

# THIRTY YEARS OF SHAREHOLDER RIGHTS AND FIRM VALUATION

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## Abstract

This paper introduces a new hand-collected shareholder rights dataset tracking restrictions on shareholder rights at approximately 1,000 firms over 1978-1989. In conjunction with the 1990-2006 IRRC data, we track firms' shareholder rights over thirty years. Most governance changes occurred during the 1980s. We find a robustly negative association between restrictions on shareholder rights (using the G-Index as a proxy) and Tobin's Q. The negative association only appears after the judicial approval of the poison pill and antitakeover defenses more generally in the landmark Delaware Supreme Court decision of *Moran v. Household* in 1985. This decision was an unanticipated, exogenous shock that increased the importance of shareholder rights, suggesting that shareholder rights have become more strongly associated with firm valuation in the post-Moran era.

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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 annually 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, henceforth GIM). The computation of this index for 1990-2006 is based on data compiled by the IRRC (Investor Responsibility Research Center). 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 GIM. 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 larger number of anti-takeover measures. Based on our database, we calculate each firm's G-Index score for each year starting in 1978. By combining our dataset with the IRRC database which covers the 1990-2006 time period (with us correcting some coding issues therein), we obtain comprehensive data for the 1978-2006 time period.

Our focus is on the relationship between shareholder rights and firm valuation. The importance of having data for 1978–1989 is underscored by widespread changes in firms' overall G-Index scores in this period, while after 1990 such changes largely cease. For example, the median G-Index score equals 5 from 1978–1983, then increases by one per year until 1989, with the distribution of the G-Index remaining basically constant after 1990. The incidence of many important individual provisions affecting shareholder rights (such as classified boards and poison pills) dramatically increased during 1978-1989, remaining relatively stable thereafter.

There is a second reason why including data from this period in analyzing the relationship between shareholder rights and firm valuation is valuable. Both merger and acquisition (M&A) activity and the law surrounding the use of anti-takeover defenses (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.

We find a robust, statistically significant negative association between restrictions on shareholder rights (i.e., higher G-Index scores) and firm valuation over 1978-2006. The economic magnitude of the association is economically 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 is associated with a decrease in firm value of about 3.3%.<sup>1</sup>

In order to interpret the negative association between firm value and restrictions on shareholder rights, we identify a fundamental and largely exogenous shock to the importance of shareholder rights resulting from the Delaware Supreme Court's landmark decision in *Moran v. Household* in 1985.<sup>2</sup> This decision for the first time judicially validated the adoption by a corporate board of a poison pill as within the authority vested with the board and subject to only the most relaxed form of judicial review, the business judgment rule. In particular, no shareholder approval is needed for the adoption of a poison pill. The decision explains that it is up to the board to decide on "reasonable defensive mechanisms," reaffirming the *Unocal* decision on takeover defenses, which was also decided by the Delaware Supreme Court in 1985 (involving not a poison pill but a two-tier coercive bid, with the tendering shareholders potentially getting more consideration than those who decide not to tender). *Moran v. Household* is regularly cited by subsequent case law dealing with the appropriateness of various takeover defenses, whether or not they are poison pills.<sup>3</sup>

The *Moran v. Household* decision thus directly addressed not just the use of poison pills, but also the wider issue of when anti-takeover defenses could be used and the role of shareholders therein. It is widely seen by corporate law practitioners and corporate law scholars, both at the time and today, as the central legal event opening the way for target companies' boards to deploy effective takeover defenses. This decision arguably represented a major shift in power away from the market for corporate control and towards corporate boards. Post-*Unocal* and post-*Moran v. Household*, boards newly received wide legal discretion to reject unsolicited takeover bids, i.e. largely negating the power of hostile tender offers. In the poison pill era, control of the firm has to come through control of the board, and thus we argue that the *Moran v. Household* decision (in combination with the preceding *Unocal* decision) greatly increased the importance of all shareholder rights. This motivates our main hypothesis that the negative association of the G-Index with firm value has become stronger after

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<sup>1</sup> The economic magnitude is similar in the post-1990 period as documented in Gompers, Ishii and Metrick (1999) and Cremers and Nair (2005), though those results using only post-1990 data are not robust to adding firm fixed effects, perhaps due to the more limited time variation in the G-Index in this later period.

<sup>2</sup> The decision in *Moran v. Household* was not expected. This is evidenced by discussions among corporate lawyers and scholars prior to 1985 and the brief filed by the Securities and Exchange Commission in *Moran v. Household* arguing that the use of the poison pill was illegal. Also, we interpret higher average Q, proxied by the ratio of market cap to book value of firm assets, as a measure of firm value, as evidence the firm uses its resources more productively / efficiently, in line with the literature. The relationship between shareholder rights and (expected) stock returns, while closely related, is left for future research.

<sup>3</sup> Two examples in important decisions are as follows. First, the Delaware Supreme Court in its QVC decision explained that the principles announced in *Unocal* and *Household* "govern this case and every case in which a fundamental change of corporate control occurs or is contemplated." *Paramount Commc'ns, Inc. v. QVC Network Inc.*, 637 A.2d 34, 46 (Del. 1994). Second, the Delaware Chancery court recently stated that the *Moran v. Household* court "emphatically rejected" the view that Delaware Corporate Law prohibited the use of antitakeover devices that was solely for the purpose of providing "the directors with a defensive weapon of extraordinary potency." (*Hollinger v. Black*, 844 A.2 1022 (2004).

1985. Our empirical evidence is consistent with this, as we document that the negative association only exists after the *Moran v. Household* decision.

Cross-sectionally, one would not expect the G-Index to be associated with a negative firm valuation effect, even in the aftermath of *Moran v. Household*, for firms with dual class shares. Such firms have some group of minority shareholders with a majority of voting rights, a structure already providing sufficient power to insulate the firm from unsolicited takeover bids without the use of a poison pill or other anti-takeover defenses. We verify that this is in fact the case.

We provide several robustness checks. First, we consider the adoption of second-generation state-level anti-takeover laws occurring around the same time, albeit in different years in different states. For example, a business combination statute was adopted by Delaware in 1988. These state laws also gave boards additional discretion in rejecting unsolicited takeovers (see e.g. Garvey and Hanka (1999) and Bertrand and Mullainathan (2003)). We find that the negative association between firm value and the G-Index commences in 1985 rather than in the years in which such state-level antitakeover statute was adopted. This is consistent with *Moran v. Household* being the fundamental event affecting the impact of restrictions on shareholder rights.

Second, we recognize that the *Moran v. Household* decision applied directly only to firms incorporated in Delaware, or approximately half the firms in our sample. However, Delaware corporate law decisions have a leading role in shaping corporate law in all other states, affecting expectations about legal decisions concerning firms incorporated in other states. And indeed, many other states subsequently adopt poison pill endorsement statutes, which legal scholars widely consider to replicate Delaware's judicial approval of poison pills. Not a single state has invalidated poison pills. We test for differences between Delaware and non-Delaware firms, and find that firms not incorporated in Delaware have identical G-Index coefficients as Delaware firms, both before and after 1985. Similarly, we do not find that Delaware incorporation itself is related to firm value for the large firms in our sample, either before or after 1985. While this could be due to a lack of power, it is also consistent with investors expecting major Delaware decisions to be copied elsewhere.

Next, we consider individual shareholder rights provisions of the G-Index. Focusing on the 6 provisions in the Entrenchment index of Bebchuk, Cohen and Ferrell (2009), a sub-index of the G-Index, we find most of them have a more negative association with firm value after 1985 relative to before. The importance of the poison pill (and arguably *Moran v. Household* by extension) is underscored by our finding that for firms with poison pills, the firms' G-Index score based on the twenty-three other G-Index provisions has no discernable negative effect on firm valuation. This suggests that poison pill adoption is the central shareholder rights decision. We estimate that firm value goes down by about 5% upon poison pill adoption. For firms without a poison pill, in contrast,

increases in the G-Index are still associated with lower values of firm value of about 1.7% per G-Index provision, which is both economically and statistically significant.

These results are consistent with G-Index increases being associated with lower firm valuation through a takeover channel, i.e. by reducing the likelihood of an attractive offer being received and accepted by the board. We therefore hypothesize that negative firm valuation effects 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 for these firms that a reduced probability of an attractive offer being received and accepted is particularly salient. Measuring M&A activity at the industry level is a way to mitigate selection issues, as e.g. Mitchell and Mulherin (1996) document that M&A activity occurs in industry waves in response to unexpected exogenous shocks to industry structure, regulation or technological innovation.

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.

Finally, we investigate whether the negative association between the G-Index and firm value can be explained by selection, particularly of lower valued firms tending to adopt more G-Index provisions. We find, however, only limited evidence in support of such a “reverse causation” explanation. In fact, higher valued firms tend to adopt more G-Index provisions, although this relationship disappears once year fixed effects are included (suggesting that more firms adopt G-Index provisions in years that average firm values increase). Further, the evidence for reverse causality, i.e. an association between lagged firm value and G-Index changes, is much stronger before versus after 1985.

We find stronger evidence for “reverse causation” for the adoption of a poison pill. However, the role of lower firm values in explaining firms’ adopting poison pills still seems economically relatively minor. We also document that firms incorporated in Delaware were not more likely to adopt poison pills (or increase their G-Index, before or after 1985) than firms incorporated in other states. This is again consistent with other states following the Delaware precedent. We further find no evidence that reverse causality is more important in years with significant M&A activity. In conclusion, our elaborate checks fail to uncover any evidence that our main results can be explained by reverse causation.

Still, one form of selective adoption of anti-takeover provisions cannot be completely ruled out, namely that at least a subset of boards, anticipating lower valuations in the future, increase takeover defenses now in order to ward off future unsolicited takeover attempts. Three alternatives are possible for such selection effects to explain our results. First, boards could have resorted to such tactics only after the *Moran versus Household* decision. Second and alternatively, some boards have always tried to ward off anticipated, unsolicited takeovers by decreasing shareholder rights, but have only been successful at doing so after the *Moran versus Household* decision. Third, maybe the investors learned about the importance of shareholder rights over time, starting after this judicial decision.<sup>4</sup> However, these alternatives still underscore the importance of this judicial decision and the thrust of our main hypothesis.

The remainder of this paper is organized as follows. Part II describes the data. Significant detail on the data collection process and how the data compares to the IRRC sample is included in the data description appendix to this paper. Part III presents the empirical results and Part IV concludes.

## II. DATA AND DESCRIPTIVE STATISTICS

Our focus is 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. We also consider individual provisions in the G-Index, especially the poison pill. A higher G-Index score indicates more restrictions on shareholder rights or a greater number of anti-takeover measures. In this section, we provide a general overview of the various provisions of the G-Index and our coding of these variables for 1978-1989, and refer to the data appendix for significant details.

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 contains the twenty-four corporate governance provisions that are included in the G-Index, covering firm-level charter and by-law provisions, firms' states of incorporation, a firm's governing corporate law statutes and firm opt-ins and opt-outs thereto. Firm-level provisions concern the presence of takeover provisions (such as classified boards and poison pills) and of certain types of compensation arrangements (such as golden parachutes and compensation plans), as well as a

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<sup>4</sup> Gompers, Ishii and Metrick (2003) consider whether managers predicted future poor performance (but investors did not) and put takeover defenses in place to protect their jobs. They find no evidence, based on insider trading.

variety of additional provisions affecting the balance of power between managers and shareholders (such as supermajority voting requirements for amending the firm's charter or bylaw).

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).<sup>5</sup>

We combine 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 add Compustat accounting data, CRSP return data, SDC Platinum's data on merger and acquisition activity and Thompson Financial data of institutional holdings (13F).

