common law fiduciary obligations to its shareholders. Numerous commentators made arguments pre-*Household* questioning the validity of the poison pill (see, e.g., Lynch & Steinberg (1979); Easterbrook & Fischel (1981); Gilson (1981)). The Securities and Exchange Commission filed an amicus brief in the *Household* case arguing that the Household Corporation's adoption of a poison pill violated the basic rights of shareholders under Delaware corporate law to decide for themselves the merits of a hostile tender offer. The Securities and Exchange Commission also argued that the poison pill would fatally undermine the ability of shareholders to conduct a proxy contest and should be deemed illegal for this reason as well. These arguments, while prominent prior to *Household*, were rejected by the court in its *Household* decision.

The judicial validation of the poison pill in *Household* also had the effect of substantially increasing the antitakeover effect of a classified board, given that control of the target board was now necessary in a situation where a firm had decided to adopt a poison pill, as the target board could redeem the pill if it wanted to. This marked a substantial shift in the effect of classified boards prior to *Household*, as the presence of a classified board without the ability of the firm to use a poison pill posed little if anything in the way of a barrier to a bidder who wished to acquire a control block (Gilson (1981); Bebchuk, Coates and Subramanian (2002)). In the absence of a pill, bidders could still acquire a control block against the wishes of target board, and once that had occurred it was quite unlikely (as a practical matter) for a target board to oppose the wishes of a controlling shareholder (Gilson (1981)). Pre-*Household* classified boards, however, would still potentially have the beneficial effects of increasing board stability and board independence, common justifications for having a classified board other than their antitakeover effect.

In short, the year 1985 marked a critical turning point in the ability of firms to use poison pills (as well as poison pills combined with classified boards) to block unwanted third party acquisitions. As this judicial decision resolved a major source of legal uncertainty surrounding the use of antitakeover defense, this event is another useful way to address endogeneity concerns

surrounding the negative association between firm value and antitakeover provisions. The resolution in 1985 of the legal uncertainty surrounding the use of antitakeover defenses largely in favor of the ability of a target board's ability to deploy them would not only affect a board's ability to use poison pills and classified boards, but the use of other antitakeover defenses by a target board consistent with the board's fiduciary obligations. Finally, while the *Household* decision applied to only firms incorporated in Delaware, the bulk of other states quickly followed (often explicitly) the *Household* framework, underscoring the importance of Delaware corporate law for other states.

Given our preceding discussion, the hypothesis we wish to test is that the legal validity of the poison pill after 1985 instigated a significant shift in power from shareholders to the board of directors. As the use of the governance provisions in the G-Index is largely at the board's discretion, this would imply that the G-Index, poison pills and classified boards have a more significant negative effect on firm valuation post-1985 relative to pre-1985. Our dependent variable is industry-adjusted Tobin's Q for the full 1978-2006 sample. We create a dummy variable for whether the year is prior to 1985 and another dummy variable for whether the year is equal to 1985 (with post-1985 being our baseline time period) and then interact these dummy variables with the G-Index, the E-Index, and dummy variables indicating the presence of the classified board and poison pill provisions. We employ the same controls as in Table III and also control throughout for year fixed effects, plus either industry or firm fixed effects. Robust standard errors are clustered by firm. The results of our analysis are reported in Table VI.

As the interaction results for the G-Index x Pre-1985 dummy variable documented in columns (1)-(2) show, the G-Index did indeed have a more negative impact in the post-1985 period versus pre-1985, with the interaction effect having a p-value of 7% in columns (1). The G-Index standing alone is also statistically significant negative at a level of 5% even in the fixed effects regression (column (2)). This means that before 1985, the coefficient of the G-Index is not significantly associated with firm value, either economically or statistically. After 1985, an increase in the G-Index of one point is associated with a lower firm value of 2.0% with industry fixed effects, or of 1.2% with firm fixed effects. For the E-Index results in columns (3) and (4), we again find that its coefficient is only negative after 1985, and like Table III, we only obtain statistical significant with industry fixed effects and not with firm fixed effects.

Turning to the individual corporate governance provisions, we find that classified boards only had negative association with firm valuation post-1985, but not in the pre-1985 period (with the difference being statistically significance at 1%). Economically, firms with a classified board have an 8.1% lower firm value after 1985, but about 4% higher firm value before 1985. Poison

pills are also only strongly negatively associated with firm valuation after 1985, with a large economic effect, as firms with a poison pill have an 11.7% lower firm value after 1985. While the interaction effect is not quite statistically significant at the 10% level, the association of a poison pill and firm value is positive before 1985. However, both the classified board and poison pill results are only significant with industry fixed effects, but disappear (with no more significance) once firm fixed effects are added (these results are not reported to save space). In the next section, we will investigate these and other individual provisions and their association with firm value in more detail.[22]

3. Governance and Levels of M&A Activity

If the G-Index is negatively associated with firm value by reducing the likelihood of an attractive takeover, then the negative effects of a higher G-Index should be particularly powerful when a firm happens to be in an industry experiencing "high" levels of takeover activity, relative to firms in the same industry with lower G-Index scores and relative to firms with the same G-index score but in an industry that year that was experiencing "low" levels of takeover activity. Being a firm in an industry with "high" levels of takeover activity renders the possibility of a takeover offer particularly relevant to firm valuation given the increased likelihood, all else being equal, of receiving a takeover bid. This is the hypothesis we will test in this section.

As takeover bids tend to cluster in industries, we conjecture that past industry-specific takeover activity is a good instrument for the channel through which governance affects firm value. Our hypothesis exploits the fact that the level of M&A activity in an industry in a given year can help identify whether the G-Index causes lower firm valuation. In particular, Mitchell and Mulherin (1996) report that mergers occur in waves; and within a wave, mergers strongly cluster by industry. In unreported regressions, we in fact find a strong link between past and future friendly takeover activity, both at the aggregate and industry levels. The literature (see e.g. Andrade, Mitchell and Mulherin 2001) has interpreted these findings as suggesting that mergers might be reactions to unexpected shocks to industry structure, regulation or technological innovation, such that industry-specific waves could be considered as exogenous to the firm (and not proxying for some other endogenous choice by the firm, if these merger waves are indeed driven by unexpected industry shocks).

[22] If the few pre-1985 poison pills are ignored, and for those firms (i.e., with a pre-1985 pill) the 1985 decision is interpreted as for the first time affirming their pill, then the poison pill has a negative coefficient of -0.039 that is significant at 10%. This suggests that the firm value of firms with a pre-1985 pill also went down after 1985, consistent with the importance of the *Moran vs. Household* decision and the valuation effects of adopting poison pills. Finally, as will be seen in the next section, only using data after 1984, the poison pill provision coefficient is robustly negative and significant with p-values around 5% with firm and year fixed effects.

In other words, to the extent that industry M&A merger waves are exogenous, this can help both identify whether the G-Index could cause lower firm valuation and whether that lower firm valuation comes about through the takeover channel. However, we acknowledge that it is quite plausible that industry-specific M&A activity has a direct effect on both firm value and the endogenous firm choices for the various takeover defenses. As a result, we do not consider industry-specific M&A activity to be an instrument, but rather helpful to suggest the channel through which takeover defenses may be related to firm value.

Our takeover channel hypothesis implies that the interaction between the G-Index and being in an industry in a given year with a "high" level of friendly activity should have a negative coefficient, given that antitakeover provisions are expected to be more harmful if M&A activity is more likely. In order to test our hypothesis, we create two dummy variables. One dummy variable indicates whether a firm in a given year is in an industry (using the 48 Fama-French industry groups) experiencing a "high" level of friendly takeover activity, and analogously we construct a dummy for "low" levels of friendly activity. "High" and "low" levels of activity are determined by whether the industry was in the top quartile or the bottom quartile in terms of friendly M&A activity in that year, as measured by the proportion of Compustat firms in the industry taken over. We interact these dummy variables with the G-Index in pooled panel regressions with industry-adjusted Tobin's Q as the dependent variable. In our regressions, we use the same set of controls as used in Table IV and include year fixed effects plus industry or firm fixed effects. We begin our analysis with the year 1982 as prior to that there is virtually no spread in takeover activity between "high" and "low" takeover industries.

The results of our analysis can be found in Table VII for the 1982 – 2006 time period, plus the 1982-1990 and 1991-2006 sub-periods (these two sub-periods correspond approximately with the two respective major M&A waves after 1980, see Figure 4). Turning first to the entire 1982-2006 period, the coefficient value on G-Index interaction with being a firm in an industry with a "high" level of friendly takeover activity is statistically significant (coefficient of -0.004 with a p-value of 3%), and remains significant (coefficient of -0.002 with a p-value of 7%) with the introduction of firm fixed effects. The G-Index standing by itself still has a statistically significant at the 1% level negative effect on firm valuation with industry fixed effects (coefficient of -0.019) and remains statistically significant negative even with the introduction of firm fixed effects (coefficient of -0.011 with a p-value of 7%). The G-Index interaction with firms in industries with "low" levels of takeover activity has a positive and significant coefficient, even with firm fixed effects (coefficient of 0.003 with a p-value of 0.5%).

For the 1982-1990 period, the coefficient value on the interaction term of being a firm in an industry experiencing "high" levels of M&A activity and the G-Index is statistically significant and negative even controlling for firm fixed effects (coefficient of -0.004 and p-value of 4%). After adding this interaction term and controlling for firm fixed effects (column 4), the G-Index by itself does not have any statistically significant association with firm valuation. Finally, focusing on the 1991-2006 period, the interaction term for "high" levels of takeover activity and the G-Index is statistically significant at the 1% level (-0.005) without firm fixed effects, but is no longer statistically significantly negative with firm fixed effects.

In short, we find that a firm in an industry with "high" levels of M&A activity has a more pronounced negative association of the G-Index with firm valuation. These results survive the introduction of firm fixed effects and seem economically meaningful. For example, using the full time period and firm fixed effects specification in column 2, a one point increase in the G-Index is associated with a decrease in firm value of 0.8% for firms in an industry with a low level of M&A activity, and a decrease in firm value of 1.3% for firms in an industry with a high level of M&A activity.

4. Shareholder Rights and Operating Performance

Another plausible (not at all mutually exclusive and possibly complementary) channel through which governance could affect firm valuation is through governance's effects on a firm's operating performance. This could for example arise through lack of disciplinary effects of the market for corporate control at firms with high G-Index scores. Our examination of the association of governance with operating performance is explored in Table VIII. While we find a negative cross-sectional association of the G-Index with operating performance, we are unable to identify this in the time series (i.e., using firm fixed effects).

