Bucking the Trend: Why do IPOs Choose Controversial Governance Structures and Why Do Investors Let Them?

Laura Field
University of Delaware
lfield@udel.edu

Michelle Lowry
Drexel University
michelle.lowry@drexel.edu

October 6, 2020

Abstract:

While the percentage of mature firms with classified boards or dual class shares has declined by more than 40% since 1990, the percentage of IPO firms with these structures has doubled over this period. We test whether IPO firms implement these structures optimally or whether they are utilized to allow managers to protect their private benefits of control. Both shareholder voting patterns and changes in firm types going public suggest that the Optimal Governance hypothesis best explains IPO firms' use of classified boards. There is considerable heterogeneity across dual class firms, with some more consistent with optimal governance and others with agency.

We thank Reena Aggarwal, Tara Bhandari, Lin Ge, Todd Gormley, Matt Gustafson, Kathleen Hanley, Peter Iliev, Harold Mulherin, conference participants at the 2017 AFA meetings, the 2017 CICF conference, 2018 FMA meetings, 2019 SFA meetings, the Swedish House of Finance Corporate Governance and Investor Activism workshop, and seminar participants at Drexel University, Geneva Finance Research Institute, Georgia State University, Lehigh University, University of Delaware, University of Illinois at Chicago, University of Kentucky, and University of San Diego. A previous version of this paper was titled "Contrasts in Governance: Newly Public Firms versus Mature Firms. Michelle Lowry thanks the Raj & Kamla Gupta Governance Institute for financial support.

1. Introduction

Over the past three decades, there has been increased concern about the negative effects of corporate governance structures such as classified boards and dual class stock, which have been found to entrench managers, reduce director effectiveness, and reduce firm value.[1] Activist investors have become increasingly vocal in their opposition of firms with poor governance, and likely in response to such concerns, mature firms have increasingly eliminated these structures. While almost 60% of S&P1500 firms had a classified board in the decade from 1990 to 2000, by 2017 only 35% had a classified board. There has been a similarly stark decline in firms with dual class share structures: from 12% of the S&P1500 in the 1990-2000 decade, to 7% in 2017.

Strikingly, newly public firms' structures have moved in the opposite direction. As shown in Figure 1, the percentage of firms going public with a classified board has doubled, from 40% in 1990 to over 80% in 2017, and the percentage with dual class stock has more than doubled, from less than 10% before 2000 to more than 25% of all IPOs in 2017.

These contrasting trends raise challenging questions regarding firms' corporate governance choices. While market participants have learned to appreciate the difference between good- and poor-governance (see, e.g., Bebchuk, Cohen and Wang, 2013) and mature firms have been pressured into eliminating poor governance structures, young firms are increasingly able to go public with these seemingly poor governance structures in place. The objective of this paper is to study the forces underlying these strikingly different trends.

We begin with the null hypothesis that firms go public with the governance structures that are optimal for them, which we refer to as the *Optimal Governance Hypothesis*. This

[1] For evidence on classified boards, see Bebchuk, Coates, and Subramanian (2002), Bebchuk and Cohen (2005), Faleye (2007), and Guo, Kruse and Nohel (2008), among others. For evidence on dual class share structures, see Masulis, Wang and Xie (2009) and Gompers, Ishii, Metrick (2010).

hypothesis is based on the idea that classified boards and dual class share structures provide benefits as well as costs, and the benefits are more valuable for certain types of firms. Bratton and Wachter (2010), Strine (2006), and Lipton and Rosenblum (1991) argue that classified boards make directors less susceptible to short-term market pressures (see, e.g., Stein, 1988, 1989), since directors are up for election only once every three years. Dual class stock similarly shields firm insiders from the whims of short-term oriented investors, in this case by separating control rights from cash flow rights. These structures lower the probability of ousting efficient managers and provide better incentives for managers to invest in firm-specific human capital (Alchian and Demsetz, 1972; DeAngelo and DeAngelo, 1985). The benefits of such structures should be greatest for high information asymmetry firms in which managers cannot credibly convey the value of long-term initiatives to external investors. In sum, the Optimal Governance Hypothesis posits that the high information asymmetry of newly public firms, particularly in recent years, causes the net benefits of classified boards and dual class stock to be positive.

The alternative hypothesis, which we refer to as the *Agency Hypothesis*, is that managers establish classified boards or dual class shares as a way to entrench themselves before taking the firm public (Jensen (1988, 1993)). The rise in attention to governance over our sample period leads IPO firm managers to increasingly adopt protective measures while they can, i.e., prior to going public.[2] By putting these protective measures in place as they take the firm public, managers can raise money in the offering while preemptively protecting themselves against subsequent market discipline. This protection is particularly important in the years following the IPO, when managerial ownership stakes tend to decline.

The Optimal Governance Hypothesis and its alternative, the Agency Hypothesis, are not

[2] While such protective structures should lower the price at which a firm can go public, insiders will nevertheless gain if the value of their private benefits exceed the decrease in valuation.

mutually exclusive. In fact, key distinctions between the governance mechanisms lead us to conjecture that the Optimal Governance Hypothesis would be more likely to explain classified boards, whereas the Agency Hypothesis would be more likely to explain dual class, in particular dual class structures with a large wedge between voting and cash flow rights. Because classified boards shield managers from short-term pressures for just two years, i.e., until a majority of board members can be replaced, classified boards represent a compromise between the benefits of a longer-term focus and the benefits of external monitoring. In contrast, dual class structures shield the firm from external monitoring more indefinitely, particularly in cases with a high wedge where the superior voting class effectively has complete power.

Descriptive evidence provides initial insight into the motivation behind these structures. We find that classified boards are more common among firms with high information asymmetry and with longer-term projects, providing preliminary evidence consistent with the Optimal Governance hypothesis. In contrast, characteristics of firms with dual class suggest a more mixed picture. Dual class structures are concentrated among founder firms, potentially reflecting an effort to protect private benefits of control as suggested by the Agency Hypothesis, but they are also popular among equity carve-out firms, in which the parent firm tends to own the superior voting class shares and operational connections between the firms can make anti-takeover provisions valuable (see, e.g., Johnson, Karpoff and Yi, 2015). An analysis of voting rights provides further evidence on the heterogeneity of firms that choose the dual class share structure. While dual class IPOs are frequently portrayed as firms in which management effectively controls the company, we find that this characterization applies only to a subset of firms going public with these structures. The CEO has majority voting power in only 18% of dual class IPOs, and all officers and directors as a group have majority voting power in only 51% of cases.

Our main empirical tests strive to determine whether these classified board and dual class

structures are in shareholders' best interests, i.e., whether they represent the 'optimal governance' structures for these companies, or whether they are motivated by agency. While tests based on stock valuations would typically be a means to answer such a question, in this case the severe endogeneity precludes such an approach. Lacking a natural experiment or a powerful instrument that relates to IPO firms' governance choices but not firm valuation, we pursue an alternative approach. Specifically, we focus on how different shareholders with 'skin in the game' express their voice on firms' corporate governance-related choices. Each year, every publicly traded firm has a shareholder meeting, where items up for vote include both directors and issues related to compensation and governance. Mutual funds have a fiduciary duty to vote on each of these issues, and they are required to report their votes to the SEC. During our sample period, funds could satisfy their fiduciary obligation by following the recommendation of a proxy advisory service company such as ISS, or by evaluating the items up for vote themselves. We take advantage of both this heterogeneity in voting strategies and the fact that the votes are restricted to entities with 'skin in the game' to empirically test the Optimal Governance and Agency Hypotheses. Our empirical approach, which is less sensitive to endogeneity than other potential approaches, represents one of the contributions of the paper.