The twenty-four IRRC corporate governance variables we track for 1978-1989 (inclusive), which are also used in the construction of the G-Index, are in the following 5 groups (the first four groups consist of firm-level provisions and the fifth group has state statutes):

- (i) delaying a hostile bidder (4 provisions: blank check preferred; classified board; limits on the ability of shareholders to call special meetings; limits on the ability of shareholders to act by written consent),
- (ii) protecting officers and directors (6 provisions: compensation plans; director indemnification contracts; golden parachutes; other director indemnification provisions; limits on director liability; severance agreements),
- (iii) shareholder voting (6 provisions: limits on the ability of shareholders to amend the corporate bylaws; limits on the ability of shareholders to amend the corporate charters; cumulative voting; confidential or secret voting; supermajority voting requirements for mergers; unequal voting),
- (iv) other firm-level provisions (4 provisions: director's duties; pension parachutes; poison pill; silver parachutes),
- (v) state statutes and opt ins and outs thereof (4 provisions: business combination laws; control share cash-out; fair price; anti-greenmail statutes).

The definitions of these variables are contained in the introduction to the 1990 IRRC volume as well as the appendix to Gompers, Ishii, and Metrick (2003).

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<sup>5</sup> 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-Index and their constituent corporate governance variables.

Substantial effort was taken to ensure that our coding of the IRRC variables during 1978-1989 was consistent with the coding by the IRRC over 1990-2006. Our coding protocol (see the Data Appendix) is based on replicating IRRC's coding in the year 1990 for two hundred randomly selected firms covered by the 1990 IRRC volume. 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, as the IRRC does not seem to account for state defaults if the firm's charter or bylaw is silent on the issue.<sup>6</sup>

Table I provides descriptive statistics of the G-Index, plus all of the other variables used in this paper. Here and throughout the paper, we allow for maximum 7 missing provisions out of the 24 constituents in G-Index.<sup>7</sup> The main other variable of interest is our proxy for firm value, Tobin's Q.<sup>8</sup> 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, 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 firms in Compustat.

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%, 50%, 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.<sup>9</sup>

Not surprisingly, this significant time variation also appears when one examines the incidence of individual provisions during 1978-1989. Figures 2A, 2B and 2C graph the annual incidence in our sample of the 24 provisions constituting the G-Index. First, in Figure 2A, we graph the incidence of the six provisions in the E-Index (Bebchuk, Cohen and Ferrell (2009)): supermajority voting requirements for charters, by-laws and mergers, classified boards, poison pills and golden

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<sup>6</sup> See the Data Appendix and Internet Appendix Table A.I for more details.

<sup>7</sup> An overview of the number of firms with substantial missing data is given in Internet Appendix Table A.II. We perform robustness checks of our main results, varying the maximum number of missing provisions to 3, 11 and 15.

<sup>8</sup> Tobin's Q is the ratio of market-to-book of the firm. We calculate Tobin's Q as  $(\text{data199} * \text{data25} + \text{data6} - \text{data60} - \text{data74}) / \text{data6}$ , 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.

<sup>9</sup> 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.



parachutes.<sup>10</sup> Of the six provisions, four provisions enjoyed very 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). 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 2B 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 these provisions is generally 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*<sup>11</sup> which found in that case that the independent directors of a corporation were personally liable for breaching their fiduciary obligations.<sup>12</sup> For cumulative voting, a number of states had mandatory cumulative voting laws as of the end of the 1970s, subsequently either repealed outright (such as New Hampshire) or changed to a default cumulative voting statute (such as California).

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<sup>10</sup> Some series start in 1980 due to too many missing observations for 1978 and 1979.

<sup>11</sup> 488 A.2d 859 (1995).

<sup>12</sup> This decision was unexpected (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.”). It created a major backlash, including the passage by the Delaware legislature in 1986 of Section 102(b)(7) to the Delaware Corporation Law (65 Delaware Law 544) 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 director liability statutes that limited director liability even without the firm changing the corporate charter. Most states, however, followed Delaware.

Figure 2C 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 2C (starting in 1990, when IRRC data start).

For the final two provisions in Figure 2C (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.<sup>13</sup>

The percentages of firms changing their G-Index and the poison pill provision are presented in Table II. These changes are calculated as annual changes. As database updates are annually from 1978-1989, but IRRC updates their data about every two years, we divide the percentages by the number of years in between IRRC data updates for the post-1900 period. 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.

As shareholder rights prevalent after 1990 thus largely reflect firm decisions made in the preceding decade, 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.<sup>14</sup>

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<sup>13</sup> 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.

<sup>14</sup> 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).

### III. SHAREHOLDER RIGHTS AND FIRM VALUATION

Gompers, Ishii and Metrick (2003) – the seminal paper on whether firm valuation is related to a firm’s corporate governance arrangements – document a strong cross-sectional association between corporate governance (proxied by their G-Index) and firm value. Prior to the construction of the G-Index, there were a number of important studies that examined the impact of various individual provisions, including some of those contained in the G-Index. These studies include event study analysis of the impact of the adoption of the poison pill (see, e.g., Jarrell & Poulsen (1986); Ryngaert (1988), Brickley, Coles & Terry (1994); Comment & Schwert (1995), Mahoney, Sundaramurthy & Mahoney (1996)), many of which report negative stock price reactions associated with poison pill adoptions.<sup>15</sup> Other event study analyses focused on stock price reactions to the adoption of various charter amendments, such as fair price charter provisions, supermajority requirements, and anti-greenmail provisions with many, albeit not all, reporting negative stock price reactions as well (see, e.g. Brickley, Lease & Smith (1988); Eckbo (1990); Jarrell & Poulson (1986); Bhagat & Jefferis (1991)).

Specifically, Gompers, Ishii & Metrick (2003) find that higher G-Index scores are associated with lower Tobin’s Qs. The addition of G-Index data for 1978-1989 allows an out-of-sample re-examination of this association between governance and firm value. In particular, the substantial time variation in the G-Index in the 1980s (with far more stability in those arrangements during the 1990s as documented in the previous section) invites a consideration of the association between shareholder rights and firm valuation in the time series. As a first step, adding 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 subsequent changes in firm value.

More importantly, we identify a major, largely exogenous shock to the importance of shareholder rights resulting from the Delaware Supreme Court’s landmark decision in 1985 in *Moran v. Household*. We employ this shock to consider to what extent the negative association between firm value and restrictions on shareholder rights can be interpreted causally. The specific hypotheses based on this shock are described in III.1 with the empirical tests of these hypotheses reported in III.2.

#### *III.1. Hypotheses*

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<sup>15</sup> A priori, poison pills or other takeover defenses could result in higher takeover premiums, if they give the board a stronger position to bargain from, see e.g. Ryngaert (1988), Brickley, Coles & Terry (1994); Comment & Schwert (1995), Mahoney, Sundaramurthy & Mahoney (1996).

There was considerable uncertainty concerning the legal permissibility of anti-takeover defenses during the 1980s, especially concerning a target's board use of the newly created poison pill defense.<sup>16</sup> We will utilize the resolution of much of this legal uncertainty in the landmark 1985 Delaware Supreme Court decision in *Moran v. Household* in formulating our hypotheses. Exploiting this judicial resolution of uncertainty addresses endogeneity or selection concerns surrounding the negative association between firm value and antitakeover provisions. We will first describe the legal uncertainty and its resolution and then describe the resulting hypotheses.

Poison pills were first deployed in 1982 (as can be seen in Figure 2A). Prior to the Delaware Supreme Court's landmark 1985 decision in *Moran versus Household*,<sup>17</sup> which involved the legality of a target board's use of a poison pill to block an unwanted takeover, there was substantial legal uncertainty surrounding the use of poison pills and anti-takeover defenses more generally. Numerous commentators pre-*Household* commented on this uncertainty with many expressing doubts as to the legality of many of these defenses. As one article at the time explained, corporate lawyers were "skeptical about poison pill plans, and questioned whether the plans will withstand legal scrutiny" (Masters (1983), p.9). The Delaware Supreme Court in *Moran v. Household* explicitly resolved all this legal uncertainty in favor of both the poison pill in particular and anti-takeover defenses generally.<sup>18</sup> The Court found that the poison pill was within the target board's statutory authority; that a judicial determination of whether the adoption of the poison pill was consistent with the board's fiduciary obligations would be reviewed under the most lenient standard review possible – the business judgment rule;<sup>19</sup> and, finally, that the adoption of the poison pill was consistent with shareholders' role

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<sup>16</sup> If a takeover bid is approved by the board of directors, they can redeem 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 far 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. This will in effect significantly dilute the bidder's holdings. There has never been a reported case where a hostile bid has succeeded in the presence of an unredeemed poison pill.

<sup>17</sup> 500 A.2d 1346 (Del. 1985).

<sup>18</sup> One source of legal uncertainty concerned whether the issuance of a poison pill was within the statutory power vested in the board of directors under Delaware's General Corporation Law statute. A second source of legal uncertainty centered on whether the use of a poison pill to block an unwanted acquisition, and the use of anti-takeover defenses more generally would violate a target board's fiduciary obligations to its shareholders. A third source of legal uncertainty, affecting both the use of poison pills specifically and anti-takeover defenses generally, was whether anti-takeover defenses violated the basic rights of shareholders to decide for themselves the merits of an offer. Numerous commentators made arguments pre-*Household* questioned the validity of the poison pill on these various grounds (see, e.g., Lynch & Steinberg (1979); Easterbrook & Fischel (1981); Gilson (1981)). Indeed, the Securities and Exchange Commission filed an amicus brief in the *Moran v. Household* case arguing that the poison pill defense violated the target board's fiduciary obligations to shareholders and, furthermore, undermined shareholders' right to pass judgment on the merits of the hostile offer.

<sup>19</sup> 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."

in determining the outcome of a hostile offer. The *Moran v. Household* decision directly addressed both the use of poison pills and the wider issue of when anti-takeover defenses could be used and the role of shareholders therein.

Specifically, the decision explains that it is up to the board to decide on “reasonable defensive mechanisms.”<sup>20</sup> In framing the inquiry in this general way, the Household Court relied upon the Unocal decision on takeover defenses, also decided by the Delaware Supreme Court in 1985, which involved not a poison pill but a two-tier coercive bid (with the tendering shareholders potentially getting more consideration than those who decide not to tender). *Moran v. Household* is regularly cited by subsequent case law dealing with the appropriateness of various takeover defenses, whether or not they are poison pills.<sup>3</sup>

The prominent corporate lawyer and creator of the poison pill, Martin Lipton, explained at the time that of all the Delaware decisions on the use of defensive tactics “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 prominent corporate lawyer).” Likewise, a *Business Week* article at the time explained that the “*Household* case in Delaware is the crucial one.” Just recently the Delaware Chancery Court observed that the “passage of time has dulled many to the incredibly powerful and novel device that a so-called poison pill is. That device has no other purpose than to give the board issuing the rights the leverage to prevent transactions it does not favor by diluting the buying proponent’s interests.”<sup>21</sup> Our second hypothesis exploits not only time series variation, but cross-sectional variation as well. The hypothesis is that for firms with dual class shares, the *Moran v. Household* decision had no corresponding effect, given that the literature indicates that firms with dual class voting structures are typically immune from a hostile acquisitions regardless of whether they have a pill in place or some other anti-takeover defense in place (see e.g. Masulis, Wang and Xie (2009) and Gompers, Ishii and Metrick (2010)).

Next, we observe that the *Moran v. Household* decision and the decisions of firms to significantly increase their takeover defenses in the mid-1980s arose in the context of a major M&A wave. This suggests that any negative association of the G-Index with firm value might come about, at least in part, by reducing the likelihood of an attractive offer being received and accepted. In effect,

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<sup>20</sup> Quoting from the decision: “In sum, the Directors reasonably believed Household was vulnerable to coercive acquisition techniques and adopted a reasonable defensive mechanism to protect itself. ... The Directors adopted the plan in the good faith belief that it was necessary to protect Household from coercive acquisition techniques. The Board was informed as to the details of the Plan. In addition, Household has demonstrated that the Plan is reasonable in relation to the threat posed.”