We use in our analysis as dependent variables firms' industry-adjusted return on assets (ROA, see Panel A), industry-adjusted net profit margins (NPM, see Panel B) and industry-adjusted sales growth (Sales Growth, see Panel C) as dependent variables rather than Tobin's Q. The lagged G-Index is the main independent variable of interest (using year dummies throughout and, in all regressions except column 1, either firm or industry fixed effects). In all specification, we also include all the controls of Table III (not shown to save space): log book value of total assets, capital expenditures over book value of total assets, dummy for capital expenditures missing, book leverage ratio, R&D expenditures over book value of total assets, dummy for R&D expenditures missing, S&P 500 dummy, plant, property and equipment expenses over book value

of total assets and finally a dummy for missing information on plant, property and equipment expenses. We cluster the robust standard errors by firm.

The results are not clear-cut. Using industry fixed effects and 1978-2006 (see column 2), we find a statistically significant negative cross-sectional association with the G-Index for both NPM and sales growth, though not for ROA. The economic magnitude of this association seems quite modest. For NPM, the coefficient of -0.1 implies that a one standard deviation shock increase to the G-Index (3.0) is associated with a decrease in NPM of about -0.3%. This seems small compared to the standard deviation of NPM of 15%.

However, using firm fixed effects, none of these associations for NPM and sales growth remains significant even at the 10% level (see column 3). Further, ROA does not show any significant negative associations with the G-Index with industry or firm fixed effects (columns 1 – 3). The same results apply for the three time sub-periods considered if we use year and firm fixed effects. For all three proxies of operational performance, the p-values of the negative coefficient of the G-Index in column (10) are about 15%, which clearly falls short of conventional statistical significance levels. Therefore, like Gompers, Ishii and Metrick (2003), our finding of negative associations between the G-Index and accounting profitability and sales growth is a cross-sectional result, with our analysis unable to identify statistically that time variation in the G-Index is followed by changes in profitability or sales growth.

V. Poison Pills, other Provisions and Firm Valuation

In this section we will analyze the effect of individual shareholder rights provisions on firms' industry-adjusted Tobin's Q over the 1978-2006 period. We also analyze the effect of poison pills and their interaction with the G-Index during the 1985-2006 period. The latter period was chosen as this constitutes the post-*Household* period in which it was clear firms had substantial leeway in using the poison pill (although, to be sure, the exact limits as to the scope of this leeway was still the subject of on-going debate and litigation). We focus our 1985-2006 analysis on poison pills given their centrality to the post-*Household* anti-takeover landscape. We use as controls the Table III controls (described in Table I) and year fixed effects and, moreover, either industry fixed effects (based on the Fama-French 48 industry classification grouping) or firm fixed effects in our specifications with robust standard errors clustered at the firm-level. The results of our regressions are reported in Table IX.

More specifically, for the 1978-2006 time period, we ran as independent lagged variables all six E-index provisions (poison pill, classified board, golden parachute, supermajority for bylaw,

charter and mergers). Without firm fixed effects, three of these provisions were statistically significant and negative (poison pill, golden parachute and supermajority for bylaw) but only poison pill is still statistically significant and negative with the introduction of firm fixed effects. The coefficient estimate on having a poison pill is -.044 when the other E-Index provisions are separately controlled for (column 2, firm fixed effects) and -.050 when they are not (column 3, firm fixed effects).

In interpreting the lack of a statistically significant and negative effect of classified boards on firm valuation over the entire 1978-2006 period reported in Table IX, it is worth remembering our Table VI results that firms with classified boards had a higher firm value prior to 1985 and a lower firm value after 1985. This result suggests the importance of considering not only the 1978-2006 period as a whole, but also using 1985 as a break point.

To that end, we focused on the 1985-2006 time period. First, we document that the G-Index, consistent with our earlier results, is negative and statistically significant (at the 1% level) for this time period (column 4, with firm fixed effects). We then examine the effect of poison pills on firm value for this period, first controlling for firms' G-Index scores (calculated without considering whether a firm has a pill as this is being separately controlled for). Column 5 suggests that poison pills have a statistically significant and negative relationship with firm value but the G-Index (without considering the presence of a poison pill) does not. This raises the issue of when the G-Index has a negative firm valuation effect in light of a firm's adoption of a poison pill. In column 6, we further investigate the interaction of the poison pill and the G-Index by examining whether the G-Index has a negative firm valuation effect for firms that do not have a pill and, secondly, whether a higher G-Index score increases the negative effect of having a poison pill. As to the first question, we find that G-Index is negatively associated with statistical significance with lower firm valuation for those firms without poison pills. However, for those firms with poison pills, a higher G-Index score does not increase the negative firm valuation effects of having a poison pill.

In other words, these results underline the importance of the poison pill, suggesting that the poison pill adoption is the central shareholder rights decision, and for firms choosing to adopt one, the poison pill seems the key provision linked to lower firm value (apparently being so dominant that other provisions in the G-Index no longer seem to matter). For firms without a poison pill, the G-Index still has a negative and statistically significant negative relationship.

As we did in our Table V regressions, we ran ordered logits to investigate the possibility of reverse causation explaining the negative association between poison pills and firm valuation, i.e. lower valued firms tending to adopt poison pills. The dependent variable equals 1 (-1) if the firm

adoptions (drops) a poison pill in the next fiscal year and 0 if there is no change. All specifications include 48 Fama-French industry group fixed effects, the lagged governance index score plus several lagged controls and are run without and with year fixed effects. The results of these regressions are reported in Table X.

There is only a weak economic relationship between a firm's Tobin's Q and the decision to adopt a poison pill. With year fixed effects the coefficient estimate is -0.004 for the 1978-2006 period (column 2), -0.0007 for the 1979-1989 period (column 4), and -0.001 (column 6) with the last coefficient estimate not being statistically significant. For the 1985-1989 period, however, the "reverse causation" story is a bit stronger with a coefficient estimate of -0.023 (column 6). However, even here the economic magnitude is modest. For example, a one standard deviation negative shock to Q is associated with the poison pill adoption likelihood being higher by 1.8% (= -0.80 x -0.023), which seems still modest compared to the percentage of firms adopting a poison pill each year in this period (11% on average, see Table II).

VI. CONCLUSION

While corporate governance has become a central research topic in corporate finance, comprehensive data on shareholder rights has generally not been available prior to the 1990s. In this paper we introduce a new hand-collected shareholder rights database consisting of a large sample of firms starting in 1978 tracking these firms' G- and E-Index scores, as well as the presence or absence of each of the twenty-four G-Index provisions. This enables us to study thirty years of corporate governance. For nineteen of the twenty-four G-Index provisions we follow our reconstruction of the IRRC's coding protocol, while for five of these provisions – director duties, director liability, anti-greenmail, limits on special meeting and limits on written consent – we have adopted a somewhat different coding protocol. With respect to the first three of these five provisions, we have coded for additional state statutes than those tracked by the IRRC while with respect to the last two (limits on special meeting and written consent) our coding protocol, unlike that of the IRRC, takes into account state statutory defaults which are important when a firm's charter or bylaw is silent on the issue.

Our analysis therefore has the considerable benefit of using "out of sample" data with considerable time variation to test existing hypotheses in the literature. We investigate the central issue of the effect of governance on firm valuation by exploiting the fact, which we document, that many changes in shareholder rights occurred in the 1980s, with relative stability thereafter. We find a robust negative association, both economically and statistically meaningful, between poor

governance (or fewer shareholder rights, as proxied by higher G- and E-Indexes) and firm valuation for the 1978-2006 time period. We find limited evidence, however, to support the "reverse causation" explanation for this negative association (i.e., we do not find that low-valued firms tended to adopt more G-Index provisions).

To further explore the relationship between shareholder rights and firm value, we investigate whether governance affects firm valuation primarily through a "takeover channel", i.e. by affecting the probability of takeover rather than primarily through affecting a firm's current operating performance (as proxied by accounting profits and sales growth). We first document the substantial incidence of all types of M&A activity during much of the 1980s. Next, the law governing the use of takeover defenses during this time was also in considerable flux. Specifically, the legality of the poison pill was quite uncertain (as evidenced by the pre-1985 discussions and debates by leading corporate lawyers and corporate law scholars and the SEC's own position in *Household*) till the issuance of the seminal *Household* opinion by the Delaware Supreme Court in 1985 judicially validating the adoption of a poison pill as within the authority vested in a target board and subject to the most relaxed form of judicial review, the business judgment rule. Consistent with the takeover channel, poison pills, classified boards (which are a far more potent antitakeover defense when combined with a poison pill) and the G-Index more generally are indeed associated with more pronounced negative firm valuation effects after 1985.

Further support for the takeover channel is given by the finding that the G-Index has a more negative effect on firm value when a firm happens to be in an industry with a "high" level of M&A activity rather than a "low" level. This hypothesis exploits the fact that mergers cluster by industry and appear to be, according to the literature, driven by unexpected exogenous shocks to industry structure (for example due to regulatory reform or technological innovation).

Moreover, in exploring other (not mutually exclusive but rather complementary) explanations for the negative association between poor governance and firm valuation as relating more generally to agency costs, we are unable to identify a statistically robust association between governance and a firm's operating performance in the time series (i.e., using firm fixed effects), although such an association exists cross-sectionally.

Finally, we examine the effect of the effect of individual provisions post-*Household* (the 1985-2006 time period) on firm valuation. We find that the poison pill has a consistent negative and statistically significant relationship with firm valuation even controlling for other provisions and the G-Index more generally. For firms without a poison pill, the G-Index has negative and statistically significant effects on firm valuation during the 1985-2006 time period.