We begin by evaluating ISS's recommendations. We show a striking disparity in ISS's support for newly public firms versus more mature firms: ISS recommends against 22% of all directors up for vote in newly public firms (defined as firms that have been public for five years or less), compared to only 6% of mature S&P1500 firms. Much of this difference appears to relate to IPO firms' governance choices. ISS states that they generally recommend against directors of newly public companies with either dual class or classified boards, and this is precisely what we observe in our data. This disparity highlights the fundamental question of this paper. Is ISS more likely to recommend against directors of these firms because their governance

structures are indicative of managers striving to protect private benefits of control, consistent with the Agency Hypothesis? Or alternatively, is the difference driven by ISS not recognizing that these governance structures are actually value-increasing for IPO firms, as predicated by the Optimal Governance Hypothesis? Iliev and Lowry (2015) and Malenko and Shen (2016) show that ISS tends to utilize one-size-fits-all strategies in making their recommendations, implying that if these governance structures were detrimental to the typical more mature firm, ISS would tend to deem them detrimental to all firms. Subsequent tests focus on the votes of firm owners, specifically of mutual funds, to answer these questions. We expect that those mutual funds who are most likely to evaluate the items up for vote themselves, rather than rely on ISS guidelines, will assess the value of these structures for each individual firm in which they vote.

Empirical examinations of voting behavior relative to ISS recommendations indicate that firm owners' assessments differ significantly from those of ISS. Mutual funds are 72% less likely than ISS to oppose directors of IPO firms with classified boards. Even more striking, the most engaged mutual funds, who are more likely to evaluate firm-specific governance demands and are least likely to indiscriminately follow ISS's recommendation (see, e.g., Iliev and Lowry), are equally like to vote for directors of firms with versus without classified boards. In sum, these owners appear to conclude that classified boards do not facilitate agency for these firms – rather, their votes suggest that classified boards represent the value-maximizing governance structures, at least at this point in these firms' life cycles, consistent with the Optimal Governance Hypothesis. An evaluation of post-IPO dynamics provides further evidence for this conclusion. Less than 2% of firms with classified boards declassify within 5 years of the IPO, suggesting that they face little external pressure to change their board structure.

Patterns are more nuanced among dual class firms, with mutual funds' likelihood of supporting directors depending on firm characteristics. Among dual class firms, engaged funds'

support is significantly lower for firms with a higher voting-cash flow wedge, while support is significantly higher for equity carve-outs, suggesting that agency costs represent less of a concern among the latter group. An analysis of post-IPO dynamics again provides independent support for this conclusion. Our findings are consistent with a scenario in which parent firms structure the carve-outs as one step in the sale of the firm, in the spirit of Zingales (1995). Among dual class firms, 30% of carve-outs have converted to single class within the first five years of the IPO, versus only 6% of non-carve-outs. Carveout firms are also more likely to be acquired (32% versus 15%). ISS recommendations do not account for these issues: they do not vary with the size of the wedge, and ISS is not more likely to support carve-outs.

In sum, the votes of mutual funds with 'skin in the game' suggest that many IPO firms' governance choices are consistent with the Optimal Governance hypothesis. This includes classified boards, dual class structures with a low wedge, and dual class structures among carve-out firms. However, a notable exception is dual class offerings in which the wedge between voting and cash flow rights is high, which are more consistent with the Agency hypothesis.

The conclusion from the voting analysis that classified boards are best explained by the Optimal Governance hypothesis, combined with the increasing frequency of IPO firms adopting classified boards, suggests that the type of firm going public has changed over time. This conjecture is borne out in our data. Over our 30-year sample period, firms going public are characterized by increasing information asymmetry, for example as proxied by higher R&D and lack of profitability. Moreover, the increase in the use of classified boards among IPO firms over the past 30 years is concentrated within these high information asymmetry firms. In contrast, agency factors are more relevant in explaining the rise in dual class structures. However, consistent with dual class offerings with high wedges representing a small fraction of all IPOs, we find little evidence that average agency factors across the universe of IPOs have increased.

Finally, firms' choices regarding state of incorporation reinforce the importance of factors such as continuity and stability for newly public firms. IPO firms have become increasingly likely to incorporate in Delaware, a state that reduces uncertainty for firms along many dimensions. As discussed by Romano (1985), the small size and continuity of Delaware's chancery court, which hears corporate law cases, facilitates judicial expertise in corporate law and makes Delaware decisions more predictable than those of other states.

Our paper contributes to the ongoing debate regarding the merits of classified boards and dual class structures. Most work in this area focuses on mature firms, but the increasing popularity of both classified boards and dual class is concentrated among IPO firms. Given the widespread evidence that these structures have zero or negative value among mature firms (see, e.g., Bebchuk and Cohen (2005), Faleye (2007), Cohen and Wang (2013), Bates, Becher, and Lemmon (2008), Gompers, Iishi and Metrick (2010), Masulis, Wang and Xie (2009), Smart and Zutter (2003), Smart, Thiromalai and Zutter (2008)), we pose the question: could these structures be value-maximizing for such a large portion of IPO firms, especially in more recent years? Our results highlight the extent to which the answer to this question is nuanced – with no single explanation (e.g., optimal governance vs agency) explaining all cases. In particular, our evidence suggests that classified boards are generally an optimal governance structure for IPO firms, while dual class structures with a high wedge are not. Moreover, we show that dual-class equity carve-outs do not seem to be generally motivated by agency, but instead, are a first-step in the ultimate sale of the firm, as argued by Zingales (1995).

Our paper also contributes to a small but growing body of work examining the potentially unique governance demands of IPO firms. Field, Lowry, and Mkrtchyan (2013) conclude that busy boards provide positive value for firms in the years immediately after the IPO, but not for more mature firms. Contemporaneous work by Kim and Michaely (2019), Cremers, Lauterbach

and Pajuste (2018), and Johnson, Karpoff, and Yi (2018) reach similar conclusions for dual class structures and for a broader set of takeover defenses, respectively. Our paper contrasts with this set of papers along three dimensions. First, we adopt an empirical approach that is less sensitive to endogeneity, which focuses on opinions expressed through the voting of entities with 'skin in the game'. Second, we shed light on the divergent trends between newly public and mature firms. Third, we focus on the heterogeneity in dual class IPOs: many are characterized by low insider voting rights and by carve-out structures, both of which contrast with common perceptions and which relate directly to the motivation behind these governance choices.

2. Data

For our IPO sample, we identify all firms that went public between 1988 and 2017, as listed on the Securities Data Company (SDC) database. We omit utilities (SIC codes 4900-4999), closed-end funds, American depositary receipts (ADRs), foreign private issuers, unit offerings, and IPOs with an offer price of less than five dollars. Our final sample of IPO firms consists of 5,980 firms.

For each IPO firm, we examine the prospectus to determine the governance structure as the firm goes public. For 1988-1992, we use data from Field and Karpoff (2002). For IPOs beginning in May 1996, we use the Security and Exchange Commission's (SEC) EDGAR database to obtain prospectuses. For IPOs issued from 1993 through April 1996, we examine the first proxy statement available on EDGAR (usually in 1996, but in some cases earlier proxies are available).[3] From these prospectuses, we identify whether the firm had a classified board and whether it had a dual class share structure, at the IPO. For firms with multiple classes of shares,

[3] The fact that we observe very few changes in either board structure or share class structure over the first three years after the IPO mitigates concerns related to measuring these factors one to three years after the IPO.

we collect the number of share classes, number of votes per class, shares outstanding per class, and ownership of each share class. We examine proxy statements on EDGAR to determine whether firms had either a classified board or a dual class share structure five and ten years after the IPO. For all IPOs we hand-collect data on ownership of the CEO, the Chairman of the Board, and all officers and directors at the time of the IPO. In addition, we determine whether the CEO is also the Chairman of the Board and whether either the CEO or Chairman founded the firm. We calculate firm age based on the year of incorporation.[4]

We use SDC to identify firms that have been the target of an acquisition attempt or were acquired after the IPO. We also use SDC data on the merger offer price to determine the merger premium, where the merger premium is defined as the percent difference between the price offered by the acquirer and the firm's price 42 trading days prior to the merger announcement.