<sup>21</sup> *Air Products v. Airgas*, C.A. No. 5249, 2011, p.151.

our main hypothesis indirectly assumes that takeovers are an important channel for governance effects on firm valuation. In considering the potential importance of a takeover channel, it is worth bearing in mind the finding of Andrade, Mitchell and Stafford (2001) that the median bid premium is approximately 38%, such that takeovers generally are very beneficial to target shareholders.

Mitchell and Mulherin (1996) report that mergers occur in waves; and within a wave, mergers strongly cluster by industry. 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. We thus conjecture that past industry-specific takeover activity is a good mechanism by which governance affects firm value.

Our third hypothesis is therefore that the association between the G-Index and firm value will be particularly strong for firms that happen in a given year to be in industries experiencing “high” levels of M&A activity relative for firms that happen to be in industries with “low” levels of M&A activity. 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 governance 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 and thus the plausibility of our main hypothesis.

In the course of our analysis, we also test several alternative hypotheses:

(i) The negative association between the G-Index and firm value is no different pre- versus post-*Moran v. Household*.

(ii) The negative association between firm value and the G-Index commences or is enhanced in the years in which state-level antitakeover statute was adopted (i.e., depending on the state of incorporation) rather than in 1985. This hypothesis is motivated by the argument that, state anti-takeover laws (such as business combination statutes) arguably gave corporate boards additional discretion in rejecting unsolicited takeovers (see e.g. Garvey and Hanka (1999) and Bertrand and Mullainathan (2003)). These state statutes were adopted mostly in the late 1980s, in different years in different states.

(iii) The *Moran v. Household* decision impacted Delaware and non-Delaware firms differently, because this decision applied directly only to firms incorporated in Delaware, and thus to approximately half the firms in our sample. This alternative hypothesis would fail to hold true if the market inferred that Delaware corporate law decisions would have a leading role in this issue (as is quite commonly has on corporate law issues generally) and affected expectations about legal decisions

concerning firms incorporated in other states. And indeed, many non-Delaware state courts followed *Moran v. Household's* lead in their treatment of poison pills and anti-takeover defenses.<sup>22</sup> Many states even passed legislation to statutorily codify the poison pill's legality in the aftermath of the *Household* decision.<sup>23</sup> Not a single state has invalidated the use of poison pills either judicially or legislatively. Consistent with the importance of the *Moran v. Household* decision is that the incidence of poison pills dramatically increased starting as of 1985 as can be seen in Figure 2A, with this dramatic increase being true for Delaware and non-Delaware firms alike.

We explore two versions of this alternative hypothesis. First, *Moran v. Household* may have affected the firm value of firms incorporated in Delaware differently from firms incorporated outside Delaware, irrespective of their level of shareholder rights. Second, the importance of shareholder rights increased more for firms incorporated in Delaware than for firms incorporated outside of Delaware.

(iv) Our final alternative hypothesis is that the negative association between the G-Index and firm value is caused by selection. Firms with lower firm valuation are easier takeover targets, and thus will be more likely to adopt a poison pill or other G-Index provisions in order to insulate the firm from unwanted takeovers (see e.g. Lehn, Patro & Zhao 2006). In effect, the documented correlation between low firm valuation and the G-Index index might be at least in part due to 'reverse causation.' Moreover, the reverse causality hypothesis could also mean that some other, unobserved mechanism is used by firms to insulate themselves from takeovers. We investigate the evidence for reverse causation by considering the likelihood that firms change their G-Index scores in general and adopt poison pills in particular, depending on their lagged firm value. Finally, we also consider the possibility that such selection effects were more important after 1985, e.g. because of *Moran v. Household*.

### *III.2. Empirical Association between Shareholder Rights and Firm Valuation*

#### *III.2.1 G-Index and Moran v. Household*

Turning first to whether there is an overall negative association between the G-Index and Tobin's Q, Table III presents pooled panel regressions of fiscal year-end industry adjusted Tobin's Q on firms' lagged G-Index. We ensure that the G-Index information is sufficiently lagged to be public information at fiscal year-end, and is generally measured in the first half of the year. We also add a number of other controls, including fiscal year fixed effects throughout, and, as we will consistently do, using robust standard errors clustered by firm. As can be seen in column 1, using industry fixed effects, a higher G-Index is associated with lower firm valuation with the coefficient (-0.019) being

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<sup>22</sup> 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.")

<sup>23</sup> See, e.g., Wis. Stat. section 180-624 (1999).

both 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 firm fixed effects in column 2, with a coefficient value of -0.011 with a p-value of 6%. Economically, the coefficient implies that a standard deviation increase in the G-Index is associated with a decline in industry-adjusted Tobin's Q of 0.9% ( $= 0.80 \times 0.011$ ).

Perhaps not surprisingly given the data demands of these regressions, when one looks at sub-periods (1978-1989 in columns 3-4 and 1990-2006 in columns 5-6) the G-Index coefficient 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 1.52 with a corresponding p-value of 11%.

The results documented in Table IV address our hypothesis that post-*Moran v. Household*, the G-Index should have a more negative effect on firm valuation. All Table IV specifications include the same set of controls used in Table III, but are left unreported to save space. To test this hypothesis we include the lagged G-Index together with its interaction with a 'Pre-1985' dummy that equals one if the year is before 1985 (zero otherwise) as well as its interaction with a dummy that equals one if the year is 1985 (zero otherwise). In column 1 with industry fixed effects, the G-Index coefficient has a coefficient of -0.020 (t-statistic of 3.86), while the G-Index times the Pre-1985 dummy has a coefficient of 0.019 (t-statistic of 1.96). Therefore, the G-Index has a negative association with firm value only after 1985, while before 1985 the cumulative coefficient on the G-Index is approximately zero. Using firm fixed effects in column 2 reduces the G-Index coefficient to -0.012 (t-statistic of 1.90) and that of its interaction with the 'Pre-1985' dummy to 0.011 (t-statistic of 1.09), such that again the G-Index coefficient is approximately zero prior to 1985. As a robustness check, columns 3 and 4 use a sample for just the 1985-2006 with the G-Index coefficient being -0.021 (t-statistic of 3.91) using industry fixed effects and of -0.014 (t-statistic of 1.89) using firm fixed effects.

Next, we analyze cross-sectional differences between firms with and without dual class shares. We interact the G-Index and its interactions with the 1985-dummy and the 'Pre-1985' dummy with both a 'Single' and a 'Dual' dummy that equal zero if the firm has a single versus a dual class structure, respectively (and zero otherwise). In column 5 using industry fixed effects, the G-Index x Single interaction has a coefficient of -0.022 (t-statistic of 3.93) and the triple interaction of G-Index x Single x 'Pre-1985' a coefficient of 0.020 (t-statistic of 2.06), with the dual-class interactions having coefficients of approximately zero. Using firm fixed effects in column 6 or only 1985-2006 in columns 7-8 gives similar results though with considerably weaker statistical strength.

Overall, these results are consistent with the 1985 *Moran v. Household* decision representing a significant increase in the importance of shareholder rights, inducing a negative association between



the G-Index and firm value afterwards. The cross-sectional evidence comparing firms with dual and single class share structures corroborates this. Consistent with our hypothesis, we find no evidence that the G-Index of firms with a dual class structure is significantly related to firm value either before or after 1985. For simplicity, we therefore remove firms with a dual class share structure from our sample in our subsequent tables.

The anti-takeover state statutes, adopted in the 1980s to early 1990s, provide a possible alternative mechanism other than the impact of the *Moran v. Household* decision for a shift towards increased target board discretion to ward off unsolicited takeovers and thus the importance of shareholder rights. Using the years of adoption as coded by Litov and John (2009), we create a dummy ‘Pre-State Anti-takeover Statute’ that equals one if the year is preceding the year the state in which the firm is incorporated adopted such statute (zero otherwise).<sup>24</sup> Likewise, the dummy ‘Year State Anti-takeover Statute’ equals one if the year equals the year the state of incorporation adopted such statute (zero otherwise). In column 1 of Table V, we find that the G-Index interactions with both state statute dummies have an insignificant coefficient, while the coefficient on the G-Index itself equals -0.022 (t-statistic of 3.92).<sup>25</sup> Adding G-Index interactions with ‘Pre-1985’ and the 1985-dummies, column 2 shows that the negative association between the G-Index and firm value is different before versus after 1985 rather than before versus after the adoption of the antitakeover state statutes: the coefficient of the G-Index interaction with ‘Pre-1985’ equals 0.019 (t-statistic of 2.00) and with ‘Pre-State Anti-takeover Statute’ equals approximately zero (coefficient of 0.0033 with a t-statistic of 0.45).

Another robustness check is to compare firms incorporated in versus outside the state of Delaware. Any effect on non-Delaware firms of *Moran v. Household* would depend on the market’s perception of the importance of Delaware law as a precedent for other states. For this purpose, we create a dummy variable ‘Not Delaware’ that equals one if the firm is not incorporated in Delaware (zero otherwise). In column 3 of Table V, we find that in our sample non-Delaware firms do not have systematically different firm values compared to firms incorporated in Delaware, either before or after 1985. Column 4 indicates that non-Delaware firms also have the same G-Index coefficient over the full period. Moreover, there is no difference between the G-Index coefficients pre-1985 versus post-1985, as shown in column 5. Column 6 shows that our main result is robust to controlling for both state statutes adoption and non-Delaware interactions. These results are consistent with the *Moran v. Household* decision affecting expectations about all firms in our sample, irrespective of the state of incorporation.

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<sup>24</sup> We thank Lubomir Litov for generously sharing this data with us.

<sup>25</sup> We only show industry fixed effects regressions. Using firm fixed effects generally produces a coefficient on the G-Index that is negative and significant, but its interactions typically have insignificant coefficients.

We conduct several additional robustness checks of results. First, in Table A.III in the Internet Appendix, we vary the maximum number of missing provisions allowed (out of the 24 G-Index constituents). We consider a maximum of 3, 11 and 15 provisions missing. The results for 1978-2006 and 1985-2006 show that the negative and statistically significant coefficient of the G-Index is generally robust, though using more firms and thus allowing more missing provisions produces stronger results.

Table A.IV in the Internet Appendix provides other robustness results. In column 1, 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 columns 2 and 3, 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 using firm fixed effects. Columns 4 and 5 again use the regular G-Index 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 somewhat different coding protocols in 1989 versus 1990. We find that the coefficient of the G-Index is unchanged while the 'G-Index in 1989' variable is insignificant. Finally, columns 6 and 7 present the results for the 'G-Index Uncorrected', which uses the G-Index scores according to the IRRC database rather than our recoding of the IRRC data. While the coefficients are similar, the statistical significance using firm fixed effects is weaker (p-value of only 12%). This suggests the importance of correctly incorporating the state statutes and state defaults.

### *III.2.2 Individual Provisions in the G-Index*

Turning to the individual corporate governance provisions, we consider the 6 provisions in the E-Index that Bebchuk, Cohen and Ferrell (2009) identify as the most important in explaining the negative association between the G-Index and firm value post-1990. In separate Tobin's Q regressions, we interact each provision with the 'Pre-1985' dummy using data for 1978-2006, also including industry fixed effects and all controls used in Table III. Results are reported in Table VI.

In column 1, the poison pill by itself has an economically large coefficient of  $-0.12$  (t-statistic of 3.91), but its interaction with the 'Pre-1985' dummy is insignificant. This is not surprising given the very small number of firms adopting a poison pill before 1985 (about 2% of firms). However, for four out of the five remaining E-Index provisions in columns 2 – 6 we find evidence consistent with those provisions having a more negative association with firm value after 1985. For example, the coefficient of a classified board equals  $-0.082$  (t-statistic of 2.46) and of its interaction with "Pre-1985" equals  $0.096$  (t-statistic of 2.54). Economically, that means that firms with a classified board have an

approximately 8.2% lower firm value after 1985, but a slightly higher firm value before 1985 that is insignificant (with the difference being statistically significance at 1%). Differences are likewise (marginally) significant for provisions limiting shareholder rights to amend the charter and the corporate by-laws and the supermajority requirement for merger approval. The only provision where the difference is insignificant is the golden parachute. Therefore, we interpret the evidence in Table VI as broadly consistent with the notion that individual provisions tend to be more negatively associated with firm value after 1985.