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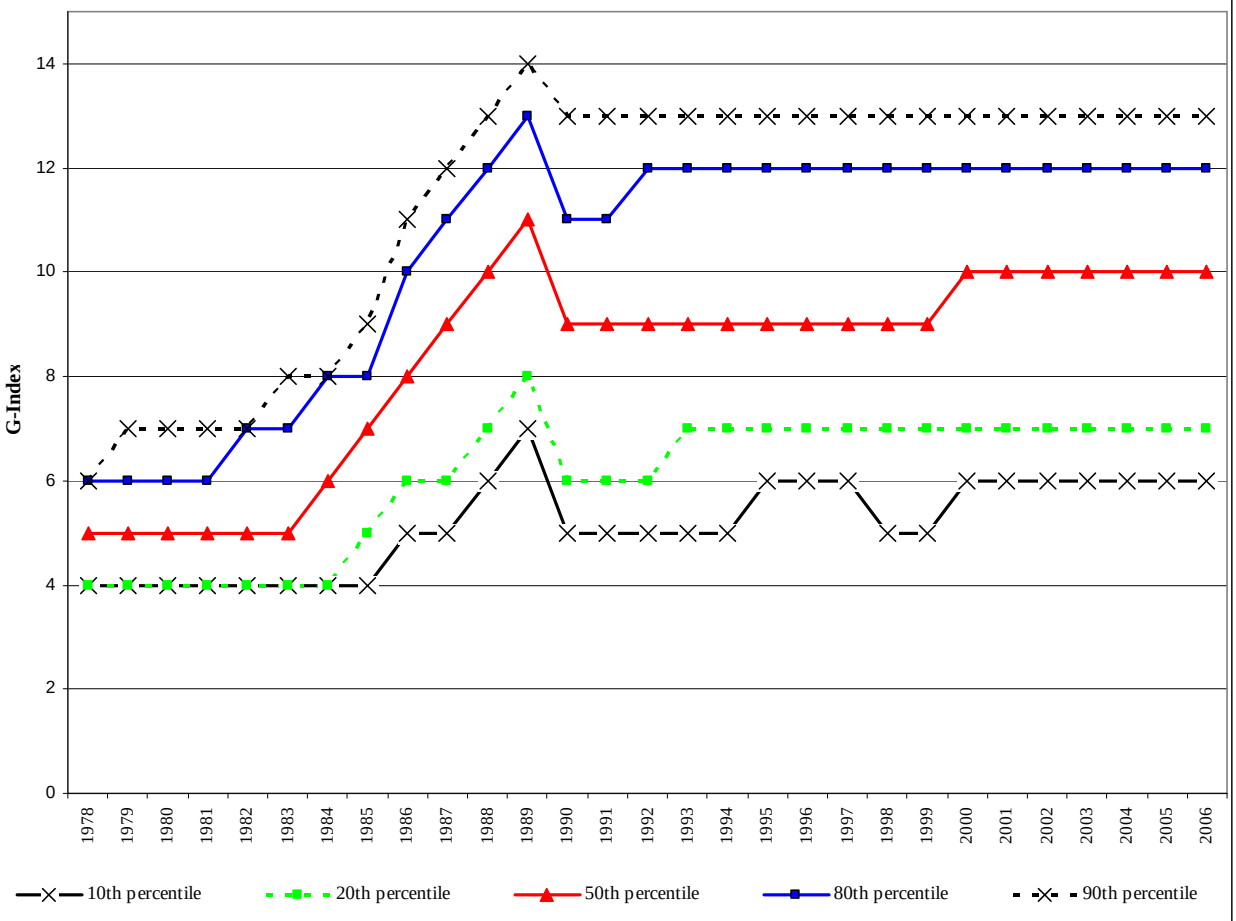
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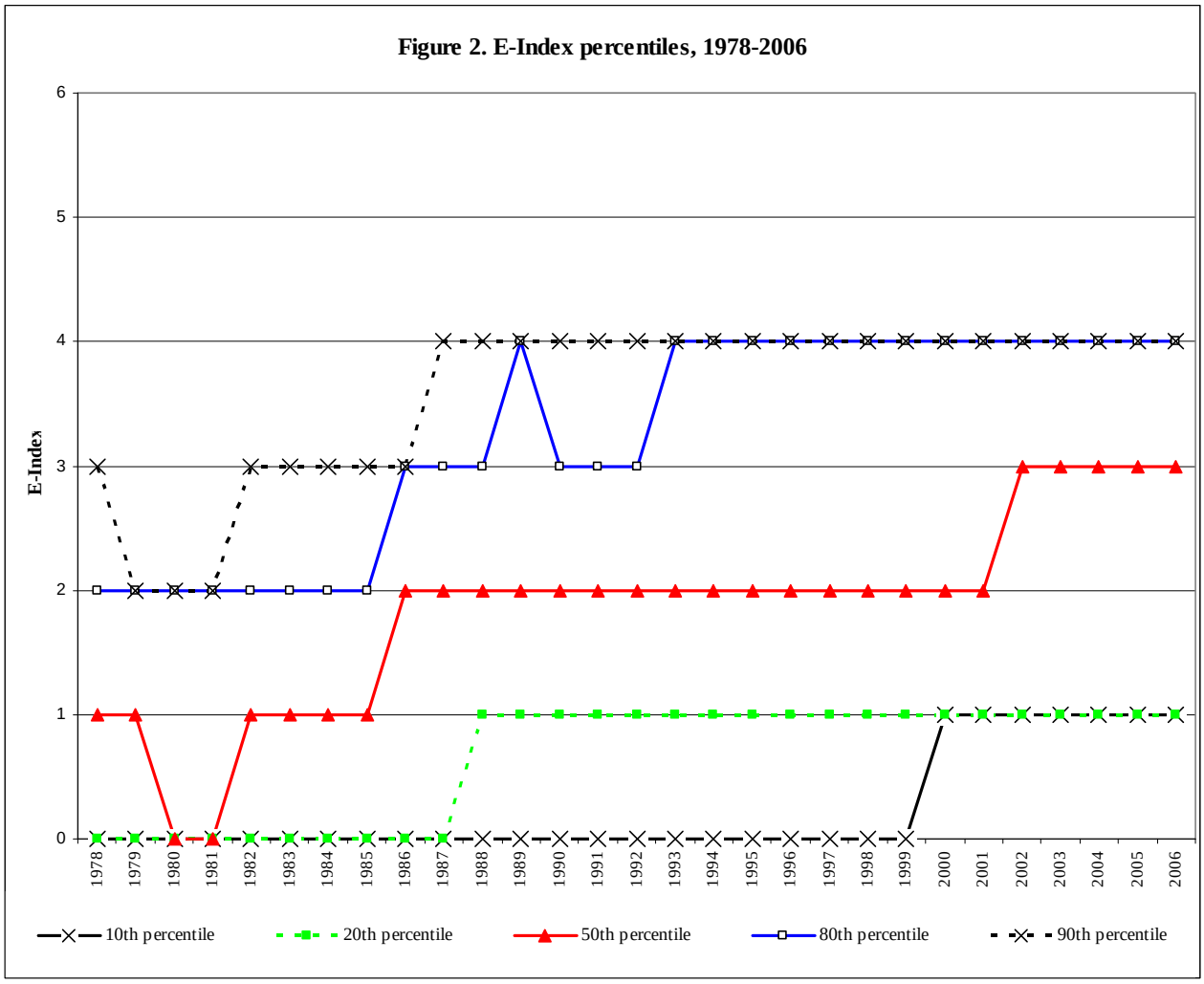
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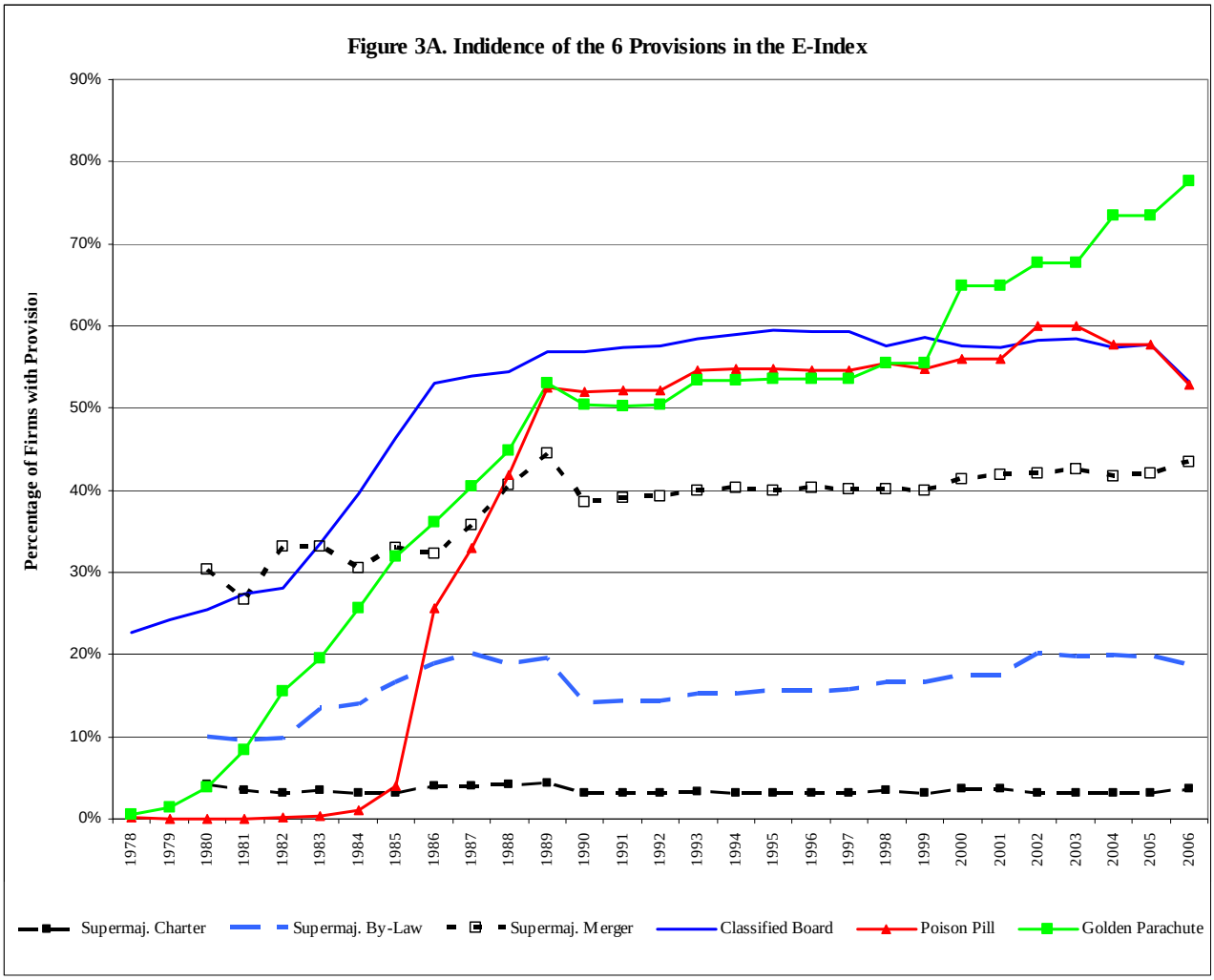
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Figure 1. G-Index percentiles, 1978-2006





Figures 1 and 2 present the 10th, 20th, 50th, 80th and 90th percentiles of the distribution of the G-Index and E-Index, respectively. We require no more than 7 missing provisions for the G-Index and no more than 2 missing for the E-Index.