Our mature firm sample consists of S&P 1500 firms that have been public for more than five years. For mature firms, we use the Investor Responsibility Research Center (IRRC) database to determine board structure and whether the firm had a dual class structure, for each year from 1990-2017.

We use stock price data from the Center for Research in Security Prices (CRSP) and financial data from Compustat. We obtain the state of incorporation from the CRSP / Compustat merged database and the headquarter state from Compustat. Voting data are from ISS Voting Analytics, covering firm annual meetings between 2006 and 2017. These data include both the ISS recommendation on each proposal across a broad set of firms and the vote of each individual mutual fund on each of these proposals.

Throughout the paper, we focus on IPO firms at the time they go public and at the first

[4] Year of incorporation is obtained from prospectuses as well as Jay Ritter's website. For further detail see Field and Karpoff (2002) and Loughran and Ritter (2004).

five annual meetings after the IPO. We refer to this set of firms interchangeably as IPO firms or newly public firms. We contrast these with S&P1500 firms that are included in IRRC and have been public for more than five years. For conciseness, we refer to this set of firms as mature firms.

Table 1 provides descriptive statistics for the sample of IPO firms. We describe both the overall sample, as well as subsamples based on whether the firm has a classified or annually elected board, and whether the firm has a dual class or single class share structure at the time of the IPO. Overall descriptive statistics are consistent with those provided in other studies, for example the firm and offer characteristics reported in the review paper by Lowry, Michaely and Volkova (2017) and statistics related to firm directors in Field, Lowry and Mkrtchyan (2013). We focus our discussion on the unique aspects of this paper.

Looking at differences in firms as a function of board structure (columns 2 and 3), firms with classified boards are more likely to be technology companies, to have higher average initial returns, and to have higher average post-IPO market-to-book ratios, all of which are suggestive of higher information asymmetry. In contrast, there is little evidence that firms with classified boards have higher agency costs. Although they are more likely to be founder firms, the average CEO pre-IPO ownership is significantly lower, and the CEO is also significantly less likely to be Chairman of the Board.

Univariate comparisons of dual versus single class (columns 4 and 5) provide two takeaways. First, many measures indicate that dual class firms have, on average, lower information asymmetry and higher agency costs. However, the second takeaway is that there is considerable heterogeneity in dual class IPOs. While dual class is commonly portrayed as a structure chosen by founder firms, frequently in high-tech industries, where managers have substantial control (see, e.g., Kim and Michaely, 2019 and Cremers et al., 2018), this actually

only represents a minority of cases. While dual class firms are more likely than their single class counterparts to be founder firms, founder firms still represent only 38% of all dual class IPOs. Also, only 39% of dual class firms are in technology industries.

Table 1 also shows that a non-trivial 17% of dual class firms are equity carve-outs, which is significantly greater than the percentage of non-dual class firms. In most cases, the superior class shares belong to the parent company. Johnson et al. (2015) suggest that IPO firms use takeover defenses when they have key business relationships to protect, such as between suppliers and large customers. It is possible that, for equity carve-outs, such motives motivate the dual class structure. Alternatively, the parent company may institute a dual class share structure within the subsidiary firm as a means of expropriation, in the spirit of Atanasov, Boone and Haushalter (2008). Empirical tests in subsequent sections examine both these possibilities.

Figure 2 provides more detail on the extent of heterogeneity across dual class firms, by examining the distribution of voting power, in particular how much power is controlled by those who would benefit most in terms of protecting perquisites. Panels A and B present histograms based on all dual class IPOs: percent of vote controlled by the CEO and percent controlled by all officers and directors, respectively. Patterns are striking. Across all dual-class IPOs, the CEO controls less than 10% of the vote in nearly 60% of cases. Moreover, the CEO lacks majority control in 80% of cases. Perhaps even more surprising, officers and directors control less than 10% of the vote in more than one-quarter of dual class IPOs.

To evaluate the concentration of voting control among firms most subject to agency costs, Panels C and D of Figure 2 show similar histograms measured across founder firms with dual class structures at the IPO. Even among this subset, the CEO controls less than 10% of the voting power in 38% of cases. Among this narrower subset of firms, officers and directors rarely control less than 10% of the vote, but they lack majority control in nearly 30% of IPO firms.

Subsequent empirical tests take into consideration this heterogeneity in voting control.

3. Trends in governance

As noted earlier, Figure 1 illustrates the substantial changes in the percent of IPO and mature firms with classified boards (Panel A) and dual class share structures (Panel B) over the thirty-year period, 1988−2017. Looking first at Panel A, only 30% of companies going public in 1988 had a classified board. Between 1988 and 2002, the percentage of newly public firms with classified boards increased almost monotonically. After a dip in 2002 and 2003 around the time of Sarbanes-Oxley and associated pressures on firms' governance structures, the steady increase resumed. Since 2012, approximately 80% of firms going public each year have had a classified board. This substantial increase in the percentage of IPO firms with classified boards contrasts sharply with trends among mature firms. In the late 1980s through about 2004, slightly less than 60% of mature firms had classified boards. Since 2004, this percentage has decreased monotonically, such that only 30% of mature S&P 1500 firms as of 2017 had a classified board.

Panel B shows a similar contrast in the frequency of firms with dual class stock. The percentage of IPO firms with dual class stock was generally less than 10% through 2001, exceeded 10% in most years since 2007, and reached over 25% in 2017. In contrast, among mature firms the rate of dual class structures has decreased from approximately 10% over the 1990-2006 period, to 6% in more recent years.

To assess whether industry trends can explain these changes, we classify firms into the twelve Fama-French industries (with the exception of utilities, which are excluded from the sample). To mitigate the effects of noise and outliers related to few IPOs in certain years while still enabling an analysis of time-series trends, we categorize IPOs into seven time periods:

1988-1992, 1993-1995, 1996-2000, 2001-2004, 2005-2009, 2010-2013, 2014-2017.[5] As shown in Panels A and B of Table 2, both the upward trend in the tendency of IPO firms and the downward trend in the tendency of mature firms to have classified boards holds across every industry. While trends have been sharper within some industries than others, there is no IPO industry without a general upward trend and no mature firm industry without a general downward trend.[6]

4. Shareholder voting in newly public firms

The fact that so many IPO firms in recent years are choosing either classified boards or dual class share structures, particularly at a time when mature firms are less likely to have these structures, raises questions regarding the underlying motivation for these choices. As formalized in our Optimal Governance hypothesis versus Agency hypothesis, the motivation may be either to facilitate a focus on long-term shareholder value or, alternatively, to protect private benefits of control. This section focuses on testing these alternatives, through an examination of how different sets of shareholders express their voice on firms' corporate governance related choices, in the form of shareholder voting. As noted earlier, shareholder votes provide a metric of the assessments of entities with 'skin in the game'. If certain governance structures facilitate agency costs, firm owners have an incentive to voice their opposition through their votes.

There have been dramatic changes in shareholder voting and more broadly in attention to corporate governance over our 30-year sample period, as discussed by Gompers, Iishi and Metrick (2003) and Bebchuk, Cohen and Wang (2013). The influence of proxy advisory service

[5] The definition of time periods is motivated by underlying data sources as described in Section 2 and also by macroeconomic events, such as the collapse of the Internet Bubble and the Financial Crisis.

[6] The lower frequency of dual class structures across most of the sample period, combined with clustering of IPOs in different industries over time, makes a similar analysis for variation in dual class firms across industry and time to be less informative.

firms such as ISS has increased, and mutual funds play an increasingly active role both through voting and engagement.[7] Empirical tests in this section focus on the 2006 – 2017 period, when both ISS and mutual funds have had considerable influence. To test the two hypotheses, we take advantage of the fact that these entities' respective approaches toward governance differ. In Section 5, we evaluate conclusions from these cross-sectional tests through the time-series lens, focusing on our entire 30-year sample period.