However, using individual provisions rather than the G-Index considerably reduces statistical power. For example, if firm fixed effects rather than industry fixed effects are used, all coefficients in Table VI become insignificant (with the exception of the poison pill, which remains – marginally - significant). While the construction of the G-Index with equal weights for the 24 provisions included seems somewhat arbitrary, a main advantage of combining this plethora of constituents into an aggregate measure may be increased statistical significance. This is further confirmed in the next table.

In Table VII, we compare the importance of the poison pill versus all other provisions on the G-Index, testing the hypothesis that the poison pill has a major role in the negative association with firm value. As above, we establish no significant association before 1985, Column 1 combines all 6 E-Index individual provisions in a single specification using industry fixed effects. Only the poison pill and the golden parachute are statistically significant and negative. Using firm fixed effects in column 2 further reduces both economic and statistical significance, leaving only the poison pill with a negative and statistically significant coefficient.<sup>26</sup> Columns 3 and 4, again using firm fixed effects, verify that the poison pill and the G-Index are both statistically as well as economically strongly negatively associated with firm value in 1985-2006.

Next, to more fully explore the importance of the poison pill (and arguably the *Moran v. Household* decision by extension) we separate the poison pill from the other 23 G-Index provisions by creating two new variables. First, the “Pill” dummy equals one if the firm has a poison pill (zero otherwise). Second, we calculate the “G-Index w/o Pill” as the G-Index score minus the Pill dummy. Using both in column 5 with firm fixed effects, only the poison pill is significant (coefficient of -0.05 with a t-statistic of 2.04) while the G-Index without the pill becomes insignificant (coefficient of -0.01 with a t-statistic of 1.47). The poison pill appears to be the primary driver of the negative firm valuation effect.

However, these results do not address whether the G-Index have any negative association with firm valuation for firms without a poison pill relative to firms with a poison pill. To address this

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<sup>26</sup> Surprisingly, the coefficient on the classified board becomes large, positive and significant (-0.093 with a t-statistic of 2.16). However, this seems an artifact of combining it with the other individual E-Index provisions, as the classified board by itself or combined with only the poison pill has a small coefficient that is insignificant.

question, we interact the “G-Index w/o Pill” with the Pill dummy as well as with a “no Pill” dummy that equals 1 if the firm has no poison pill plan (zero otherwise). Column 6 combines the pill together with these two “G-Index w/o pill” interactions. Considering the importance of the G-Index separately for firms with and without a poison pill greatly increases the importance of the poison pill, which now has a coefficient of -0.16 (t-statistic of 2.02). We include firm fixed effects suggesting that firms that adopt a poison pill have a firm value that is 16% lower. For firms that adopt a pill, the G-Index (without the pill) is not associated with firm value (a coefficient of -0.0044 with a t-statistic of 0.53). However, for firms without a poison pill, the negative association between the G-Index and firm remains essentially the same as reported earlier (coefficient of -0.017 with a t-statistic of 1.92). This suggests that each standard deviation shock increase in the G-Index score of those firms is associated with a reduction of firm value of about 5.1% ( $=3.00 \times 0.017$ ). As a robustness check, column 7 verifies that the coefficients of either G-Index interactions is not driven by firms that adopt (or remove) a poison pill.

These results underline the importance of the poison pill, suggesting that the poison pill adoption is central restriction on shareholder rights, and for firms choosing to adopt one, the poison pill seems a 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.

### *III.3 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, while it can also potentially provide supporting evidence that governance does in fact affect firm valuation. The main channel we consider is the impact restrictions on shareholder rights have on the market for corporate control.

The 1980s was not only a period of substantial change in firms’ corporate governance arrangements, as documented by Figures 1-2, but it was also a period of substantial changes in M&A activity. Figure 3 displays the incidence of M&A activity broken down into three categories – friendly takeovers and not-friendly (including hostile takeovers and leveraged buyouts) – over 1979-2006. We graph 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 3, 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 3, 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).

The provisions of the G-Index could affect the likelihood of receiving a successful takeover bid and thus target shareholders’ receiving a significant takeover premium. Our specific hypothesis we test based on this observation is that the negative association between the G-Index and firm value is stronger for firms in industries with greater takeover activity in any given year. This is motivated (as also described in the previous section) by takeover bids tending to cluster in industries, such that past industry-specific takeover activity is a good proxy for the takeover channel.

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 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. As an alternative approach, we also interact in some specifications the G-Index with the “% of Takeovers in Industry.” The G-Index quartile dummy interactions have a 84% correlation with the “% of Takeovers in Industry” indicating that the quartile dummy and the “% of Takeovers in Industry” are closely related. All regressions use the same set of controls as used in Table III and include year fixed effects plus either 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 in Table VIII indicate that firms in industries with more takeover activity have more negative G-Index coefficients. For example, in column 2 using firm fixed effects, the coefficient value on the G-Index interaction with being a firm in an industry with a “high” level of takeover activity is statistically significant (coefficient of -0.002 with a t-statistic of 1.79 or a p-value of 7). The G-Index standing by itself still has a statistically significant at the 1% level negative effect on firm valuation (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 (coefficient of 0.003 with a p-value of 0.5%). Economically, these results suggest that a standard deviation increase in the G-Index is associated with a decrease in firm value of 2.2% for firms in an industry with a low level of M&A activity, and a decrease in firm value of 4.0% for firms in an industry with a high level of M&A activity, a difference that is statistically significant. In column 3, we find that the interaction of the G-Index with the percentage of firms in the industry that received a takeover bid last year is significant using industry fixed effects, but becomes insignificant using firm fixed effects. This can be partly due to multicollinearity, as observed above.

Overall, these results suggest that the association between shareholder rights and firm valuation arises primarily through a “takeover channel”, i.e., through affecting the probability of an offer being received and accepted.

#### *III.4 Reverse causation*

An alternative hypothesis to our results is the possibility of low valued firms adopting greater restrictions on shareholder rights rather than restrictions on shareholder rights reducing firm valuation. We therefore 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 or the decision to adopt or discard a poison pill. In our ordered logit regressions, we control for the lagged G-Index score and all controls in Table III. The dependent variable equals 1 if the G-Index increases (in panel A) or if the poison pill is adopted (in panel B) in the next fiscal year, relative to the previous data update, equals -1 if the G-Index decreases or the poison pill is discarded, and 0 if it does not change.<sup>27</sup> All specifications include 48 Fama-French industry group fixed effects and are run without and with year fixed effects. The robust standard errors are clustered at the firm-level. We present the marginal effects of the probability of increasing the G-Index in panel A of Table IX and of adopting a poison pill in panel B of Table IX. For G-Index changes, we consider three time periods: first the full sample 1978-1989, and then the periods before and after the *Household* decision (1978-1985 and 1985-2006, respectively). For the decision to adopt or discard a poison pill we likewise consider three time periods: 1978-1989 and the post-*Household* period (1985-2006), as well as the brief period in which poison pill adoptions were most frequent (1985-1989).

The coefficient on Tobin’s Q is negative but economically small and insignificantly associated with increasing the G-Index index for the entire 1978-2006 period. The two most important variables are the lagged G-Index and the Dual Class dummy. The coefficient of the G-Index in column 2

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<sup>27</sup> 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).

indicates that firms with high G-Index scores are significantly less likely to further increase them: a standard deviation shock increase in the G-Index is associated with a probability of increasing the G-Index next year that is 12 percentage points lower ( $-0.041 \times 3$ ). The coefficient of the Dual Class dummy in column 2 suggests that firms with a dual class share structure have a probability of increasing their G-Index score next year that is 5.6 percentage points lower.

Next, we consider if any selection effects related to firm value are different before versus after 1985 in column 3 (using year fixed effects). We find that lagged Q has a negative and significant coefficient only before 1985. Combined with our main result that the negative association between the G-Index and firm value is only apparent after 1985, this suggests that selection effects are unlikely to drive our results.

The remaining columns for separate time periods in Table IX corroborate this. For 1978-1985, the coefficient of Q is negative and significant with year fixed effects (column 4) but insignificant without (column 3). Economically, the Q coefficient in column 4 indicates that a standard deviation shock decrease in firm value is associated with a probability of increasing the G-Index that is 3 percentage points higher ( $0.061 \times 0.5$ ). For 1985-2006, the coefficient of Q is only negative and significant without (column 5) and insignificant with year fixed effects (column 6). Overall, we conclude that there is limited statistical and economic evidence for reverse causality, compared to the unconditional probability of increasing the G-Index over the whole sample (see Table II) of 35.5%.

In Panel B, we likewise find a weak economic relationship between Tobin's Q and the decision to adopt a poison pill over the whole period. With year fixed effects the coefficient estimate is  $-0.0043$  for the 1978-2006 period (column 2) and  $-0.0049$  (column 6) for 1985-2006. The evidence for reverse causality is much greater for 1985-1989, during which a majority of firms in our samples adopted a poison pill. However, the Q coefficient in column 4, for example, still only suggests a modest economic magnitude. Specifically, a one standard deviation negative shock to Q (equal to 0.80 from 1985-1989) is associated with the poison pill adoption likelihood being higher by 2.0% ( $= -0.80 \times -0.025$ ), which seems modest compared to the percentage of firms adopting a poison pill each year in this period (11% on average, see Table II).

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 extent for the decision to adopt a poison pill during the 1985-1989 time period. The Q coefficient in 1985-1989 is also statistically different from the other two time periods (1978-2006 and 1985-2006). However, the association during 1985-1989 seems economically modest, with a standard deviation

shock in lagged firm values being able to explain about 20% of the poison pill adoptions in this period.<sup>28</sup>

#### IV. 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.

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 a higher G-Index and firm valuation for the 1978-2006 time period.

The Delaware Supreme Court's seminal decision in 1985 in the *Moran versus Household International* case was a major, largely exogenous shock to the importance of shareholder rights. Judicially validating the adoption of a poison pill, this decision newly gave corporate boards wide legal discretion to reject unsolicited takeover bids. The decision resolved major legal uncertainty about the board's power. As such, we can use the year 1985 as providing a large and unexpected shift in power from the market of corporate control to corporate boards. Consistent with this, the negative association of the G-Index with firm valuation only exists after the Household decision. In the cross-section, only firms without a dual class share structure were affected, and the results are robust to considering the adoption of second-generation state-level antitakeover statutes and differential effects for Delaware versus non-Delaware firms.

Post-*Household*, the poison pill has a particularly 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

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<sup>28</sup> In unreported results, we also find that non-Delaware firms are equally likely to increase the G-Index or adopt a poison pill. Further, we interact lagged Q with market-wide takeover activity. We find no evidence that such selection effects are more important during times of significant M&A activity for G-Index changes, while for the poison pill adoptions the results are insignificant though suggestive (t-stat of 1.55 or p-value of 12%), though again economically modest.



valuation during 1985-2006. For firms with poison pills, the G-Index (exclusive of the pill) has no discernable negative effect on firm valuation for firms with such pill. Poison pill adoption thus seems the central shareholder rights decision. Firm value goes down by about 5% upon poison pill adoption, while for firms without a poison pill, increases in the G-Index still are associated with lower values of firm value of about 1.7% per G-Index provision.

We corroborate the importance of the takeover channel for establishing the negative association between the G-Index and firm value. Increases in the G-Index are 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.

Exploring another (not mutually exclusive) explanation 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). However, such an association exists cross-sectionally.