Figure 3A. Indidence of the 6 Provisions in the E-Index
Percentage of Firms with Provisio
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
Supermaj. Charter
Supermaj. By-Law
Supermaj. Merger
Classified Board
Poison Pill
Golden Parachute

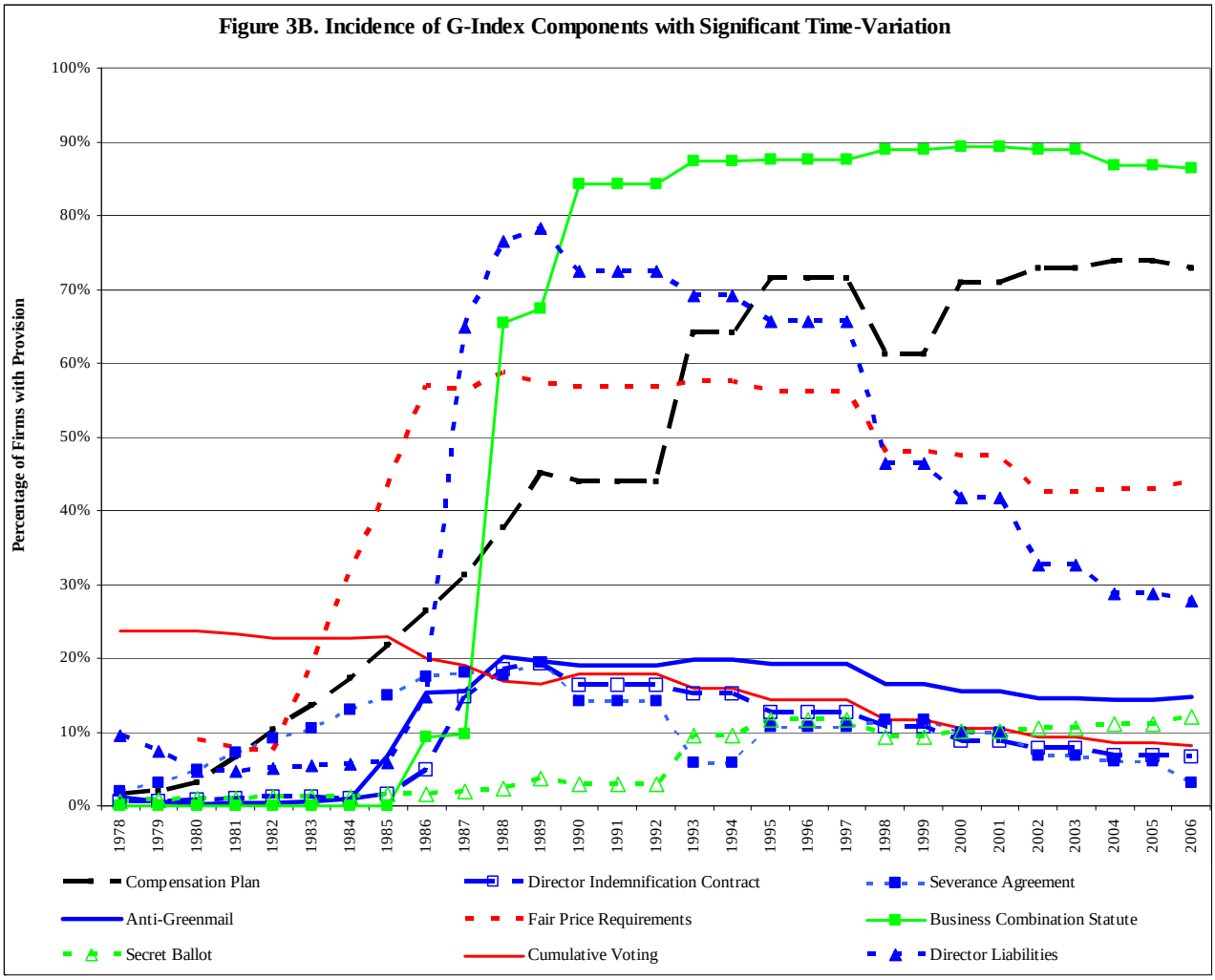


Figure 3A presents the annual incidence of all 6 provisions in the E-Index (subset of G-Index): (i) supermajority voting requirements for changing the charter (ii) for changing the by-laws and (iii) for approving merger, (iv) classified board, (v) poison pill, (vi) golden parachute, and Figure 3B for 9 other provisions in the G-Index: compensation plan, director indemnification contract, severance agreement, anti-greenmail, fair price requirements, business combination statute, secret ballot, cumulative voting and director liabilities

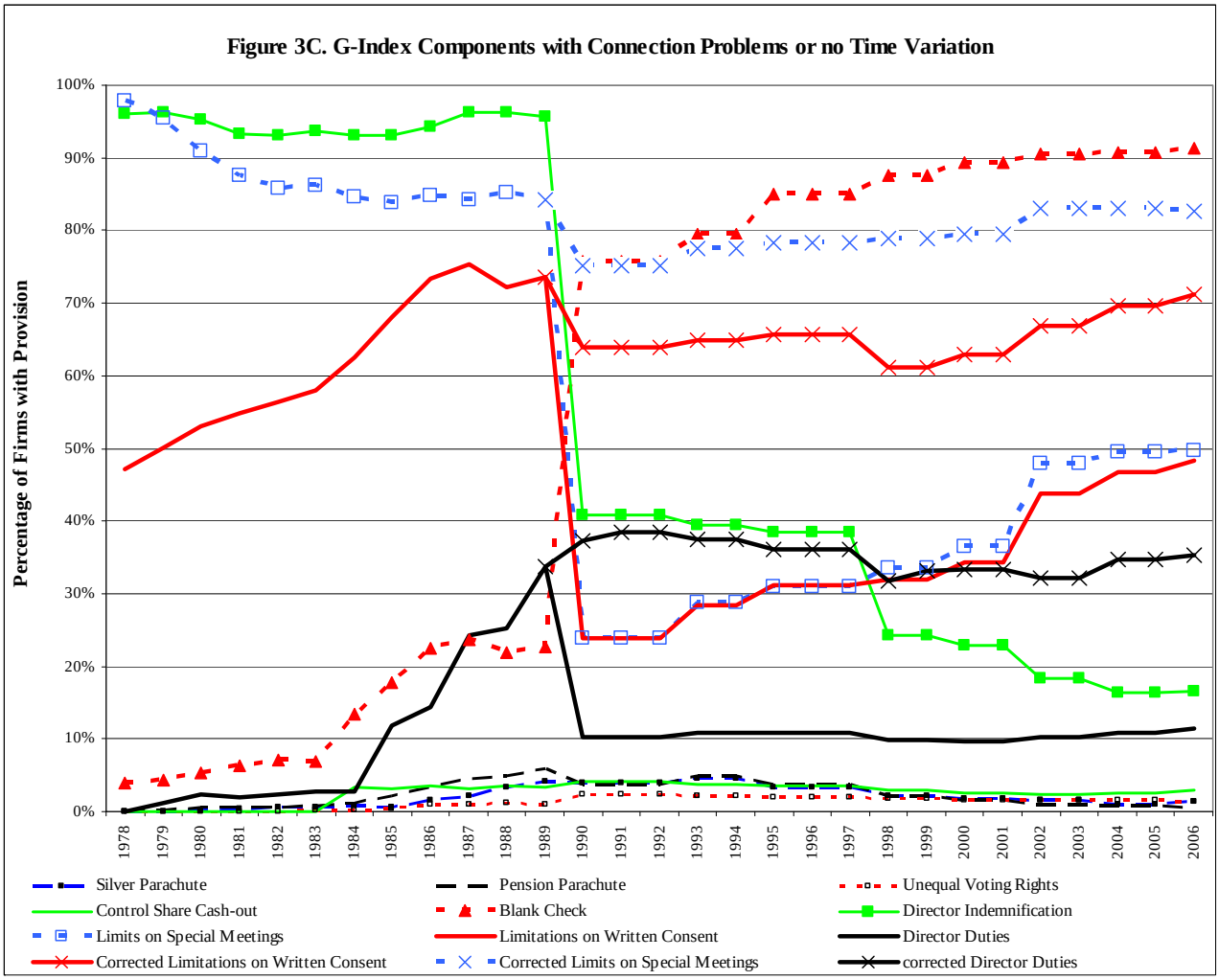


Figure 3C presents the annual incidence of 4 G-Index provisions with almost no time variation (silver parachute, pension parachute, unequal voting rights and control share cash-out provisions); 3 provisions with discrepancies between our and IRRC's database that could be reconciled by correcting the IRRC data (director duties, limits on special meetings and limitations on written consent), and 2 provisions where there are differences in our coding protocol with IRRC that we could not reconcile (blank check and director indemnification).