4.1. Optimal governance versus agency: Predictions from shareholder voting patterns

Our empirical tests focus on both ISS's recommendations and the contrasting votes of funds that are more versus less likely to follow these recommendations. ISS evaluates each director, taking into account the overall governance structure of the firm. However, Iliev and Lowry (2015) and Malenko and Shen (2016) conclude that a shortcoming of ISS's assessments is that they do not adequately consider firm specifics and the associated valuation effects for each individual firm; rather they are based on more one-size-fits all approaches. This suggests that ISS will tend to oppose agenda items that have been shown to be suboptimal for a 'typical' firm, for example a more mature firm, irrespective of whether it potentially satisfies the more unique governance demands of a newly public firm.

Mutual funds vary in their propensity to follow ISS's recommendations – they base their voting strategies on the costs and benefits of independently assessing and evaluating the issues up for vote. Following Iliev and Lowry (2015), we categorize mutual funds into two groups based on these costs and benefits. 'Engaged funds' are defined as funds with high net benefits of

[7] ISS was founded in 1985, received added support in 1988 when the Labor Department ruled that pension-fund managers who ignored proxy votes were subject to legal risk, and grew further in the mid-1990s when Thomson Financial bought ISS and invested heavily in an electronic system that lowered institutional investors' costs of voting. ISS received further credibility following two SEC no-action letters in 2004, which essentially affirmed that investment managers could satisfy their fiduciary duty when voting by relying on proxy advisory service company recommendations.

conducting their own research, due to economies of scale, lower costs of information sharing, and longer holding periods. The engaged fund measure comes from a principal factor analysis based on mutual fund family size, mutual fund size, mutual fund concentration within the MSA, and mutual fund turnover. Funds with an above-median value of this principal factor are labeled as engaged funds. Because engaged funds are more likely to conduct independent research, they are less likely to indiscriminately follow ISS's recommendations.

We begin in Section 4.2 with an analysis of ISS's recommendations. Both hypotheses predict that ISS will be more likely to oppose directors of IPO firms, compared to more mature firms. This opposition reflects either IPO firms' higher agency costs or their more unique governance demands (which ISS does not consider). We further predict that this opposition will be concentrated among IPO firms with classified boards and dual class structures. Under the Agency Hypothesis, this is because IPO firms are more likely to choose these governance structures as a way to protect private benefits of control. Under the Optimal Governance hypothesis, the greater ISS opposition stems from ISS's failure to recognize that these governance structures are value-maximizing for IPO firms. By shielding firms from short-term market pressures, these structures facilitate a focus on long-term value, which is particularly valuable for firms in a high information asymmetry environment, who typically cannot credibly signal their long-term plans. For example, Cremers, Litov and Sepe (2017) find that classified boards are value-increasing for firms engaged in innovation.

Section 4.3 contains more direct tests of the two hypotheses, by focusing on the votes of entities with 'skin in the game'. Firm owners should be more likely to vote for directors of firms with optimal governance structures, and they should be more likely to oppose directors of firms whose governance structures are motivated by agency. This tendency will be strongest for the more engaged mutual funds, who are most likely to consider firm-specific characteristics when

voting. The predictions of the two hypotheses are summarized in Table 3.

One point to highlight is that empirical tests focus on the directors up for vote in these firms, rather than classified boards or dual class structures per se.[8] The underlying premise is that if these governance structures facilitate agency costs, then management will nominate directors who are weak monitors and contribute little to shareholder value. In contrast, if these governance choices are optimal, then the proposed directors will analogously represent candidates who contribute positively to firm value. Related to this, ISS states that it generally recommends against directors of IPO firms with either dual class structures or classified boards.

4.2. ISS's tendencies to recommend against proposals of newly public firms

We begin in Table 4 by examining ISS's propensity to recommend against directors within newly public firms. As described in the previous subsection, a tendency to recommend against may be driven by suboptimal governance within these firms (consistent with the Agency hypothesis) or by ISS disregarding the unique governance demands of these firms (consistent with the Optimal Governance hypothesis).

Panel A of Table 4 shows the frequency of ISS against recommendations within our sample of IPO versus mature firms, where against includes: 'abstain', 'against', 'do not vote', 'none', and 'withhold'. As described above, the IPO sample includes the first five annual meetings after each firm goes public, and the mature firm sample includes S&P1500 firms that have been publicly traded for more than five years. Findings show that within every calendar year, ISS recommends against more proposals for newly public firms than for mature firms. Across the entire sample period, ISS recommends against 20% of directors proposed by recent IPO firms, compared to only 6% among more mature firms.

[8] While firms have a variety of issues up for vote at their annual meetings, the largest category is director proposals and all firms have such items on their agendas. For this reason, we focus our empirical tests on director proposals.

Panel B shows that these against recommendations are concentrated among firms with classified boards or dual class share structures. ISS recommends against 22% of directors within IPO firms with classified boards, compared to 18% among the firms with annual boards. In dual class versus single class firms, the analogous rates are 25% versus 19%.

Regressions in Table 5 show that these differences are robust to controlling for other firm characteristics. We begin in column 1 with a sample of directors up for vote across a broad sample of both newly public firms and mature firms, over the 2006 – 2017 period. The dependent variable equals one if ISS recommends for the director, and zero if it recommends against. Control variables include firm financial measures, CEO characteristics such as tenure and ownership, and meeting year fixed effects.

Looking first at Column 1, the independent variable of interest is IPO firm, equal to one if the firm is a recent IPO firm (i.e., this is one of the first five meetings after the IPO), and zero otherwise. Results show that ISS is 9.8% less likely to recommend for directors of recent IPO firms, compared to more mature firms.

Columns 2 and 3 examine the prediction (of both hypotheses) that ISS's opposition will be concentrated within IPO firms with controversial governance structures, for example firms with classified boards or dual class. We limit the sample to recent IPO firms and include IPO-specific controls: founder firm, years since IPO (which by definition ranges from one to five), initial return, VC-backed, and the log of firm age at the time of the IPO, where age is defined as number of years since incorporation. We also control for whether the company is a controlled company, for reasons other than being dual class ("controlled company, not dual").[9] Results are

[9] Both NYSE and Nasdaq define a controlled company as one in which over 50% of the voting power for director elections is held by a single person, entity, or group. Controlled companies are exempt from the requirement that the majority of directors be independent. There is a substantial overlap between controlled companies and those with dual class structures, with 47% of dual class companies also being controlled companies.

consistent with predictions. We find that ISS is 5.6% less likely to support directors of IPO firms with classified boards and 11.2% less likely to support directors of dual class firms.

Column 3 of Table 5 examines whether ISS considers the more detailed features of the dual class structures when making their recommendations. Following Gompers, Iishi and Metrick (2010), we define the wedge in dual class firms as insider voting rights minus cash flow rights, where insiders include all officers and directors. Gompers et al (2010) and Masulis, Wang and Xie (2009) conclude that a higher wedge is associated with higher agency costs. Thus, if ISS evaluates this level of detail, they should be more likely to recommend against cases with higher wedges. However, results indicate this is not the case. The coefficient on *dual class* × *wedge* is close to zero in magnitude and insignificant at conventional levels (t-stat = -0.01).

The evidence that ISS does not factor the size of the wedge into its recommendations is consistent with ISS following a more one-size fits all strategy and not considering many firm-specific characteristics. This raises the possibility that ISS is similarly not evaluating factors such as IPO firms' information asymmetry and long-term focus, and the associated effects on optimal governance. If this is the case, then ISS's lower tendency to support directors of firms with either classified boards or dual class may not indicate that these structures are motivated by agency.

As discussed previously, another feature of many dual class IPOs is that they are carve-out firms. The significantly negative coefficient of *Dual Class* × *Carveout* shows that ISS is significantly less likely to recommend for directors of such firms. This lower support may reflect the greater agency costs in such firms, for example if the parent companies implement dual class as a way to control resources, in a tunneling-type fashion. Alternatively, because the parent company often has directors on the boards of these carve-out firms, ISS may be more likely to recommend against these directors because they do not satisfy independence criteria (regardless of whether such connected directors actually contribute positively to firm value).