Finally, our extensive checks fail to uncover any evidence that our main results can be explained by reverse causation. The one form of selective adoption of anti-takeover provisions that cannot be ruled out is that some subset of boards, anticipating lower valuations in the future (a valuation not reflected in the firm’s current valuation), increases takeover defenses now in order to ward off future unsolicited takeover attempts. Our results suggest that this selection effect would have appeared only after the 1985 Moran versus Household decision. Therefore, this alternative interpretation of our results implies that boards changed their use of charter and by-law provisions after 1985, and still underscores the importance of this judicial decision and the thrust of our main hypothesis, namely that shareholder rights have become more strongly associated with firm valuation in the post-Household era.

We conclude that the 1985 *Household* decision was a major, largely exogenous shock to the importance of shareholder rights, such that increasing shareholder rights is only related to higher firm value in the post-*Household*, poison pill era. The economic magnitude in a specification with both firm and year fixed effects remains substantial. Using the 1985-2006 time period, the coefficient of the G-Index equals -0.014 (t-statistic of 1.89, see Table IV), implying that a one standard deviation increase of the G-Index (3.0) is associated with a decrease in firm value of about 4.2%. The adoption of a poison pill is associated with a decrease in firm value of about 5.6% (t-statistic of 2.21, see Table VII).

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**Figure 1. G-Index percentiles, 1978-2006**

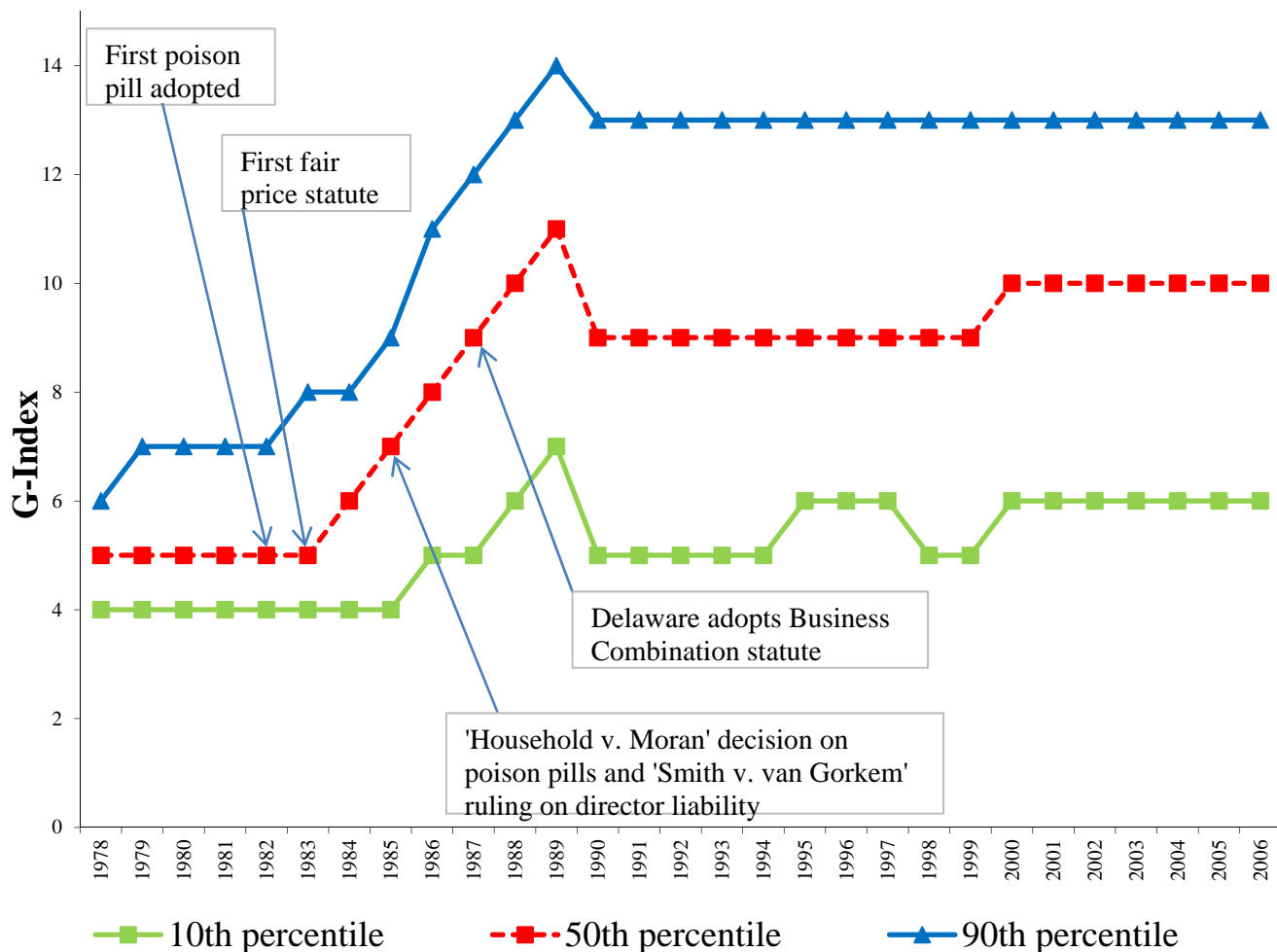
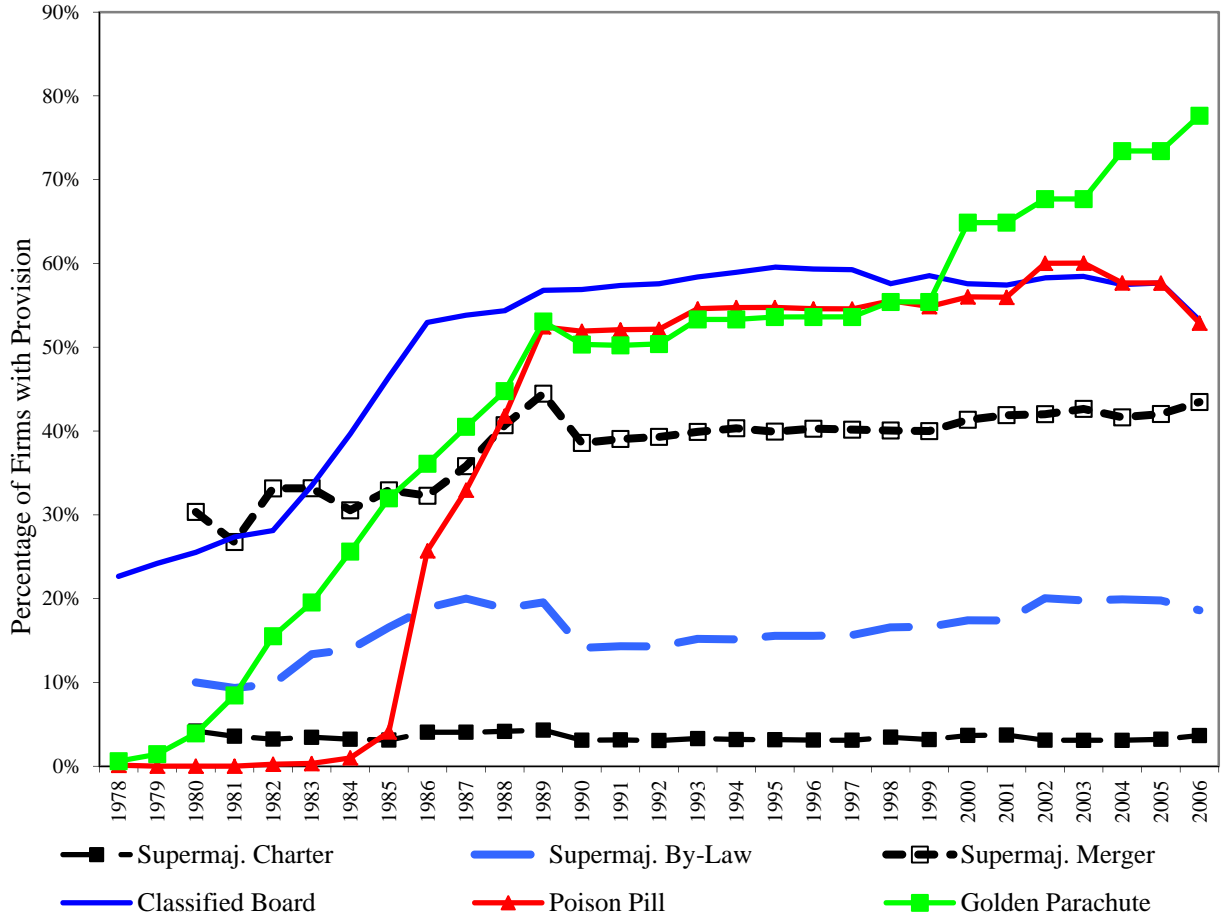


Figure 1 presents the 10<sup>th</sup>, 50<sup>th</sup>, and 90<sup>th</sup> percentiles of the distribution of the G-Index. The figure also displays some of the key corporate law events in this period: 1982: first poison pill adopted; 1983: first fair price statute; 1985 'Household v. Moran' decision on poison pills and 'Smith v. van Gorkem' ruling on director liability; 1987: Delaware adopts Business Combination statute.

**Figure 2A. Incidence of the 6 Provisions in the E-Index**



**Figure 2B. Incidence of G-Index Components with Significant Time-Variation**

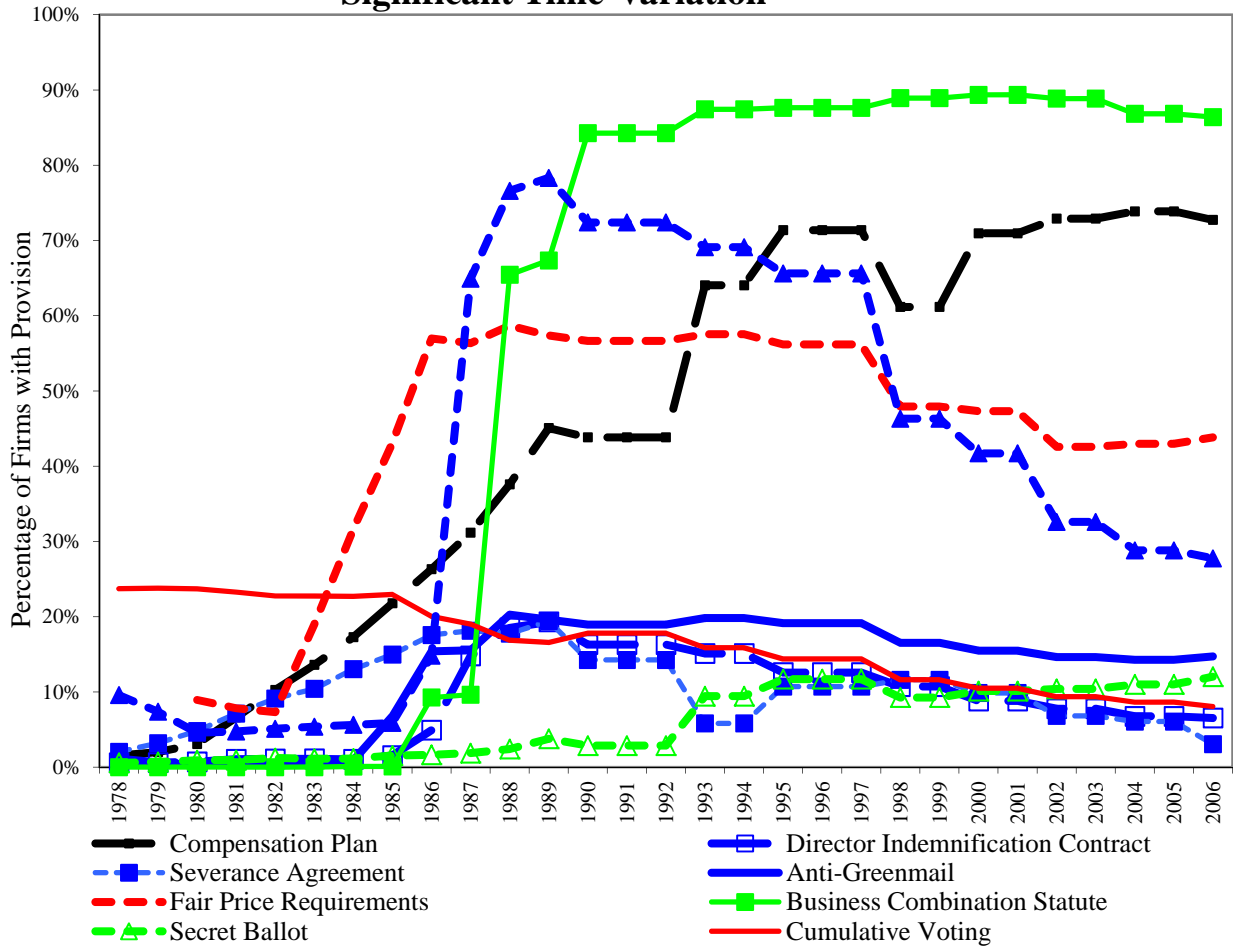


Figure 2A presents the annual incidence of all 6 provisions in the E-Index (subset of G-Index): (i) supermajority voting requirements for changing the charter (ii) for changing the by-laws and (iii) for approving merger, (iv) classified board, (v) poison pill, (vi) golden parachute, and Figure 2B for 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 2C. G-Index Components with Connection Problems or no Time Variation**