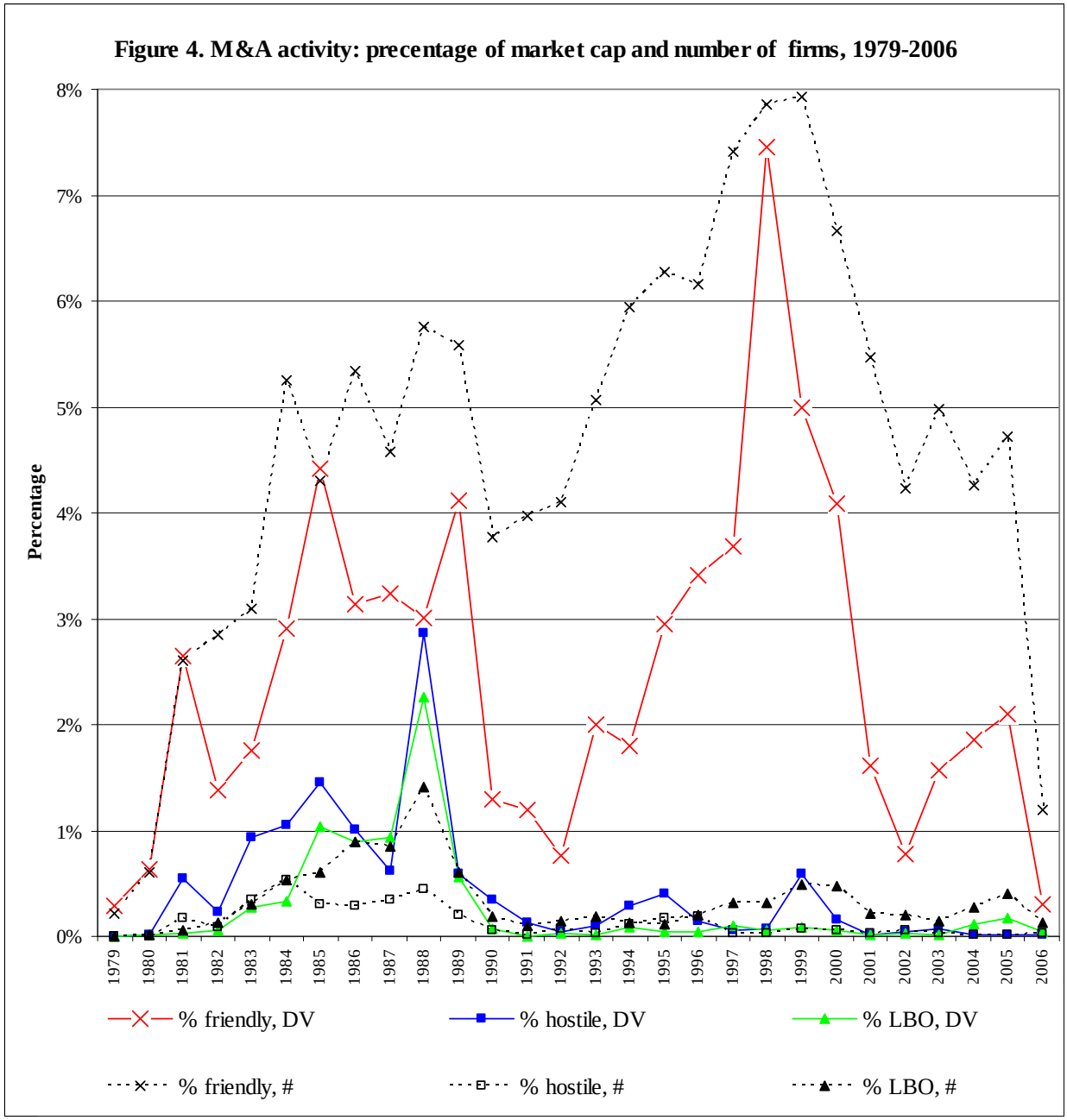


Figure 4 presents the annual mergers and acquisition activity, either measured by deal value ('DV,' as a percentage of market cap of all firms in Compustat) or by the number of firms ('#,' as a percentage of all firms in Compustat). We separate deals into friendly, hostile and LBOs deals, as classified by the SDC database.

TABLE I
DESCRIPTIVE STATISTICS

The Table presents the mean and standard deviation (St. Dev.) of the variables used in subsequent tables. G-Index is the shareholder rights index based on 24 provisions (see Gompers, Ishii and Metrick (2003)), where a higher score means fewer shareholder rights. E-Index is a sub-index of the G-Index based on 6 provisions (see Bebchuk, Cohen and Ferrell (2009)). Q is a proxy for firm value, measured as the market-to-book ratio of the firm. ROA is the return on assets, measured as the ratio of net income over book value of total assets. NPM is the net profit margin, measured as the ratio of net income over total sales. Sales Growth is measured over a 5-year period. Log Book is the log of the book value of total assets. Capex/Assets is the ratio of capital expenditures over book value of total assets. Capex Missing is a dummy variable equal to one if Capex are missing in Compustat. Leverage is the ratio of book value of total debt over book value of total assets. R&D is the ratio of research and development expenditures over the book value of total assets. R&D Missing is a dummy variable equal to one if R&D expenditures are missing in Compustat. S&P 500 dummy equals one if the firm is included in the S&P 500 index. PPE/Assets is the ratio of property, plant and equipment expenditures over the book value of total assets. PPE Missing is a dummy variable equal to one if PPE expenditures are missing in Compustat. IO is the percentage of institutional ownership as recorded by the Thompson database of quarterly 13F filings. Herfindahl is the herfindahl index of the 48 Fama-French industry groups, using all firms in Compustat, and based on total sales. Ind.Adj. means that the variable is industry-adjusted, which is done by subtracting the industry-median based on the 48 Fama-French industry groups, using all firms in Compustat.

	1978-2006		**1978-1989**		**1990-2006**	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
G-Index	8.69	3.00	7.08	2.87	9.29	2.83
E-Index	2.05	1.42	1.39	1.32	2.30	1.38
Ind.Adj. Q	0.17	0.80	0.04	0.47	0.22	0.88
Ind.Adj. ROA	0.04	0.09	0.03	0.08	0.05	0.10
Ind.Adj. NPM	0.03	0.15	0.01	0.07	0.04	0.17
Ind.Adj. Sales Growth	0.01	0.19	0.00	0.17	0.01	0.20
Q	1.56	0.90	1.24	0.51	1.68	0.98
ROA	0.14	0.08	0.15	0.08	0.13	0.08
NPM	0.05	0.09	0.04	0.06	0.05	0.10
Sales Growth	0.08	0.20	0.08	0.18	0.09	0.21
Log Book	7.27	1.62	6.91	1.50	7.40	1.65
Capex/Assets	0.06	0.05	0.07	0.05	0.06	0.05
Capex Missing	0.02	0.14	0.01	0.08	0.03	0.16
Leverage	0.21	0.17	0.20	0.15	0.21	0.17
R&D	0.02	0.07	0.02	0.03	0.02	0.08
R&D Missing	0.50	0.50	0.45	0.50	0.52	0.50
S&P 500	0.41	0.49	0.53	0.50	0.36	0.48
PPE/Assets	0.13	0.22	0.07	0.17	0.15	0.23
PPE Missing	0.62	0.49	0.82	0.38	0.54	0.50
IO	0.51	0.22	0.39	0.19	0.55	0.21
Herfindahl	0.22	0.18	0.26	0.19	0.21	0.18

TABLE II
PERCENTAGE OF FIRMS CHANGING THE G-INDEX, E-INDEX AND POISON PILL PROVISION

This table gives the percentage of firms that increase and decrease their G-Index and E-Index across data updates, as well as the percentage of firms that add and discard a Poison Pill across data updates. For 1978-1989, the hand-collected data is updated each year. After 1989, the IRRC database is used, which is not updated annually, but is only updated in 1990, 1993, 1995, 1998, 2000, 2002, 2004 and 2006.

	1978-2006	**1979-1989**	**1985-1989**	**1990-2006**
% firms decreasing G-Index	9.08	1.53	1.79	15.21
% firms no change in G-Index	55.39	50.58	38.14	59.31
% firms increasing G-Index	35.53	47.89	60.08	25.48
% firms decreasing E-Index	4.73	1.26	1.35	7.45
% firms no change in E-Index	78.17	77.85	73.4	78.42
% firms increasing E-Index	17.10	20.89	25.25	14.13
% firms discarding Poison Pill	1.33	0.08	0.13	2.32
% firms no change in Poison Pill	93.26	93.18	88.57	93.33
% firms adding Poison Pill	5.4	6.75	11.3	4.35

TABLE III
FIRM VALUATION

This Table presents regressions where the dependent variable is industry-adjusted Tobin's Q (using the Fama-French 48 (1997) industry classification) with industry-adjustments done by subtracting the median value using all Compustat firms. Panel A are annual cross-sectional regressions and their associated t-statistics. All regressions in each of the 3 Panels include the same controls, but these are only in Panels B, and not reported in Panels A and C to save space. Panels B and C are pooled panel regressions on either the G-Index, the G-Index with imputed missing provisions, the E-Index, the G-Subgroup Index or the G-Index Uncorrected and various controls. Both Panels B and C control for year fixed effects, in some regressions firm or 48 industry group fixed effects. For panel C: 'Industry x Year F.E.' means industry fixed effects that change each year, see column 4. The 'G-Index with imputed missing provisions' uses next year's information on a provision if it's missing, see column 5. Controlling for the 'G-Index in 1989' is a robustness check for the compatibility of the G-Index over 1978-1989 to the G-Index over 1990-2006, see column 6. See Table I for a description of the controls in all 3 panels. In Panels A and B, the maximum number of missing provisions allowed is 7. T-statistics are based on robust standard errors clustered at the firm-level.

PANEL A. ANNUAL CROSS-SECTIONAL REGRESSIONS OF INDUSTRY-ADJUSTED Q ON G-INDEX

	G-Index	t-statistic	R2
1978	-1.18%	-0.70	14.47%
1979	-0.65%	-0.40	8.34%
1980	-0.58%	-0.33	8.71%
1981	0.17%	0.16	11.33%
1982	-2.45%	-1.75	14.54%
1983	-2.64%	-2.44	14.44%
1984	-2.04%	-2.85	12.19%
1985	-1.96%	-2.45	9.98%
1986	-1.01%	-1.50	7.61%
1987	-1.60%	-2.31	9.26%
1988	-1.25%	-2.03	8.63%
1989	-1.22%	-1.66	8.35%
1990	-2.21%	-3.28	8.81%
1991	-3.27%	-4.01	10.81%
1992	-3.18%	-4.10	11.46%
1993	-2.80%	-3.22	7.18%
1994	-2.11%	-2.75	7.67%
1995	-2.12%	-2.51	6.96%
1996	-1.50%	-1.65	9.62%
1997	-1.32%	-1.35	10.60%
1998	-2.48%	-2.45	16.15%
1999	-2.71%	-2.11	12.10%
2000	-2.62%	-2.11	17.97%
2001	-2.26%	-1.93	19.86%
2002	-0.68%	-0.73	18.18%
2003	-1.25%	-1.16	14.11%
2004	-1.10%	-1.06	10.93%
2005	-1.06%	-0.97	9.84%
2006	-0.46%	-0.45	11.75%