In sum, ISS is significantly more likely to oppose directors of newly public firms, particularly those with controversial governance structures such as classified boards and dual class share structures. These relations highlight the controversy embodied by these governance choices. The next subsection focuses on the votes of firm owners, who by definition have 'skin in the game', to evaluate whether ISS's concerns are justified.

4.3. Mutual funds' votes in newly public firms

Table 6 shows regressions, in which the sample consists of mutual fund votes across the same set of proposals examined in the second and third columns of Table 5: directors in the first five annual meetings after each firm's IPO, over the 2006 – 2017 period. The dependent variable equals one if the mutual fund voted for the director, zero otherwise. Controls represent the same variables included in Table 5.

Looking first at Column 1, results indicate that mutual funds, on average, are 1.6% less likely to vote for directors of firms with classified boards, and 7.2% less likely to vote for directors of dual class firms. This contrasts to analogous rates for ISS of 5.6% and 11.2%, as reported in Table 5. In other words, while both funds and ISS are less likely to vote for directors of firms with one of these structures, funds' tendency to oppose is less than that of ISS. The magnitude of the difference is particularly striking because many funds simply follow ISS's recommendations.[10] In other words, the difference would be greater if we could isolate the votes of the funds that did not follow ISS. We more directly examine this conjecture below.

Column 2 shows that funds also differ from ISS in the ways they evaluate the specific features of dual class structures. While Table 5 showed that ISS recommendations do not vary

[10] Iliev and Lowry find that 25% of all funds vote with ISS on all issues up for vote across all portfolio firms over a five-year sample period

with the size of the wedge, we find that funds place a significant weight on this feature. The significantly negative coefficient on *Dual Class × Wedge* indicates that the entities with 'skin in the game', the mutual funds, are more likely to oppose directors when the wedge between voting rights and cash flow rights is greater. This is consistent with such structures being more likely to facilitate agency. Funds also differ from ISS in their assessments of dual class carve-out firms. While ISS is significantly less likely to support directors of these firms, relative to other dual class firms, mutual funds do not exhibit a similar tendency.

Given that many funds indiscriminately follow the recommendations of ISS, it is worthwhile to examine the behavior of funds that are more likely to independently evaluate the issues up for vote, i.e., to examine the votes of the 'engaged funds'. Column 3 interacts each of the governance variables of interest with 'engaged fund', which equals one if the mutual fund has an above median incentive to be an engaged voter, as defined in section 4.1.

We find that engaged funds are significantly more likely than other funds to support directors of both classified board firms and dual class firms with low wedges, as indicated by the interaction terms *Classified Board × Engaged Voter* and *Dual Class × Engaged Voter*. Engaged funds are more likely to conclude that these structures represent optimal governance. In contrast, engaged funds are significantly less likely than other funds to vote for directors of dual class firms with high wedges, as indicated by the coefficient on *Dual Class × Wedge × Engaged Voter*, suggesting they perceive such structures to facilitate agency costs. A one standard deviation increase in the wedge decreases engaged voters' tendency to support directors by 1.4%, and the analogous effect for a wedge in the upper decile is 3.3%.[11]

[11] The standard deviation of the wedge, conditional on dual class equaling one, is 0.1414. Economic significance is calculated as this standard deviation times the sum of the coefficients on Dual Class × Wedge and Dual Class × Wedge × Engaged fund (-0.00181 + -0.0888), all divided by the mean of the dependent variable, 0.8847: 0. 1414 × [-0.00181 + -0.0888)] / 0. 8847= 1.0%. The 90th percentile of the wedge is 0.3235.

Because Table 6 strives to compare the magnitude of fund votes with that of ISS's recommendation, we do not include the ISS recommendation as a control variable. However, as noted above, many funds consider ISS recommendations as an input into their voting decisions, and even the most engaged funds are likely to consider ISS recommendations for at least a subset of their portfolio holdings. Also, ISS recommendations may capture other unobserved factors, which are correlated with the quality of the firm's governance structure and/or the specific director. Therefore, Table 7 re-estimates the regression in column 3 of Table 6, controlling for the ISS recommendation. Column 1 includes the whole sample and adds the ISS recommendation as a control. Columns 2 and 3 estimate the regression on the subset of cases for which ISS recommends against and for the director, respectively.

We begin our discussion of the Table 7 results with findings regarding classified boards. Results are similar to those in Table 6 but even more striking. In column 1, we see that engaged funds show no greater tendency to oppose directors of firms with classified boards, relative to other newly public firms (-0.00676 + 0.00909). In column 2, where the sample is restricted to directors for which ISS recommends against, the engaged funds who do more in-depth analysis on average are 1.0% *more* likely to support such directors (-0.0266 + 0.0365), compared to other directors for which ISS recommends against.

Column 3, which limits the sample to directors for which ISS recommends in favor, shows that the greater average support rate of engaged funds in Column 2 is not driven merely by an overall greater support of management. Rather, these engaged funds are simply less likely to indiscriminately follow ISS, and, as such, they disagree with ISS recommendations more often. This can be seen first by the coefficient on *Engaged voter*: among directors that ISS opposes (column 2), engaged voters are 17.5% *more* likely to vote for, whereas among directors

that ISS supports (column 3), they are 0.5% *less* likely to vote for.[12] Moreover, the coefficient on *Classified board* × *Engaged voter* indicates that this disagreement is greater among firms with classified boards.

In sum, the engaged funds, who both have skin in the game and are most likely to evaluate firm-specific characteristics, do not perceive agency costs to be a big problem for IPO firms with classified boards. Rather, results support the Optimal Governance hypothesis: for these high information asymmetry firms for whom a long-term focus is critical, the benefits of classified boards outweigh the costs.

Conclusions are starkly different for dual class firms. Funds are significantly less likely to vote for directors of dual class firms, and this tendency is strongest among engaged funds and among firms with large wedges. Conditional on ISS recommending against the directors, which in and of itself provides a strong negative signal, engaged funds are 7.3% (-0.0421 + -0.0315) less likely to vote for directors of dual class firms (relative to other newly public firms). When the wedge is in the upper decile, this difference increases to 10%. The strong opposition of the most engaged funds, particularly when the wedge is high, provides strong evidence in support of the Agency Hypothesis as an explanation for this governance mechanism.[13]

Engaged funds do not similarly conclude that dual class is an agency-inducing mechanism for carve-out firms. Looking first at column 1 of Table 7, engaged voters are slightly less likely to vote for directors of dual class carve-outs compared to other dual class firms (coefficient on *Dual Class* × *Carveout* × *Engaged* = -0.0103), but the likelihood is similar to that

[12] The lower tendency of funds to disagree with ISS when ISS recommends For is consistent with the fact that these directors are on average less contentious. The ISS Against cases represent directors for which management (who by definition supports all directors) and ISS disagree. In contrast, the ISS For cases in column 3 represent cases in which these two parties agree, meaning the probability the director is low quality is lower.

[13] Somewhat puzzlingly, non-engaged funds do not similarly exhibit a greater tendency to vote against firms with a bigger wedge. This is consistent with these funds not devoting the resources to evaluate firm-specific characteristics but rather applying more simplistic rules to voting.

of directors of other newly public firms (coefficients on *Dual Class* × *Carveout* × *Engaged* + *Dual Class* × *Engaged* = -0.0125 + 0.0175 = 0.005). Columns 2 and 3 provide even stronger evidence that engaged funds do not view carve-outs with a dual class structure negatively. Within the subsample of directors on which ISS recommends against, engaged funds are 3.15% less likely to support directors of dual class firms compared to other newly public firms, but 2.23% more likely to support them if the firms are carve-outs (-0.0315 + 0.0538). We find no significant difference among the ISS For subsample, shown in column 3.