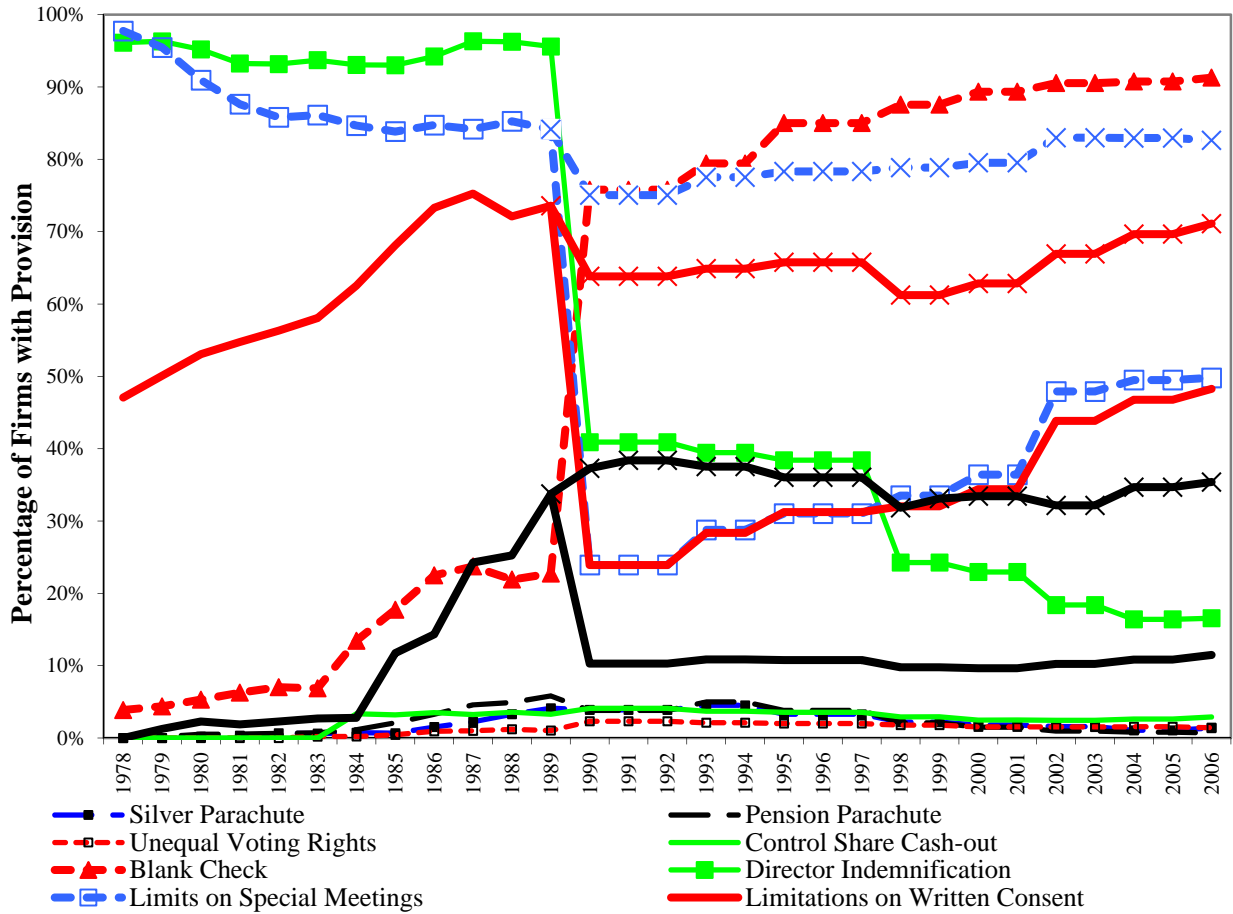


Figure 2C presents the annual incidence of 4 G-Index provisions with almost no time variation (silver parachute, pension parachute, unequal voting rights and control share cash-out provisions); 3 provisions with discrepancies between our and IRRC's database that could be reconciled by correcting the 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 3. M&A activity: percentage of market cap and number of firms**

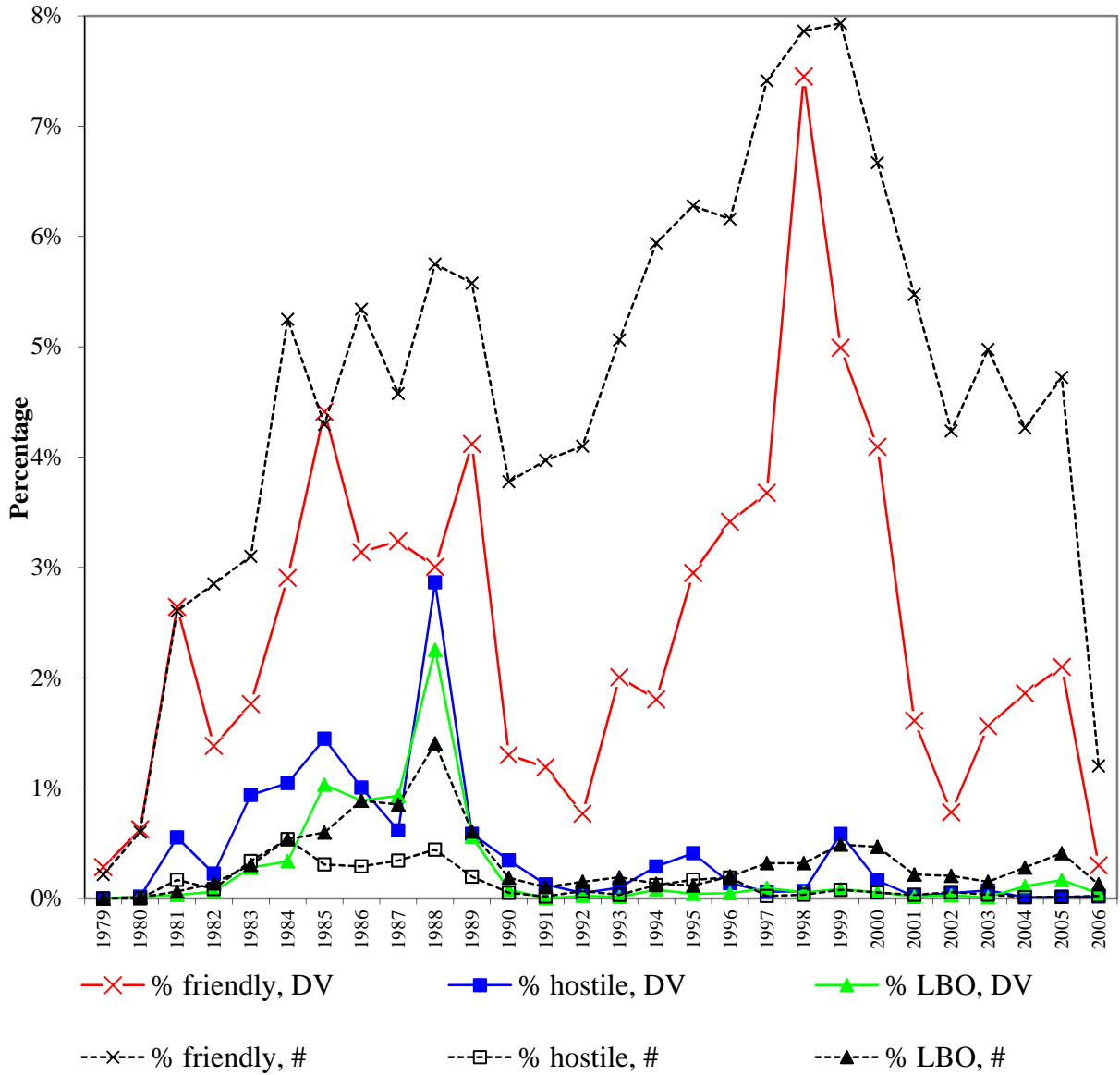


Figure 3 presents the annual mergers and acquisition activity, either measured by deal value ('DV,' as a percentage of market cap of all firms in Compustat that were involved in M&A that year) or by the number of firms ('#,' as a percentage of all firms in Compustat that were involved in M&A that year). We separate deals into friendly, hostile and LBOs deals, as classified by the SDC database.

## Corporate Governance Data Appendix

This appendix provided further details on the construction of our corporate governance database. 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 1000 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 '1978 Fortune 1000' 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 permco 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 1978-1989. 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 tracked 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. See further Table A.I in the Internet Appendix for a comparison between our coding and IRRC coding for all 24 provisions.

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. 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 Bertrand 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.

### *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. 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.

Substantial effort was taken to ensure that our coding of the IRRC variables during 1978-1989 was consistent with the coding by the IRRC over 1990-2006. Our coding protocol (see the data appendix) is based on replicating IRRC's coding in the year 1990 for two hundred randomly selected firms covered by the 1990 IRRC volume. 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, as the IRRC does not seem to account for state defaults correctly.

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 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.<sup>29</sup>

In addition, we checked our results against several other data sources as well. 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

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<sup>29</sup> 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).

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); Deangelo & Deangelo (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 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. See further Table A.II in the Internet Appendix for an annual overview of the number of firms with missing data.

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. 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.



**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. 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 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
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 THEIR CORPORATE GOVERNANCE**

This table gives the percentage of firms that increase and decrease their G-Index each year, 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, such that to compare to the pre-1990 percentages, we divided the percentages of firms decreasing and increasing the G-Index across data updates by two for the 1990-2006 period.