PANEL B. POOLED PANEL REGRESSIONS OF INDUSTRY-ADJUSTED Q

	1978-2006			1978-1989		1990-2006		1990-1999	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
G-Index	-0.020	-0.018	-0.011	-0.007	0.001	-0.021	-0.016	-0.022	-0.022
	(3.76)	(3.74)	(1.92)	(1.56)	(0.23)	(3.59)	(1.61)	(3.61)	(1.46)
Log Book	-0.079	-0.087	-0.167	-0.068	-0.168	-0.097	-0.224	-0.085	-0.185
	(7.03)	(6.51)	(7.12)	(5.59)	(6.06)	(5.79)	(7.86)	(5.01)	(4.82)
Capex/Assets	1.994	2.533	1.758	1.159	0.688	3.160	2.045	2.665	1.485
	(8.04)	(9.12)	(8.84)	(5.13)	(3.21)	(8.37)	(8.03)	(6.55)	(5.34)
Capex Missing	-0.005	-0.196	-0.068	-0.120	-0.078	-0.193	-0.070	-0.209	-0.068
	(0.11)	(3.41)	(1.53)	(2.03)	(2.29)	(2.92)	(1.09)	(3.28)	(0.85)
Leverage	-0.686	-0.728	-0.400	-0.439	0.257	-0.803	-0.541	-0.785	-0.425
	(7.30)	(7.29)	(5.12)	(3.29)	(2.39)	(6.76)	(5.75)	(6.01)	(3.70)
R&D	0.343	0.911	0.400	2.861	0.602	0.833	0.338	2.161	1.408
	(1.73)	(1.70)	(2.81)	(3.09)	(0.67)	(1.69)	(2.91)	(4.46)	(2.26)
R&D Missing	0.014	-0.083	0.057	0.027	-0.019	-0.130	0.084	-0.047	-0.006
	(0.47)	(2.31)	(1.52)	(0.86)	(0.51)	(2.77)	(1.48)	(0.97)	(0.08)
S&P500	0.347	0.356	0.127	0.167	0.111	0.434	0.132	0.333	0.146
	(9.83)	(10.43)	(3.58)	(5.73)	(2.74)	(9.76)	(3.06)	(7.11)	(2.46)
PPE/Assets	-0.328	-0.340	-0.005	-0.055	-0.074	-0.347	0.000	-0.183	0.052
	(4.89)	(5.12)	(0.10)	(0.56)	(0.62)	(4.72)	(0.01)	(1.90)	(0.55)
PPE Missing	-0.138	-0.166	-0.037	0.053	0.009	-0.195	-0.057	-0.048	-0.051
	(3.80)	(4.66)	(1.23)	(1.18)	(0.16)	(4.77)	(1.80)	(0.91)	(1.08)
Firm F.E.	No	No	Yes	No	Yes	No	Yes	No	Yes
Industry F.E.	No	Yes	No	Yes	No	Yes	No	Yes	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23,296	23,296	23,296	6,381	6,381	16,915	16,915	11,054	11,054
R2	10.10%	15.46%	65.94%	21.14%	74.23%	15.94%	70.14%	14.54%	73.97%

PANEL C: POOLED PANEL REGRESSIONS OF INDUSTRY-ADJUSTED Q: ROBUSTNESS CHECKS

All specifications use the 1978-2006 period.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
G-Index	-0.011	-0.010	-0.010	-0.017		-0.011					
	(1.79)	(2.00)	(1.98)	(3.39)		(1.92)					
G-Index with imputed					-0.010						
missing provisions					(1.78)						
G-Index in 1989						0.003					
						(0.51)					
E-Index							-0.049	-0.012			
							(5.08)	(1.05)			
G-Subgroup									-0.027	-0.012	
									(4.09)	(1.67)	
G-Uncorrected											-0.009
											(1.55)
Missing Provisions											
Maximum	5	11	15	7	7	7	2	2	9	9	7
Panel B Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes
Industry F.E.	No	No	No	Yes	No	No	Yes	No	Yes	No	No
Industry x Year F.E.	No	No	No	Yes	No	No	No	No	No	No	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	22,404	26,782	26,893	23,296	24,080	23,296	22,986	22,986	24,756	24,756	23,296
R2	66%	65%	65%	21%	65%	66%	16%	66%	15%	65%	66%

TABLE IV
REVERSE CAUSATION: GOVERNANCE REGRESSIONS

The dependent variable is firms' G-Index (panel A) and E-Index (panel B) score focusing on one of three time periods: 1978-2006; 1978-1989; and 1990-2006. All the independent variables are the previous fiscal year end's values (one year lagged). The regressions are pooled panel regressions with firm fixed effects and, in some regressions, year fixed effects. T-statistics are based on robust standard errors clustered at the firm-level. All regressions also include these controls (not reported to save space): Capex/Assets, Capex Missing, R&D, R&D Missing, S&P 500, PPE/Assets, PPE Missing. See Table I for a description of all of the independent variables.

	1978-2006		1979-1989		1990-2006	
Panel A. G-Index Regressions						
	(1)	(2)	(3)	(4)	(5)	(6)
Q	0.29	-0.07	1.23	0.05	0.00	-0.05
	(2.71)	(6.05)	(5.87)	(0.67)	(0.20)	(4.51)
Log Book	0.86	0.13	2.67	0.14	0.37	0.08
	(6.25)	(4.18)	(9.76)	(2.98)	(6.12)	(2.24)
Leverage	1.09	0.4	1.76	0.64	0.21	0.21
	(4.38)	(4.25)	(5.11)	(3.18)	(1.79)	(2.11)
Total IO	2.9	0.43	5.89	-0.07	0.98	0.53
	(5.23)	(4.18)	(7.64)	(0.31)	(10.57)	(5.30)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	No	Yes	No	Yes
N	20,906	20,906	6,015	6,015	14,891	14,891
R2	76.02%	86.36%	68.21%	85.01%	90.84%	91.40%

Panel B. E-Index Regressions						
	(1)	(2)	(3)	(4)	(5)	(6)
Q	0.09	-0.04	0.36	0.04	-0.02	-0.03
	(4.83)	(2.26)	(5.45)	(0.70)	(1.16)	(2.01)
Log Book	0.31	0.01	0.75	-0.04	0.12	0.00
	(9.78)	(0.40)	(10.44)	(0.62)	(4.18)	(0.02)
Leverage	0.31	0.07	0.55	0.28	0.08	0.05
	(3.22)	(0.86)	(2.69)	(1.84)	(0.89)	(0.59)
Total IO	1.24	0.37	2.00	0.20	0.58	0.39
	(11.42)	(3.65)	(9.48)	(1.14)	(6.09)	(4.03)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	No	Yes	No	Yes
N	20,723	20,723	5,238	5,238	15,485	15,485
R2	79.49%	83.89%	77.68%	83.85%	87.71%	88.12%

TABLE V
REVERSE CAUSATION: GOVERNANCE ORDERED LOGITS

The dependent variable equals 1 (-1) if the firms' G-Index (panel A) and E-Index (panel B) score increases (decreases) relative to the previous data update, and 0 if it does not change. For 1990-2006, we only use years in which the indices are updated. All the independent variables are the previous fiscal year end's values (i.e., one year lagged). The regressions are ordered logits with industry fixed effects and, in some regressions, year fixed effects. T-statistics are based on robust standard errors clustered at the firm-level. All regressions also include these controls (not reported to save space): Capex/Assets, Capex Missing, R&D, R&D Missing, S&P 500, PPE/Assets, PPE Missing (see Table I). We report the marginal effects associated with an increase in the governance index over the next fiscal year.

	1978-2006		**1979-1989**		**1985-1989**		**1990-2006**	
Panel A. Ordered Logits G-Index: marginal effects of increasing the G-Index								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Q	-0.010	-0.005	0.048	-0.032	0.016	-0.021	0.009	0.003
	(1.63)	(0.74)	(2.77)	(1.72)	(0.79)	(0.97)	(1.72)	(0.52)
G-Index	-0.037	-0.040	-0.004	-0.041	-0.024	-0.029	-0.035	-0.032
	(26.80)	(22.41)	(1.68)	(10.97)	(7.80)	(7.47)	(20.24)	(18.65)
Log Book	-0.014	-0.012	0.023	0.014	0.023	0.023	-0.024	-0.019
	(3.99)	(3.40)	(3.65)	(1.93)	(2.99)	(2.65)	(7.05)	(5.70)
Leverage	0.063	0.091	0.099	0.014	0.025	-0.026	0.123	0.104
	(2.10)	(2.92)	(1.78)	(0.23)	(0.38)	(0.38)	(4.03)	(3.68)
Total IO	0.053	0.109	0.332	0.195	0.334	0.306	0.050	0.051
	(2.23)	(4.08)	(7.31)	(3.87)	(5.80)	(4.87)	(1.89)	(1.92)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	No	Yes	No	Yes	No	Yes
N	12,229	12,229	5,444	5,444	3,186	3,186	6,785	6,785
Pseudo R2	4.32%	13.52%	2.41%	12.36%	3.28%	10.96%	5.04%	8.49%
Panel B. Ordered Logits E-Index: marginal effects of increasing the E-Index								
	(1)	(2)	(3)	(4)	(5)	(6)	(5)	(6)
Q	-0.015	-0.016	-0.021	-0.044	-0.033	-0.039	-0.007	-0.010
	(3.87)	(4.04)	(1.59)	(3.25)	(1.83)	(2.17)	(1.92)	(2.80)
E-Index	-0.051	-0.051	-0.029	-0.045	-0.052	-0.053	-0.050	-0.049
	(24.07)	(21.64)	(7.46)	(9.69)	(8.63)	(8.38)	(20.49)	(20.09)
Log Book	-0.013	-0.013	-0.003	-0.008	-0.004	-0.004	-0.014	-0.013
	(5.00)	(5.02)	(0.62)	(1.42)	(0.51)	(0.50)	(5.92)	(5.75)
Leverage	0.019	0.005	-0.043	-0.076	-0.116	-0.127	0.048	0.038
	(0.83)	(0.21)	(0.92)	(1.64)	(1.86)	(2.04)	(2.16)	(1.70)
Total IO	0.073	0.084	0.226	0.152	0.328	0.314	0.048	0.059
	(4.35)	(4.71)	(6.36)	(4.16)	(6.23)	(5.90)	(2.70)	(3.13)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	No	Yes	No	Yes	No	Yes
N	12,043	12,043	5,258	5,258	3,045	3,045	6,785	6,785
Pseudo R2	4.38%	6.83%	2.18%	4.75%	4.10%	5.28%	5.70%	6.88%