Table 8 shows that conclusions are similar if we limit the sample to dual class firms. Across all newly public firms with a dual class structure, engaged voters are significantly less likely to vote for directors of firms with a larger wedge. This finding is robust to controlling for the ISS recommendation or splitting the sample into ISS Against and ISS For subsamples. Within the subsample of dual class firm directors on which ISS recommends against, engaged funds are also significantly more likely to vote for directors of carve-outs.

In sum, the votes of the most engaged shareholders with skin in the game highlight the nuances of these corporate governance structures in newly public companies. Results indicate that classified boards are best explained by Optimal Governance. Dual class structures differ across firms, and this variation is key for understanding the extent to which they facilitate a long-term focus as suggested by the Optimal Governance hypothesis, or protect private benefits of control as suggested by the Agency hypothesis. The Agency hypothesis can best explain IPO firms' choices to adopt dual class firms with high wedges, but the Optimal Governance Hypothesis can better explain the choice to adopt dual class among carve-out firms.

Importantly, dual class firms with a large wedge represent a minority of IPO firms, suggesting that the Optimal Governance hypothesis explains the governance choices of most IPO firms. This conclusion is consistent with pre-IPO shareholders, such as venture capitalists,

having strong incentives to set up optimal governance structures at the IPO so that they can sell their stock at the highest possible value. The next section focuses on the link between this conclusion and the dramatic increase in IPO firms adopting these structures.

5. Changes in firm type, over time

5.1. Change in type of firm going public, over time

This section focuses on a further prediction of our hypotheses. If optimal governance considerations explain the majority of IPO firms' governance choices (as indicated by Tables 4-8), and if there is an upward trend in the use of classified boards and dual class shares among IPO firms (as shown in Figure 1 and Table 2), then the typical firm going public must be characterized by increasing levels of information asymmetry. Alternatively, the Agency Hypothesis suggests that IPO firms are increasingly characterized by high agency costs.

Figure 3 provides descriptive evidence on several proxies for information asymmetry, and Figure 4 focuses on proxies for agency costs, for firms going public across our 30-year sample period. We categorize IPOs into the same seven time subperiods as in Table 2. Looking first at Panel A of Figure 3, we plot the percentage of firms with positive R&D for each subperiod. We observe an almost monotonic increase: the percent of IPOs with positive R&D in the year prior to going public increased from about 40% in the earliest years, to over 60% in the latest subperiod, consistent with a marked rise in the extent of information asymmetry in the typical IPO firm. Panels B and C yield similar conclusions: among firms with positive R&D, median R&D has increased from 16% to 29%, and, across all firms, median profitability (measured as EBITDA over assets in the year prior to the IPO) has declined from 17% to –4%.

Finally, Panel D shows that the size of firms going public, measured as median market capitalization at the end of the first month following the IPO, has increased dramatically. *Ex ante*

it is unclear how size relates to the benefits of protective governance structures, in particular to the probability that an external party pressures for changes based on an assessment (either correct or incorrect) that firm value is not being maximized. Larger firms may be better able to defend themselves against the actions of either activists or proxy advisory service companies. However, they might also be more likely to attract unwanted attention, as the fixed costs of waging an activist campaign likely exceed the benefits among smaller IPO firms where an activist cannot amass a sufficiently large dollar position.

Figure 4 examines proxies for agency costs. To the extent that managers with greater ownership, CEOs that are also Chairmen of the Board, managers with greater tenure, and founders all enjoy higher perquisite benefits, they might seek to protect these benefits as they take their firms public. These factors also capture CEO power, which, as discussed by Boone et al (2007) and Baker and Gompers (2003), can enable CEOs to structure the firm in a way that will protect their private benefits of control. However, we find little evidence that these factors have increased over our sample period. Insider ownership, measured as the CEO alone in Panel A and, alternatively across all officers and directors as a group in Appendix Figure A1, has decreased over our thirty-year sample period. Similarly, the percent of the vote controlled by the CEO has also decreased, while the percent of the vote controlled by all officers and directors has remained relatively stable (shown in Appendix Figure A1). As shown in Panel D, the percentage of founder firms has risen since the mid-2000s but is at similar levels as the late 1990s. The only factor that suggests evidence of greater agency is CEO tenure (Panel C), which has increased from just over four years during 1996-2000, to nearly six years in the recent 2014-2017 period.

In sum, Figures 3 and 4 are consistent with conclusions from the prior section. Consistent with the Optimal Governance hypothesis, Figure 3 shows that the types of firms going public have changed over time in ways that make protective governance structures such as classified

boards and potentially dual class more beneficial. Figure 4 provides little evidence of similar trends for agency proxies, suggesting agency is not the primary motivation for most IPO firms' governance choices. Results in the prior section suggest that one exception is dual class share structures with a large wedge, but such cases represent a small fraction of all IPOs.

5.2. Link between firm type and governance structures, over time

Table 9 examines the extent to which trends in the types of firms going public are associated with the tendency to have a classified board (Panel A) or a dual class structure (Panel B). The Optimal Governance hypothesis implies that the increasing tendency to have a classified board should be strongest among firms that derive the greatest benefit from this structure, e.g., in firms with high R&D spending and low profitability. In contrast, the Agency hypothesis suggests that the increasing trends should be concentrated among firms with the greatest agency costs, e.g., founder firms, and firms in which the CEO has greater ownership and longer tenure.

Looking first at Panel A, the dependent variable equals one if the firm has a classified board at the time of the IPO, zero otherwise. The sample consists of IPO firms over our thirty-year sample period, 1988-2017, limited to the subsample with available data on all control variables. Column 1, in which a time trend is the only explanatory variable, confirms what we previously observed in Figure 1: IPO firms have become increasingly likely to have a classified board, with an average 1.7% more firms having a classified board in each subsequent year.

Subsequent columns examine more directly the extent to which this time trend is related to changes in IPO firms' information asymmetry or agency costs. In addition to adding control variables and industry fixed effects, Column 2 adds each of the information asymmetry proxies interacted with the time trend, Column 3 adds each of the agency proxies interacted with the time trend, and Column 4 includes all variables. All specifications indicate that the increasing trend of

classified boards is concentrated among firms with high information asymmetry, with positive *R&D* × *Time trend* being significantly positive and *Ln(Firm age)* × *Time trend* significantly negative. In contrast, the agency interactions are insignificant at conventional levels.

Looking at the control variables, the trend toward classified boards is also stronger among VC backed firms, which is consistent with the Optimal Governance hypothesis. As discussed by Hochberg (2011), because venture capitalists have substantial share ownership and thus strong incentives to sell the firm at the maximum price, they should seek to set firms up with value-maximizing governance mechanisms.

Comparing the coefficient on the time trend between models 1 and 4, we can conclude that within the IPO sample, the combination of firm characteristics and these characteristics interacted with the time trend explain nearly one-third of the increased tendency to have a classified board [(0.0118 – 0.0166) / 0.0166 = –30%].

Panel B of Table 9 shows a similar set of regressions focusing on dual class firms. The sample similarly consists of IPO firms, and the dependent variable equals one if the firm goes public with a dual class structure, zero otherwise. Similar to Panel A and consistent with Figure 1, the time trend variable is significantly positive in column 1, indicating that the frequency of dual class structures among IPO firms has increased over time. However, other findings contrast with those for classified boards. We find little evidence that the increasing frequency of dual class firms is concentrated within high information asymmetry firms. In fact, there is some evidence that the trend is greater within more profitable firms, which tend to have lower information asymmetry. Moreover, the positive coefficients on *Founder* × *Time trend* and *CEO pre-IPO ownership* × *Time trend*, both significant at the 1% level the trend, indicate that the increasing trend of dual class structures is concentrated within high agency firms.