	<b>1978-2006</b>	<b>1979-1989</b>	<b>1985-1989</b>	<b>1990-2006</b>
% firms decreasing G-Index	9.1	1.5	1.8	7.6
% firms no change in G-Index	55.4	50.6	38.1	79.7
% firms increasing G-Index	35.5	48.0	60.1	12.7
% firms discarding Poison Pill	1.3	0.1	0.1	1.1
% firms no change in Poison Pill	93.3	93.2	88.6	96.7
% firms adding Poison Pill	5.4	6.8	11.3	2.2

**TABLE III**  
**FIRM VALUATION**

This table presents pooled panel regressions where the dependent variable is industry-adjusted, year-end Tobin's Q (using the Fama-French 48 (1997) industry classification) with industry-adjustments done by subtracting the median value using all Compustat firms. See Table I for a description of the controls used. Regressions control for year fixed effects, and either firm or 48 industry group fixed effects. The maximum number of missing provisions allowed is 7. T-statistics are based on robust standard errors clustered at the firm-level. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	1978-2006		1978-1989		1990-2006	
	(1)	(2)	(3)	(4)	(5)	(6)
G-Index	-0.019*** (-3.90)	-0.011* (-1.83)	-0.0093** (-1.97)	0.0020 (0.37)	-0.021*** (-3.64)	-0.016 (-1.52)
Dual Class	-0.078 (-1.35)	0.0023 (0.02)	-0.15** (-2.25)	0.087 (0.58)	-0.052 (-0.82)	0.011 (0.16)
Log Book	-0.087*** (-6.48)	-0.17*** (-6.82)	-0.069*** (-5.67)	-0.17*** (-5.69)	-0.097*** (-5.76)	-0.22*** (-7.44)
Capex/Assets	2.5*** (9.06)	1.8*** (8.42)	1.8*** (5.21)	0.69*** (2.98)	3.2*** (8.32)	2.0*** (7.60)
Capex Missing	-0.19*** (-3.38)	-0.068 (-1.45)	-0.11* (-1.92)	-0.077** (-2.11)	-0.19*** (-2.90)	-0.070 (-1.02)
Leverage	-0.72*** (-7.21)	-0.40*** (-4.88)	-0.44*** (-3.30)	0.26** (2.19)	-0.80*** (-6.71)	-0.54*** (-5.44)
R&D	0.90* (1.70)	0.40*** (2.68)	2.9*** (3.09)	0.59 (0.60)	0.83* (1.69)	0.34*** (2.75)
R&D Missing	-0.084** (-2.33)	0.057 (1.47)	0.025 (0.81)	-0.022 (-0.57)	-0.13*** (-2.77)	0.083 (1.40)
S&P500	0.35*** (10.17)	0.13*** (3.42)	0.16*** (5.62)	0.11*** (2.60)	0.43*** (9.57)	0.13*** (2.89)
PPE/Assets	-0.34*** (-5.12)	-0.0053 (-0.09)	-0.056 (-0.57)	-0.075 (-0.58)	-0.35*** (-4.71)	-0.00048 (-0.01)
PPE Missing	-0.16*** (-4.61)	-0.037 (-1.17)	0.055 (1.25)	0.0088 (0.14)	-0.19*** (-4.73)	-0.058* (-1.71)
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	23,296	23,296	6,381	6,381	16,915	16,915
R2	15.5%	65.9%	21.1%	74.2%	15.9%	70.1%

**Table IV**  
**IMPACT OF HOUSEHOLD V. MORAN ON G-INDEX COEFFICIENT**

The dependent variable is industry-adjusted, year-end Tobin's Q using data for 1978-2006 (columns 1-2 and 5-6) and for 1985-2006 (columns 3-4 and 7-8). The independent variables used in columns (1)-(2) include the G-Index and the G-Index interacted with a dummy variable indicating whether the year is prior to 1985 ('G-Index x Pre-1985') and a dummy indicating whether the year is equal to 1985 ('G-Index x 1985'). In columns (5)-(6) the variable G-Index x Single is a firm's G-Index score if it is a single-class company (0 otherwise); and G-Index x Dual is a firm's G-Index score if it is a dual-class company (0 otherwise). All controls in Table III were used (see Table I for description). All specifications include year fixed effects, and either 48 Fama-French industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	1978-2006		1985-2006		1978-2006		1985-2006	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
G-Index	-0.020*** (-3.86)	-0.012* (-1.90)	-0.021*** (-3.91)	-0.014* (-1.89)				
G-Index x Pre-1985	0.019* (1.96)	0.011 (1.09)						
G-Index x 1985	0.00023 (0.03)	0.0058 (0.69)						
G-Index x Single					-0.022*** (-3.93)	-0.012* (-1.76)	-0.023*** (-4.07)	-0.014* (-1.85)
G-Index x Single x Pre-1985					0.020** (2.06)	0.011 (1.11)		
G-Index x Single x 1985					0.00037 (0.04)	0.0059 (0.70)		
G-Index x Dual					-0.0018 (-0.11)	-0.021 (-1.31)	0.0022 (0.13)	-0.015 (-0.81)
G-Index x Dual x Pre-1985					0.0074 (0.39)	0.0030 (0.14)		
G-Index x Dual x 1985					-0.0082 (-0.42)	0.013 (0.87)		
Dual Class	-0.080 (-1.37)	0.00057 (0.01)	-0.059 (-0.97)	-0.019 (-0.33)	-0.23 (-1.64)	0.079 (0.51)	-0.25* (-1.67)	-0.014 (-0.08)
Controls Table III	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	No	Yes	No	Yes	No	Yes	No	Yes
Industry F.E.	Yes	No	Yes	No	Yes	No	Yes	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23,296	23,296	19,490	19,490	23,296	23,296	19,490	19,490
R2	16%	66%	15%	68%	16%	66%	15%	68%

**Table V****STATE STATUTES VERSUS HOUSEHOLD-MORAN & DELAWARE VERSUS NON-DELAWARE**

The dependent variable is industry-adjusted, year-end Tobin's Q using data for 1978-2006. The independent variables used include interactions with a dummy variable indicating whether the year is prior the year in which the state enacted a second-generation anti-takeover statute – like the business combination law in Delaware ('Pre-State Anti-takeover Statute'), and with a dummy indicating whether the firm is incorporated in a different state than Delaware ('Not Delaware'). All dual class firms are removed from the sample. All controls in Table III were used (see Table I for description). All specifications include year fixed effects and 48 Fama-French industry group fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
G-Index	-0.022***	-0.022***	-0.021***	-0.018***	-0.022***	-0.022***
	(-3.92)	(-3.93)	(-4.03)	(-2.60)	(-3.86)	(-3.80)
G-Index x Pre-1985		0.019**			0.019*	0.018*
		(2.00)			(1.89)	(1.83)
G-Index x 1985		-0.0015			-0.0022	-0.0024
		(-0.18)			(-0.24)	(-0.28)
G-Index x	0.0096	0.0033				0.0032
Pre-State Anti-takeover Statute	(1.29)	(0.45)				(0.44)
G-Index x	0.0036	0.0056**				0.0053*
Year State Anti-takeover Statute	(1.26)	(1.98)				(1.84)
G-Index x Not Delaware				-0.0073	-0.000050	-0.00013
				(0.70)	(-0.02)	(-0.04)
G-Index x Pre-1985 x					0.0032	0.0020
Not Delaware					(0.56)	(0.36)
G-Index x 1985 x Not Delaware					0.0049	0.0019
					(0.92)	(0.35)
Pre-State Anti-takeover Statute	-0.11*	-0.072				-0.069
	(-1.70)	(-1.09)				(-1.07)
Not Delaware			0.0038	0.073	0.0056	0.0076
			(0.11)	(0.65)	(0.54)	(0.37)
Not Delaware x Pre-1985			0.036	0.0061		
			(0.85)	(0.09)		
Not Delaware x 1985			0.047	0.027		
			(1.06)	(0.47)		
Controls of Table III included	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	21,508	21,508	21,508	21,508	21,508	21,508
R2	15%	15%	15%	15%	15%	15%

**Table VI****IMPACT OF HOUSEHOLD V. MORAN ON COEFFICIENTS OF INDIVIDUAL PROVISIONS**

The dependent variable is industry-adjusted, year-end Tobin's Q using data for 1978-2006. The independent variables include the 6 individual provisions in the E-Index and those provisions interacted with a dummy variable indicating whether the year is prior to 1985 ('x Pre-1985'). Each specification also includes the relevant provision interacted with a dummy indicating whether the year is equal to 1985, but those interactions are not shown to save space. Dual-class companies are excluded from the sample and all controls in Table III were used (see Table I for description). All specifications include year fixed effects and 48 Fama-French industry group firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Poison Pill	-0.12***					
	(-3.91)					
Poison Pill x Pre-1985	-0.015					
	(-0.08)					
Classified Board		-0.082**				
		(-2.46)				
Classified Board x Pre-1985		0.096**				
		(2.54)				
Golden Parachute			-0.088***			
			(-2.92)			
Golden Parachute x Pre-1985			0.020			
			(0.53)			
Lim. to Amend Charter				-0.11*		
				(-1.75)		
Lim. to Amend Charter x Pre-1985				0.14		
				(1.44)		
Lim. to Amend By-Laws					-0.082**	
					(-2.44)	
Lim. to Amend By-Laws x Pre-1985					0.077	
					(1.57)	
Supermajority Requirement						-0.029
						(-0.92)
Supermajority Requirement x Pre-1985						0.079*
						(1.76)
Controls Table III included	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	24,756	24,358	24,756	20,503	20,639	21,009
R2	15%	15%	15%	15%	15%	15%

**Table VII**  
**INDIVIDUAL PROVISIONS AND THE G-INDEX WITH & WITHOUT THE PILL**

The dependent variable is industry-adjusted, year-end Tobin's Q using data after 1985. The independent variables include G-Index w/o Pill, defined as the G-Index minus the poison pill provision; 'x Pill' is an interaction with a dummy that equals 1 for firms that have a poison pill (and equal to 0 otherwise); 'x no Pill' is an interaction with a dummy that equals 1 for firms that don't have a poison pill (0 otherwise). All firms with dual class shares are removed from the sample. All controls in Table III were used (Table I for description). All specifications include year fixed effects, and either 48 Fama-French industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Poison Pill	-0.11*** (-3.46)	-0.051* (-1.89)	-0.057** (-2.21)		-0.052** (-2.04)	-0.16** (-2.02)	-0.15 (-1.51)
Classified Board	-0.032 (-1.02)	0.093** (2.16)					
Golden Parachute	-0.058** (-2.08)	-0.033 (-1.14)					
Limitations to Amend Charter	-0.053 (-0.93)	-0.052 (-1.00)					
Limitations to Amend By-Laws	-0.051 (-1.61)	-0.052 (-1.31)					
Supermajority Requirement	-0.0060 (-0.21)	0.042 (1.33)					
G-Index				-0.015** (-2.02)			
G-Index w/o Pill					-0.011 (-1.47)		
G-Index w/o/ Pill x Pill						-0.0044 (-0.53)	-0.0063 (-0.66)
G-Index w/o/ Pill x no Pill						-0.017* (-1.92)	-0.017* (-1.65)
Poison pill changes removed	No	No	No	No	No	No	Yes
Controls Table III	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm F.E.	No	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	No	Yes	No	Yes	No	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	20,466	20,466	18,851	18,851	18,851	18,851	17,070
R2	16%	67%	68%	68%	68%	68%	68%

**TABLE VIII**  
**VALUATION IMPACT OF GOVERNANCE DURING INDUSTRY MERGER WAVES**

The dependent variable is industry-adjusted, year-end Tobin's Q. The % of (Friendly / Non-Friendly Takeovers is the percentage of firms (out of all Compustat firms) in the Fama-French 48 industry group subject to any (or only Friendly or Non-Friendly) takeover in that year. Low (High) % are defined as the industry's percentage falling in the first (fourth quartile). We separately control for the industry's percentage of all Compustat firms engaged in a friendly takeover. All controls in Table III are included as well in all regressions; see Table I for a description. Dual-class firms are dropped from the sample. All specifications include year fixed effects and 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)
G-Index	-0.020***	-0.011*	-0.014**	-0.011*
	(-3.92)	(-1.82)	(-2.34)	(-1.69)
G-Index x Industry with Low % of Takeovers	0.0035**	0.0037***		
	(2.41)	(3.65)		
G-Index x Industry with High % of Takeovers	-0.0038**	-0.0022*		
	(-2.05)	(-1.79)		
G-Index x % of Takeovers in Industry			-0.16*	-0.0067
			(-1.91)	(-0.15)
% of Takeovers in Industry	-0.16	-0.20	0.63	-0.60
	(-0.36)	(-0.86)	(0.74)	(-1.45)
Controls Table III	Yes	Yes	Yes	Yes
Industry F.E.	Yes	No	Yes	No
Firm F.E.	No	Yes	No	Yes
Year F.E.	Yes	Yes	Yes	Yes
N	19,490	19,490	19,490	19,490
R2	67%	67%	69%	69%



**TABLE IX**  
**REVERSE CAUSATION**

The dependent variable equals 1 (-1) if the firms' G-Index (panel A) and poison pill (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), except 'Pre-1985', which is a dummy variable indicating whether the year is prior to 1985. 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) used in Table III (see Table I for a description). We report the marginal effects associated with an increase in the G-Index (panel A) and poison pill (panel B) over the next fiscal year.