TABLE VI
FIRM VALUATION AND PRE- AND POST-1985

The dependent variable is industry-adjusted, year-end Tobin's Q over the period 1978-2006. In columns (1)-(2) independent variables include the G-Index and the G-Index interacted with a dummy variable for whether the year is prior to 1985 ('G-Index x Pre-1985') and a dummy for whether the year is equal to 1985 ('G-Index x 1985'). In columns (3)-(4), the E-Index is used, in columns (5)-(6) independent variables include a staggered board dummy (SBoard) interacted with a pre-1985 and 1985 dummy variables and columns (7)-(8) have pre-1985 and 1985 dummy variables interact with a poison pill dummy (PPill). All controls in Table III are included as well in all regressions; see Table I for a description. All specifications include year fixed effects, and either 48 industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
G-Index x Pre-1985	0.020	0.011						
	(1.81)	(1.14)						
G-Index x 1985	0.002	0.006						
	(0.18)	(0.72)						
G-Index	-0.020	-0.012						
	(3.68)	(1.98)						
E-Index x Pre-1985			0.056	0.032				
			(3.43)	(1.80)				
E-Index x 1985			0.038	0.022				
			(2.17)	(1.60)				
E-Index			-0.055	-0.016				
			(5.16)	(1.33)				
SBoard x Pre-1985						0.117		
						(2.87)		
SBoard x 1985						0.047		
						(1.09)		
SBoard					-0.065	-0.081		
					(2.31)	(2.53)		
PPill x Pre-1985								0.161
								(1.35)
PPill x 1985								0.053
								(0.58)
PPill							-0.116	-0.117
							(4.02)	(4.02)
Controls Table III	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	No	Yes	No	Yes	No	No	No	No
Industry F.E.	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23,296	23,296	22,986	23,296	23,247	23,247	23,296	23,296
R2	15.48%	65.94%	15.88%	65.96%	15.29%	15.35%	15.54%	15.54%

TABLE VII
GOVERNANCE AND THE TAKEOVER CHANNEL

The dependent variable is industry-adjusted, year-end Tobin's Q over the period 1982-2006 as well as sub-periods 1982-1990 and 1991-2006. Low (High) Friendly Ind48 is a dummy variable equal to one if the firm is in an industry experiencing a relatively low (high) level of friendly takeover activity in that year. Low and high are defined as the industry's percentage of all Compustat firms engaged in a friendly takeover falling in the first and fourth quartile, respectively. These two dummy variables are interacted with the G-Index. We separately control for the industry's percentage of all Compustat firms engaged in a friendly takeover (48 Ind. % friendly, #). All controls in Table III are included as well in all regressions; see Table I for a description. All specifications include year fixed effects, and either 48 industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses.

Dependent: industry-adjusted Q	**1982-2006**		**1982-1990**		**1991-2006**	
	(1)	(2)	(3)	(4)	(5)	(6)
G-Index * Low Friendly Ind48	0.003	0.003	0.001	0.000	0.004	0.005
	(1.72)	(2.80)	(0.35)	(0.07)	(1.96)	(3.54)
G-Index	-0.019	-0.011	-0.016	0.003	-0.020	-0.017
	(3.73)	(1.79)	(3.56)	(0.63)	(3.31)	(1.80)
G-Index * High Friendly Ind48	-0.004	-0.002	-0.004	-0.004	-0.005	-0.002
	(2.15)	(1.82)	(1.77)	(2.08)	(2.00)	(1.30)
48 Ind. % friendly, #	-0.24	-0.28	0.41	0.22	-0.45	-0.50
	(0.54)	(1.12)	(1.08)	(0.65)	(0.76)	(1.68)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	No	Yes	No	Yes	No	Yes
Industry F.E.	Yes	No	Yes	No	Yes	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	21,867	21,867	6,170	6,170	15,697	15,697
R2	15.32%	66.98%	16.70%	80.39%	16.39%	71.42%

TABLE VIII
GOVERNANCE AND THE PROFITABILITY AND SALES GROWTH

The dependent variable is industry-adjusted ROA in Panel A, industry-adjusted NPM in Panel B, and industry-adjusted sales-growth in Panel C. We show results for the full 1978-2006 period as well as various sub-periods. ROA is the firm's return on assets, defined as the net income divided by the book value of total assets. NPM is the firm's net profit margin, defined as the net income divided by the total sales. Sales growth is the growth in total sales in the last 5 years. ROA, NPM and Sales Growth are all in percentage points (i.e., multiplied by a factor 100). All controls in Table IV are included as well in all regressions; see Table I for a description. All specifications include year fixed effects, and (except for column 1) either 48 industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses.

	1978-2006		**1978-1989**		**1990-2006**		**1990-1999**		**1985-2006**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Industry-adjusted ROA as the dependent										
G-Index	-0.02	-0.03	0.17	0.08	-0.05	-0.13	-0.07	-0.07	-0.04	-0.09
	(0.38)	(0.47)	(2.40)	(0.93)	(1.13)	(1.72)	(1.38)	(0.75)	(1.01)	(1.45)
N	24,339	24,339	6,559	6,559	17,780	17,780	11,492	11,492	20,767	20,767
R2	42.18%	72.35%	31.63%	70.58%	48.86%	78.17%	44.68%	80.79%	46.76%	76.06%
Panel B. Industry-adjusted NPM as the dependent										
G-Index	-0.10	-0.10	0.01	0.03	-0.12	-0.14	-0.12	-0.04	-0.12	-0.18
	(1.90)	(0.97)	(0.12)	(0.33)	(2.19)	(1.01)	(2.36)	(0.31)	(2.45)	(1.51)
N	24,724	24,724	6,585	6,585	18,139	18,139	11,761	11,761	21,151	21,151
R2	51%	71%	27%	53%	64%	79%	57%	78%	57.40%	74.46%
Panel C. Industry-adjusted Sales Growth as the dependent										
G-Index	-0.18	-0.19	-0.10	-0.24	-0.20	-0.30	-0.17	-0.34	-0.19	-0.21
	(2.94)	(1.55)	(0.85)	(1.19)	(2.77)	(1.44)	(1.96)	(1.19)	(2.93)	(1.43)
N	24,722	24,722	6,585	6,585	18,137	18,137	11,758	11,758	21,147	21,147
R2	2.87%	19.37%	5.47%	25.69%	3.07%	21.47%	3.43%	32.16%	3.04%	20.60%
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Industry F.E.	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

TABLE IX
FIRM VALUATION, POISON PILL AND OTHER G-INDEX COMPONENTS

The dependent variable is industry-adjusted, year-end Tobin's Q over the period 1978-2006 (columns 1 – 2) or 1985-2006 (columns 3 – 6). The six individual provisions in the E-Index are considered separately. 'G-Index without Poison Pill' is the G-Index score minus 1 if the firm has a poison pill. 'Firm has (no) Poison Pill' is a dummy variable equal to one if the firm has (no) poison pill. All controls in Table III are included as well in all regressions; see Table I for a description. All specifications include year fixed effects, and either 48 industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses.

Dependent: industry-adjusted Q	**1978-2006**		**1985 - 2006**			
	(1)	(2)	(3)	(4)	(5)	(6)
Poison Pill	-0.099	-0.044	-0.050		-0.046	-0.141
	(3.31)	(1.73)	(2.13)		(1.96)	(1.92)
Staggered Board	-0.028	0.066				
	(0.90)	(1.66)				
Golden Parachute	-0.073	-0.038				
	(2.64)	(1.41)				
Supermajority Approval Req. for	-0.045	-0.055				
Change of Charter	(0.82)	(1.14)				
Supermajority Approval Req. for	-0.068	-0.052				
Change of By-laws	(2.20)	(1.40)				
Supermajority Approval Req. for	0.0026	0.035				
Mergers	(0.09)	(1.18)				
G-Index				-0.022		
				(3.67)		
G-Index without Poison Pill					-0.010	
					(1.54)	
G-Index without Poison Pill x						-0.004
Firm has Poison Pill						(0.57)
G-Index without Poison Pill						-0.015
Firm has no Poison Pill						(1.92)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	No	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	No	No	No	No	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	22,179	22,179	20,581	20,920	20,581	20,581
R2	15.83%	66.41%	6.70%	80.39%	16.39%	71.42%

TABLE X
REVERSE CAUSATION: POISON PILL ORDERED LOGITS

The dependent variable equals 1 (-1) if the firms adds (discards) a Poison Pill relative to the previous data update, and 0 if the Poison Pill provision does not change. For 1990-2006, we only use years in which the IRRC data are updated, while for 1978-1989, the data are updated annually. All the independent variables are the previous fiscal year end's values (i.e., one year lagged). The regressions are ordered logits with industry fixed effects and, in some regressions, year fixed effects. T-statistics are based on robust standard errors clustered at the firm-level. All regressions also include these controls (not reported to save space): Capex/Assets, Capex Missing, R&D, R&D Missing, S&P 500, PPE/Assets, PPE Missing (see Table I). We report the marginal effects associated with adding the Poison Pill provision over the next fiscal year.