In sum, results provide added support for evidence provided in earlier analyses. The

increase in classified boards is largely driven by increasing levels of information asymmetry among IPO firms, while agency factors play a larger role in explaining dual class stock. This contrast is consistent with dual class structures shielding managers from the external market indefinitely, whereas classified boards represent more of a delay mechanism.[14]

6. Post-IPO changes in firm governance and ownership

This section examines the Optimal Governance and Agency hypotheses from a third and final perspective, by investigating changes in firm governance and ownership in the years after going public. Section 6.1 examines the percentage of firms that change their governance structures, for example, from a classified board to an annual board or dual class to single class. It also explores more generally the extent of external pressure to change any governance-related issues within these firms, as proxied by shareholder proposals. Section 6.2 examines the frequency with which these firms are acquired.

6.1. Changes in governance structures

6.1.1. Changes in board structure

If classified boards are optimal for these IPO firms, then investors will not pressure them to declassify soon after the IPO (in a manner similar to what we have observed for mature firms). Under the Optimal Governance hypothesis, IPO firms would only be pressured to declassify their boards after a longer period of time, when their unique governance demands had evolved into something more similar to that of mature firms. Alternatively, if agency cost issues motivate IPO firms' choices to select a classified board at the time of going public, then we would expect external pressure to force many of these firms to declassify soon after the IPO. In other words,

[14] There are insufficient cases each year of dual class IPOs with high versus low wedges, or that represent carve-outs or founder firms, to examine the heterogeneity in dual class within the time-series framework.

we would expect IPO firms to declassify at a rate similar to that observed among mature firms.

Looking first at Panel A of Figure 5, by year five, only 2.0% of the firms that went public with classified boards switched to an annual structure. Accounting for the fact that 38% of firms are either delisted or acquired by year 5, this represents 3.2% of those firms that are still public by year 5. The fact that so few firms switch is consistent with the predictions of the Optimal Governance hypothesis.[15]

By year ten, the unique characteristics of newly public firms are unlikely to still exist, and we would expect more firms to switch to an annual board. Results are best characterized as partially consistent with this prediction. Looking at Panel B of Figure 5, across firms still publicly traded at year ten, 10.2% have switched from a classified to an annual board, which is over three times the rate observed through year five. However, across all IPO firms still trading at year ten, 56% still have a classified board, compared to only 47% of mature firms measured in similar calendar time.[16] This persistent gap, a full ten years after the IPO, is puzzling, and we discuss it in more depth in section 6.1.3.

6.1.2. Change to Dual Class structures

Share unifications represent the process of converting a dual class share structure to a single class. Such changes can be contracted *ex ante*, through sunset provisions. Alternatively, these changes can be agreed upon at some point after the IPO, though these cases frequently require the support of the superior voting class (who potentially have the strongest incentives to oppose such a change). Given Kim and Michaely's (2019) finding that many sunset provisions are ineffective, combined with the possibility that firms may decide at a post-IPO date to change the share structure, we focus on the actual frequency of share unifications.

[15] A slightly greater percentage, 6.9%, actually switch from an annual board to a classified board.
[16] To ensure comparability, we calculate the percent of mature firms over the 1998 – 2017 period, where 1998 represents ten years after the first IPOs in our sample went public.

As noted earlier, one striking feature of many dual class IPOs is that they represent carve-outs. Because share unifications can be contracted prior to the IPO, combined with the power of the parent firm at that point in time, we compare the evolution of the dual class share structure in carve-out versus non-carve-out firms. We begin with a sample of all carve-outs that went public with a dual class structure. For each of these carve-outs, we form a matched sample of non-carve-outs that similarly went public with a dual class structure. We match first on year (requiring the offer dates to be within two years of each other), then on industry (Fama French 48 if a match exists, and Fama French 12 otherwise), and finally on size (taking the firm with the closest market capitalization). This process yields a total of 111 dual class IPOs.

Looking at Panel C of Figure 5, we see that across all 111 of these dual class firms, 20% had converted to a single class by year five. Strikingly, however, the vast majority of share unifications are done by carve-out firms: 30% of the carve-out firms unify their shares, compared to only 6% of non-carve-outs. Moreover, the carve-outs are also much more likely to be acquired, 32% versus 15%. Given that an acquisition is generally only feasible if the holder of the superior class agrees, this provides further evidence that the underlying motivation for dual class is fundamentally different in carve-out versus non-carve-out firms.[17] Of the companies still publicly traded at year five, 51% of carve-outs firms converted to single class, compared to only 9% of non-carve-outs. Panel D shows that similar differences exist at year ten, though the magnitude of the gap between carve-outs and non-carve-outs is smaller by this point.

Our findings are consistent with a scenario in which parent firms structure the carve-outs as one step in the sale of the firm, in the spirit of Zingales (1995). In contrast, among non-carve-out firms, dual class share structures are more likely to persist. This conclusion is also consistent

[17] Panel B of Internet Appendix Figure A2 shows that even ten years after the IPO, a smaller percent of carve-outs are still dual class, compared to non-carve-outs: 18% versus 33%.

with the voting data presented earlier, which showed that among dual class firms, engaged mutual funds were significantly less likely to oppose directors of carve-outs.

6.1.3. External pressure to change governance structures

Our findings raise the question of whether it would be optimal for more firms to modify their governance structures by year 10. While classified boards and in some instances even dual class may be optimal for newly public firms, which tend to be characterized by high information asymmetry and a need to focus on the long-term, this is less likely to be the case after the firm has been publicly traded for ten years. The findings that firms are maintaining these governance structures a full ten years after the IPO is consistent with these structures being sticky, as discussed by Johnson et al (2018). It raises the question of whether no external shareholders are pressuring the firms to change, or whether firms are maintaining such structures in the face of such pressure.

As one metric of external pressure, Figure 6 examines the incidence of shareholder proposals over the first ten years after the IPO. As a basis of comparison, we compare this to the frequency of such proposals across two alternative sets of mature firms. Our first comparison group consists of matched mature firms. For each IPO firm-year, among firms that have been publicly traded for at least five years and fall within the same 2-digit SIC code, we select the firm with the closest market capitalization. Our second comparison group consists of all firms that have been publicly traded for at least five years.

The first takeaway from Figure 6 is that firms receive virtually no shareholder proposals on any item within the first five years after the IPO. In the first year, only 0.2% of firms receive a shareholder proposal, and it increases very gradually up to 3.5% in year five. This lack of external pressure is consistent with IPO firms' governance largely representing Optimal

Governance, at this point in their life cycle.

As shown by the blue bar on the right of the figure, an average 4.2% of the matched mature firm-years have a shareholder proposal.[18] Newly public firms reach a similar rate by year six or seven after the IPO. In sum, by six to seven years after the IPO, a firm is equally likely to receive a shareholder proposal as a similar mature firm. Interestingly, in subsequent years, the proportion of newly public years receiving shareholder proposals actually exceeds that of the matched mature firms. This pattern potentially reflects the unique governance demands of IPO firms having waned by this point, yet the firms not voluntarily making changes.

A further key takeaway from Figure 6 is that the frequency of shareholder proposals across all mature firms is much higher than that of either the matched mature firm sample or the IPO firm sample: 10% versus 5 – 6%. This is largely driven by the fact that newly public firms, and hence the matched sample, consist on average of smaller firms. Shareholder proposals are much more common in larger firms. The lower pressure on all smaller firms facilitates the ability of these firms to maintain governance structures that may have been optimal earlier in their lifecycle, but which are less likely to be optimal as they become more mature.

6.2. Acquisitions of newly public firms

One of the commonly cited negative aspects of classified boards is that they prevent the market for external control from working effectively. Consistent with this notion, Bates, Becher and Lemmon (2008) find that classified boards deter takeovers within a sample of mature firms. Dual class provides an even stronger deterrent. Gompers, Ishii and Metrick (2010) argue that dual class companies are "virtually immune to a hostile takeover," suggesting that if these firms

[18] One determinant of shareholder proposals is firm size, with larger firms more likely to receive such proposals. Across all firms that have been publicly traded for at least five years (instead of the subsample of firms matched on industry and size), 10% of firm-years have a shareholder proposal.

want to stay independent, they will be able to do so. Here, we examine the relation between classified board and dual class structures and acquisition attempts for our IPO firm sample.