**Panel A: Ordered Logit G-Index: marginal effect of increasing the G-Index**

	1978-2006			1978-1985		1985-2006	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Q	-0.0093 (-1.56)	-0.0053 (-0.82)	-0.0019 (-0.29)	-0.036 (-1.58)	-0.061*** (-2.53)	-0.024*** (-3.78)	-0.0017 (-0.27)
Q x Pre-1985			-0.053*** (-3.11)				
G-Index	-0.037*** (-27.37)	-0.041*** (-22.73)	-0.041*** (22.74)	-0.046*** (-7.69)	-0.061*** (-9.30)	-0.048*** (-26.62)	-0.038*** (-20.56)
Dual Class	-0.049*** (-3.13)	-0.056*** (-3.46)	-0.057*** (-3.52)	0.0029 (0.06)	-0.029 (-0.54)	-0.10*** (-6.17)	-0.062*** (-3.81)
Log Book	-0.014*** (-4.17)	-0.013*** (-3.64)	-0.013*** (-3.78)	-0.0016 (-0.16)	-0.0052 (-0.52)	-0.017*** (-4.71)	-0.015*** (-4.23)
Leverage	0.067*** (2.26)	0.087*** (2.89)	0.084*** (2.78)	0.097 (1.18)	0.078 (0.94)	0.039*** (1.21)	0.078*** (2.46)
Total IO	0.055*** (2.33)	0.11*** (4.30)	0.12*** (4.51)	0.23*** (3.58)	0.15*** (2.3)	-0.051** (-1.83)	0.12*** (4.18)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	Yes	No	Yes	No	Yes
N	12,229	12,229	12,229	2,883	2,883	9,346	9,346
Pseudo R2	4.4%	13.6%	13.6%	3.3%	5.6%	6.3%	15%

**Panel B: Ordered Logit Poison Pill: marginal effect of adding Poison Pill**

	1978-2006		1985-1989		1985-2006	
	(1)	(2)	(3)	(4)	(5)	(6)
Q	-0.0062*** (-2.68)	-0.0043*** (-2.08)	-0.023*** (-2.43)	-0.025*** (-2.74)	-0.011*** (-4.16)	-0.0049*** (-2.05)
G-Index w/o Pill	-0.00025 (-0.45)	-0.0011*** (-2.18)	0.0031** (1.96)	0.0055*** (3.57)	-0.0036*** (-5.36)	-0.0015*** (-2.35)
Dual Class	-0.015*** (-3.72)	-0.012*** (-3.75)	-0.092*** (-13.54)	-0.076*** (-12.79)	-0.024*** (-6.04)	-0.015*** (-3.69)
Log Book	-0.0059*** (-5.37)	-0.0050*** (-5.56)	0.0049 (1.47)	0.0053* (1.74)	-0.0068*** (-5.48)	-0.0062*** (-5.58)
Leverage	-0.012 (-0.97)	-0.0069 (-0.72)	-0.091*** (-2.71)	-0.084*** (-2.72)	-0.017 (-1.29)	-0.0092 (-0.78)
Total IO	0.031*** (3.61)	0.039*** (5.49)	0.18*** (6.46)	0.15*** (5.72)	0.011 (1.14)	0.051*** (5.56)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	No	Yes	No	Yes	No	Yes
N	12,070	12,070	3,088	3,088	9,868	9,868
Pseudo R2	1.9%	9.9%	5.2%	12.6%	3.1%	8.5%

**Internet Appendix for  
"THIRTY YEARS OF SHAREHOLDER RIGHTS  
AND FIRM VALUATION"  
by Martijn Cremers and Allen Ferrell**

**This Internet Appendix contains 5 supplementary tables to the main article.**

**TABLE A.I**  
**COMPARISON OF CF DATABASE AS OF 1989 WITH IRRC DATABASE AS OF 1990**

This table compares the incidence of the twenty-four corporate governance provisions in the G-Index as of 1989 as reflected in the Cremers-Ferrell database with the incidence of these provisions as reflected in the IRRC database as of 1990. Any difference in incidence between the two years greater than the absolute value of .10 is in bold. For five of these provisions – limits on written consent, limits on special meeting, director liability, director duties and anti-greenmail – the Cremers-Ferrell coding of these variables varied from that of the IRRC. For these five, IRRC data was used to estimate the incidence of these five provisions using the Cremers-Ferrell coding protocol (the “IRRC corrected” incidence).

Provisions	1989 Incidence	1990 Incidence	Difference
Classified board	.57	.57	0.00
Supermajority	.44	.39	-.05
Limit to amend bylaws	.20	.14	-.06
Limit to amend charter	.04	.03	-.01
Poison pill	.52	.52	0.00
Golden parachute	.53	.50	-.03
Limits to special meeting	.88	.24	<b>-.64</b>
<i>Limits to special meeting (IRRC corrected)</i>	.88	.75	<b>-.13</b>
Limits to written consent	.71	.24	<b>-.47</b>
<i>Limits to written consent (IRRC corrected)</i>	.71	.64	-.07
No cumulative voting	.82	.83	.01
No secret ballot	.96	.98	.02
Director indemnification K	.20	.17	-.03
Director indemnification	.96	.41	<b>-.55</b>
Director liability	.87	.73	<b>-.15</b>
<i>Director liability (IRRC corrected)</i>	.87	.80	-.07
Compensation plans	.46	.44	-.02
Severance agreements	.19	.14	-.05
Unequal vote	.01	.02	.01
Fair price	.62	.57	-.05
Cash out law	.41	.40	-.01
Director duties	.38	.10	<b>-.28</b>
<i>Director duties (IRRC corrected)</i>	.38	.38	0.00
Business combination	.79	.84	.05
Anti-greenmail	.22	.19	-.03
<i>Anti-greenmail (IRRC corrected)</i>	.22	.21	-.01
Pension Parachutes	.06	.04	-.02
Silver parachutes	.04	.04	0.00
Blank check	.24	.76	<b>.52</b>

**TABLE A.II**  
**NUMBER OF FIRMS CONTAINED IN CREMERS-FERRELL DATABASE**

This table documents the number of firms for which corporate governance data was collected for each year from 1978 to 1989. It also documents the number of firms for which there was missing data for no more than 11 out of 24 provisions; no more than 7 provisions; and no more than 3 missing. The table also reports the median number of provisions for which data was missing for the no more than 7 missing group, which is used throughout the paper unless specifically noted.

Year	Firms for which data was collected	No more than 11 missing	No more than 7 missing	No more than 3 missing	Median # of missing for the no more than 7 group	Max. 7 missing, replacing missing provisions with next year's value
1978	1,208	996	215	82	6	296
1979	1,184	978	285	146	0	485
1980	1,159	957	471	364	0	588
1981	1,127	933	554	478	0	607
1982	1,095	907	565	494	0	682
1983	1,078	958	638	542	0	751
1984	1,039	914	689	611	0	755
1985	991	869	674	594	0	753
1986	944	828	675	594	0	753
1987	897	795	670	579	0	863
1988	847	844	766	638	0	853
1989	788	786	730	614	0	814

**TABLE A.III****Q-REGRESSIONS ROBUSTNESS: THE NUMBER OF MISSING VARIABLES**

The dependent variable is industry-adjusted, year-end Tobin's Q using data for 1978-2006 (panel A) and for 1985-2006 (panel B). The independent variables include the lagged G-Index and all controls in Table III (see Table I for description). The "Max # of missing provisions" refers to the maximum number of missing provisions (among the 24 constituents) are allowed in the G-Index to be included in the sample. All specifications include year fixed effects, and either 48 Fama-French industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

**Panel A: 1978-2006**

	(1)	(2)	(3)	(4)	(5)	(6)
G-Index	-0.021*** (-3.98)	-0.010 (-1.45)	-0.020*** (-4.13)	-0.0090* (-1.65)	-0.020*** (-4.13)	-0.0090* (-1.65)
Max # of missing provisions	3	3	11	11	15	15
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	No	Yes	No	Yes	No
Firm F.E.	No	Yes	No	Yes	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	20,509	20,509	24,750	24,750	24,756	24,756
Pseudo R2	15.5%	66.4%	15.3%	65.0%	15.3%	65.0%

**Panel B: 1985-2006**

	(1)	(2)	(3)	(4)	(5)	(6)
G-Index	-0.023*** (-4.02)	-0.014* (-1.68)	-0.022*** (-4.05)	-0.016** (-2.04)	-0.022*** (-4.06)	-0.016** (-2.04)
Max # of missing provisions	3	3	11	11	15	15
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	No	Yes	No	Yes	No
Firm F.E.	No	Yes	No	Yes	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
N	17,492	17,492	18,102	18,102	18,104	18,104
Pseudo R2	15.3%	68.3%	15.1%	68.2%	15.1%	68.2%

**Table A.IV**  
**MORE Q-REGRESSIONS ROBUSTNESS**

The dependent variable is industry-adjusted, year-end Tobin's Q using data for 1978-2006 (panel A) and for 1985-2006 (panel B). The independent variables include the lagged G-Index and all controls in Table III (see Table I for description). 'Industry x Year F.E.' means industry fixed effects that change each year, see column 1. The 'G-Index with imputed missing provisions' uses next year's information on a provision if it's missing, see columns 2 and 3. 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 columns 4 and 5. The 'G-Uncorrected' is the G-Index score without making the coding adjustments as explained in the data appendix. All specifications include year fixed effects, and either 48 Fama-French industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
G-Index	-0.018*** (-3.57)			-0.018*** (-3.71)	-0.011* (-1.82)		
G-Index with imputed missing provisions		-0.018*** (-3.72)	-0.010* (-1.67)				
G-Index in 1989				0.0066 (0.85)	0.0026 (0.48)		
G-Uncorrected						-0.019*** (-3.58)	-0.0092 (-1.48)
Controls Table III	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry x Year F.E.	Yes	No	No	No	No	No	No
Firm F.E.	No	No	Yes	No	Yes	No	No
Industry F.E.	No	Yes	No	Yes	No	Yes	No
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23,296	24,080	24,080	23,296	23,296	23,296	23,296
R2	21.4%	15.4%	65.4%	15.5%	65.9%	15.5%	65.9%

**Table A.V**  
**Q-REGRESSIONS USING THE E-INDEX**

The dependent variable is industry-adjusted, year-end Tobin's Q using data for 1978-2006 (columns 1-4) and for 1985-2006 (columns 5-6). The independent variables include the lagged E-Index and all controls in Table III (see Table I for description). All specifications include year fixed effects, and either 48 Fama-French industry group or firm fixed effects. T-statistics are based on robust standard errors clustered at the firm-level and are given between parentheses. \*\*\*, \*\* and \* refers to statistical significance at 1%, 5% and 10%, respectively.

	1978-2006				1985-2006	
	(1)	(2)	(3)	(4)	(5)	(6)
E-Index	-0.050*** (-5.08)	-0.012 (-1.00)	-0.052*** (-4.64)	-0.016 (-1.19)	-0.056*** (-5.20)	-0.016 (-1.14)
E-Index x Pre-1985			0.053*** (3.20)	0.033* (1.72)		
E-Index x 1985			0.035** (2.00)	0.023 (1.56)		
Controls Table III	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	22,986	22,986	22,986	22,986	19,369	19,369
R2	15.8%	65.9%	15.7%	66.0%	15.7%	68.4%