	1978-2006		1979-1989		1985-1989		1990-2006	
Ordered Logit Poison Pill: marginal effects of adding Poison Pill								
	(1)	(2)	(3)	(4)	(5)	(6)	(5)	(6)
Q	-0.006	-0.004	-0.002	-0.007	-0.022	-0.023	0.000	-0.001
	(2.73)	(2.01)	(0.31)	(2.42)	(2.20)	(2.43)	(0.16)	(0.54)
G-Index	0.000	-0.001	0.008	0.002	0.004	0.007	-0.003	-0.003
	(0.29)	(1.85)	(10.29)	(3.93)	(2.22)	(4.10)	(4.67)	(4.91)
Log Book	-0.006	-0.005	0.005	0.002	0.006	0.006	-0.009	-0.008
	(5.31)	(5.48)	(2.79)	(2.14)	(1.57)	(1.91)	(7.64)	(7.61)
Leverage	-0.013	-0.008	-0.043	-0.028	-0.098	-0.090	0.016	0.011
	(1.07)	(0.79)	(2.22)	(2.65)	(2.74)	(2.76)	(1.35)	(1.04)
Total IO	0.031	0.040	0.125	0.046	0.198	0.163	-0.004	0.010
	(3.56)	(5.61)	(8.31)	(5.03)	(6.87)	(6.14)	(0.48)	(1.21)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	No	Yes	No	Yes	No	Yes
N	12,070	12,070	5,290	5,290	3,088	3,088	6,780	6,780
Pseaudo R2	1.86%	9.81%	8.01%	21.61%	4.20%	11.62%	4.20%	5.98%

Corporate Governance Data Appendix

Further details on the construction of our corporate governance data is provided in this appendix. Mores specifically, we provide in this appendix details on (a) the selection of firms for coverage; (b) data sources; (c) quality controls; and (d) missing data.

a. Firms Covered

The 1978 panel set in our database was based on an initial list of all firms that appear either (1) on the 1978 Fortune 1,000 list of firms; (2) in the S&P 500 as of January 1, 1978; or (3) had more than one billion dollars in sales for 1977 as reported in Compustat. The year 1977 was used for sales because inclusion in the Fortune 1,000 is based on 1977 data. Any firms that meet any of these three criteria were included in our 1978 panel if they met the following two additional conditions: (1) the firm was also tracked in the CRSP/Compustat merged database for 1978 (and could, therefore, be assigned a firm-specific CRSP permo number); and (2) had filed either a 10-K or proxy statement at any point in the 1978-1989 as reflected in the comprehensive SEC reports contained in the microfilm database at Harvard Business School's Baker Library – the primary source for SEC reports used in constructing our database – or, alternatively, in Thomson Financial. Thomson Financial was used, as it would on occasion (albeit rarely) have SEC filings not available on microfilm at the Baker Library. The vast majority of firms on our initial list had, in fact, permco numbers and had filed a 10-K or proxy statement during the 1978-1989 period. There were, in total, 1,079 firms in our 1978 panel set.

Given the rate of drop-outs, due to factors such as acquisition, bankruptcy and going-private activity, we updated our database at two five-year intervals: 1983 and 1988. The year 1983 is interesting as it is around the start of a huge boom in acquisition activity in the 1983-1987 period, while the year 1988 is interesting as it immediately presages the collapse of the takeover market, in particular the hostile takeover market, in the late 1980s. The 1983 panel set consisted of all firms that appear on the 1983 Fortune 500 list (the Fortune 1,000 list was not published in 1983); all firms in the S&P 500 as of January 1, 1983; and all firms with more than one billion dollars in sales in 1982 as reported in Compustat if, as with the 1978 panel set, (1) the firm was also tracked in the CRSP/Compustat merged database for 1983; and (2) had filed a 10-K or proxy statement in the 1983-1989 period. Again, the vast majority of firms meet these two conditions. There were 152 firms in our 1983 panel set that were not already being tracked in the 1978 panel set. Finally, we created a 1988 panel set consisting of all firms on the 1988 Fortune 500 list (as with 1983, the Fortune 1,000 was not published in 1988); all firms in the S&P 500 as of January 1,

1988; and all firms with more than one billion dollars in sales in 1987 as reported in Compustat if the same two conditions – inclusion in CRSP/Compustat and SEC filing – were satisfied. There were 252 firms in our 1988 database not already being tracking in either the 1978 or 1983 panel set.

For each one of the firms in our three panel sets, we tracked for every year during the relevant time period (period 1978-1989 inclusive for the 1978 panel set; 1983-1989 inclusive for the 1983 panel set; and 1988-1989 inclusive for the 1988 panel set), the corporate governance variables, state corporate laws and opt-ins/opt-outs referred to earlier. Coverage of a firm ceased if the firm was acquired by another firm or ceased filing 10-K and proxy statements. However, if a firm was the acquirer, the firm remained in our database post-acquisition. This treatment is consistent with the Compustat protocol on when firms are still tracked under their original firm identifier post-acquisition. The year 1989 was chosen as the last year for all three of our panels given that the IRRC database begins in 1990.

b. Data Sources

In order to code for firms' firm-level corporate governance variables, we first pulled every 10-K, 10-Q, and proxy statement for every firm in one of our three panels for every year starting with the year that the firm was added to the database (either 1978, 1983 or 1988). More specifically, information on cumulative voting, poison pills, confidential (secret) voting, unequal voting, dual-class shares, classified boards, blank check preferred, state of incorporation and compensation plans was gathered from a firm's 10-K and 10-Q reports for every year the firm was in the database (in contrast to the IRRC which did not update firm-level corporate governance provisions each year, but every two or three years). A number of the IRRC's compensation variables – pension parachutes; golden parachutes; silver parachutes; compensation plans; severance agreements; and indemnification contracts – were coded based on the various contracts and documents attached as exhibits to the firm's 10-K and 10-Q, such as employment contracts, stock option plans and pension agreements.

A number of firm-level corporate governance variables were coded based on an analysis of firms' charters and bylaws. To this end, we gathered approximately a quarter of a million pages of charters, bylaws and amendments thereto. Firms' charters and bylaws were obtained from three sources: (a) attachments to the firm's 10-K which often included the firm's charter, bylaws and amendments thereto; (b) attachments to the firm's 10-Q which occasionally included the firm's charter, bylaws and amendments thereto; and (c) the Delaware Division of Corporations, which very generously provided all the charters and charter amendments for all the Delaware firms – 415 firms in total – in our 1978 panel for the entire 1978-1989 period.

Based on an analysis of these charters and bylaws, information on a number of variables was obtained. These bylaw- or charter-based variables included classified boards (for which information was also gathered directly from the 10-K); fair price provisions; director indemnification provisions; limits on the ability of shareholders to amend the corporate charters; limits on the ability of shareholders to amend the corporate bylaws; supermajority voting requirements for mergers; anti-greenmail provisions; director liability provisions; limits on the ability of shareholders to call special meetings; and limits on the ability of shareholders to act by written consent.

For two of these variables (special meeting and written consent), we coded whether the firm's bylaws or charter were silent on the ability of shareholders to engage in the activity or whether it affirmatively stated there was no limitation on shareholders ability to engage in these activities. If the bylaw and charter were silent on the issue, whether shareholders could engage in the activity turns on the state of incorporation's default rules. Where a particular provision, such as for example a classified board or supermajority voting requirement for mergers, appears in the corporate charter or a bylaw was also coded. The reason why this distinction can be important is due to the fact that it is often the case that it is relatively easy for shareholders to change the corporate bylaws, assuming there is no limitation on the ability of shareholders to amend the corporate bylaws, while it can be difficult if not impossible for shareholders to unilaterally change the corporate charter (Coates 2001). In the IRRC, the distinction between appearing in the corporate charter or bylaw is not taken into account.

c. Quality Controls

In addition to the primary sources of information on firms' corporate governance arrangements we performed a number of quality controls to ensure the accuracy and completeness of our dataset. First, the 1990 IRRC volume occasionally contained information on when a firm-level provision was adopted prior to 1990. Each one of these entries was double-checked against the coding in our database.

Second, IRRC published corporate governance volumes in 1984, 1985 and 1986, which covered whether some firms had certain corporate governance provisions. These volumes mostly covered firms that were in the S&P 500 and therefore covered far fewer firms than the 1990 IRRC volume. These pre-1990 volumes also tracked only a modest subset of the twenty-three IRRC firm-level variables with the variables tracked and the firms covered varying from volume to volume. Again, every entry in these IRRC volumes was compared with our coding of the primary data.

Third, all the corporate governances reported in the annual 10-K reports – cumulative voting; poison pill; confidential (secret) voting; unequal voting; dual-class shares; classified board; and compensation plans – were checked against the firm's 10-K a second time for every firm.

Fourth, several studies contained information on dual-class companies against which we checked our coding for dual-shares. The G-Index database of dual-class shares companies for the 1994-2005 period was used to ensure that any firms in that database coded as having dual-class shares that also appear in our database are also coded as having dual-class shares unless they adopted dual-class shares after 1989. In addition, the Lease, McConnell & Mikkelson (1983); Deanglo & Deanglo (1985) and Jarrell & Paulson (1988) studies contain lists of dual-class companies for their firm samples against which we checked our database.

Fifth, several studies compiled data on corporate governance provisions in addition to dual-class provisions, for samples of firms overlapping with our database. These studies are Lambert & Larcker (1985), which contains a list of 90 firms with golden parachutes for 1975-1982, and Jarrell & Paulson (1987), which lists firms with various antitakeover protections. Our database was double-checked against these studies.

Sixth, *Corporate Control Alert*, a monthly publication that started in 1983, compiled comprehensive listings periodically during our time period of all firms that had adopted poison pills and the date of adoption. We used this publication to double-check all the poison pill codings in our database.

d. Missing Data

Despite our efforts, there remained some firms for some years, especially for the years 1978-1980, for which we were unable to collect information for the fully complement of G-Index provisions. For purposes of our empirical analysis, unless otherwise specifically noted, only firms were used if in a given year they had no more than seven missing G-Index provisions. This leaves us with approximately 1,000 unique firms in our database in the 1978-1989 period.

The median number of missing provisions for the firms that had no more than seven missing provisions was 6 in 1978 and zero thereafter. Moreover, starting in 1981 over 80% of firms have no missing G-Index provisions at all in the sample we primarily used for our analysis. At the same time, before 1981, the sample as used still includes many firms with several missing provisions. Finally, for robustness purposes, we try to impute the value of missing provisions by using next year's value. This can be motivated by the fact that only about 1-5% (depending on the year) of provisions change year-on-year in our sample. We check our main results using this G-Index with imputed missing values as a robustness check.

In order to better understand what observations are excluded because of our cut-off, we ran logit regressions to estimate the likelihood of the firm-year being excluded from our sample because of too many missing G-Index provisions. As independent variables, we include the G-Index, Q (firm value), all controls used in the Q regressions (see Table III), year fixed effects, and with and without industry fixed effects. Clustering standard errors by firm, we robustly find that the most important characteristics associated with having more than seven missing provisions are a lower G-Index score, smaller book value of assets, higher leverage, no or missing R&D expenses and fewer capital expenditures. However, neither Q nor ROA are associated with dropping out of the sample, with their t-statistics (far) below 1.[23] This gives us some confidence that the results are not being driven by the exclusion of these firm-years. Further, as a robustness test we reran the regressions we present in this paper so as to include a variable indicating how many provisions were missing. This variable was always statistically insignificant. We also ran regressions, which we will present in the next section, using a different cut-off than no more than 7 missing provisions. Finally, we also make sure all results are robust to excluding the pre-1981 data altogether, which is in fact the case.

[23] These results are not reported to save space, but are available upon request. In addition, some results are even stronger when being less restrictive or allowing more missing provisions when leaving firms in the sample, e.g. the coefficient and its significance of the G-Index in our Q-regressions.