Looking first at Figure 7, Panel A shows the percentage of firms with classified boards versus annual boards that experience acquisition attempts, and Panel B shows percentages for firms that were actually acquired. Because both IPOs and mergers fluctuate over time, we present these statistics for each of the seven time periods used in earlier figures. We include IPOs only through 2015, to enable us to obtain three years of post-IPO data for all firms.

Contrary to classified boards preventing acquisitions, for example, as may be motivated by managers seeking to maintain private benefits of control, Panels A and B suggest that firms with classified boards are slightly more likely to be acquired, compared to firms with annual boards. These patterns are confirmed in a regression framework, as shown in Appendix Table A1. We estimate OLS regressions, where we examine the relation between classified boards and the likelihood of a merger attempt, the likelihood of merger completion, and the merger premium. Consistent with Figure 6, we find no evidence of classified boards presenting a deterrent effect for newly public firms.

Results throughout the paper suggest that dual class structures are more likely than classified boards to be motivated by agency considerations. Consistent with this, Smart and Zutter (2003) and Jordan, Kim and Liu (2016) both conclude that dual class firms are less likely to be acquired. Panels C and D in Figure 7 as well as regressions in Internet Appendix Table A1 suggest that this is also the case for our sample of IPO firms.

We caution that results throughout this section should be interpreted as suggestive, as we lack a natural experiment that enables us to establish causality. Following prior literature, we have tried using law firm fixed effects as instruments, but results using these specifications are sensitive along a variety of dimensions. We have also employed propensity score analyses, but

we recognize the weakness of this approach in overcoming endogeneity. That being said, we find no evidence across any specification of classified boards deterring acquisitions.

7. Evolution of other governance structures, among IPO firms

As formalized in the discussion of the Optimal Governance hypothesis and the alternative Agency hypothesis, the central debate behind both classified boards and dual class stock is whether these structures are motivated by the continuity they provide (positive net benefits of classified boards) or by a protection from value-increasing takeovers (an agency cost explanation). To gain more insight on the factors motivating IPO firms' governance choices, we examine the evolution of another governance factor that contributes primarily to continuity. Specifically, we examine firms' choices of the state in which to incorporate.

The majority of firms choose to incorporate either in their home state or in Delaware. As discussed by Romano (1985), the benefits of Delaware incorporation relate to lower uncertainty. Judges are appointed rather than elected, trials are not by jury, and the small size and continuity of Delaware's Chancery Court makes decisions more predictable than those of other states. Also, a substantial body of case law increases companies' ability to forecast outcomes. Consistent with these factors, Daines (2001) concludes that incorporation in Delaware improves firm value.

To the extent that IPO firms' choices of classified boards are increasingly motivated by concerns about uncertainty, for example, due to firm type and/or changes in market dynamics, we would predict an increasing percentage of IPO firms to also incorporate in Delaware. Our findings are consistent with this prediction. The top panel of Figure 8 shows that the percentage of IPO firms incorporating in Delaware has increased from approximately 60% in the early years of our sample to 85–90% in most years since 2010. In comparison, the percent of mature firms incorporating in Delaware has remained relatively steady at about 60%.

Consistent with the dramatic increase in IPO firms' tendency to incorporate in Delaware, the bottom panel highlights the decreased tendency for these firms to incorporate in their home state. In most years since 2010, fewer than 10% of IPO firms have been incorporated in the same state as their headquarters, compared to 29% of mature S&P 1500 firms.

8. Conclusion

In recent years, IPO firms have been increasingly more likely to have a classified board or dual class structure when they first access public equity markets. In comparison, mature firms have been declassifying their boards over the past 15 years, and the percent with dual class share structures has similarly fallen.

Our body of evidence suggests that the Optimal Governance hypothesis can best explain IPO firms' decisions to classify their boards, while the Agency hypothesis has more power to explain IPO firms' decisions to have dual class share structures. However, there is substantial heterogeneity among dual class firms, and an understanding of newly public firms' decisions to adopt this structure must consider such variation. Nearly one-fifth of dual class firms represent equity carve-outs, where the parent firm controls the superior voting class, rather than an individual who would be more likely to gain utility from private benefits of control. In contrast, other dual class firms represent cases in which the wedge between voting and cash flow rights is particularly high. Our results indicate that agency costs are a strong motivating factor behind the choice of dual class structures when the wedge is high, but less so among carve-outs.

In aggregate, our findings provide strong evidence against any one-size-fits all approach toward governance. In this vein, our paper relates to work by Coles, Daniel and Naveen (2008), Ahn and Shrestha (2013), Duru Wang and Zhao (2012), Bhojraj, Sengupta, and Zhang (2014), Daines, Li, and Wang (2016), and Cremers et al (2017). While these papers all focus on various

samples of more mature firms, they are consistent with the broad conjecture that different types of firms have different governance demands. Relative to this prior body of work, our findings highlight a different dimension of this problem, specifically, the unique demands of newly public firms. To the extent that this group of firms represents an important source of job creation and economic growth, as suggested by a US Treasury Department IPO Task Force report, ensuring that these firms are well governed has obvious important consequences.[19]

[19] IPO Task Force, 2011. "Rebuilding the IPO on-ramp: Putting emerging companies and the job market back on the road to growth."

References

Ahn, S., Shrestha, K., 2013. The differential effects of classified boards on firm value. *Journal of Banking & Finance* 37, 3993-4013.

Alchian, A., Demsetz, H., 1972. Production, information costs, and economic organization. *The American Economic Review* 62, 777-795.

Atanasov, V., Boone, A., Haushalter, D., 2008. Is there shareholder expropriation in the US? An analysis of publicly-traded subsidiaries. Journal of Financial and Quantitative Analysis 45, 1-26.

Baker, M., Gompers, P., 2003. The determinants of board structure at the initial public offering. *Journal of Law and Economics* 46, 569-598.

Bates, T., Becher, D., Lemmon, M., 2008. Board classification and managerial entrenchment: evidence from the market for corporate control. *Journal of Financial Economics* 87, 656-677.

Bebchuk, L., Coates, J., Subramanian, G., 2002. The powerful antitakeover force of staggered boards: Theory, evidence, and policy. *Stanford Law Review* 54, 887-951.

Bebchuk, L., Cohen, A., 2005. The costs of entrenched boards. *Journal of Financial Economics* 78, 409-433.

Bebchuk, L., Cohen, A., Wang, C., 2013. Learning and the disappearing association between governance and returns. *Journal of Financial Economics* 108, 323-348.

Bhojraj, S., Sengupta, P., Zhang, S., 2017. Takeover defenses: Entrenchment and efficiency. Journal of Accounting and Economics 63, 142 - 160.

Boone, A., Field, L., Karpoff, J., Raheja, C., 2007. The determinants of corporate board size and composition: An empirical analysis. *Journal of Financial Economics* 85, 66-101.

Bratton, W., Wachter, M., 2010. The case against shareholder empowerment. *University of Pennsylvania Law Review* 158, 653-728.

Cohen, A., Wang, C., 2013. How do staggered boards affect shareholders value? Evidence from a natural experiment. *Journal of Financial Economics* 110, 627-641.

Coles, J., Daniel, N., Naveen, L., 2008. Boards: does one size fit all? I 87, 329–356.

Cremers, M., Litov, L., Sepe, S., 2017. Staggered boards and firm value, revisited. Journal of Financial Economics 126, 422 – 444.

Cremers, M., Lauterbach, B., Pajuste, A., 2018. The life-cycle of dual class firm valuation. Working paper.

Daines, R., 2001. Does Delaware law improve firm value? *Journal of Financial Economics* 62, 525-558.

Daines, R., Li, X., Wang, C., 2018. Can staggered boards improve value? Evidence from the Massachusetts natural experiment. Working paper.

DeAngelo, H., DeAngelo, L., 1985. Managerial ownership of voting rights. *Journal of Financial Economics* 14, 33-69.

Duru, A., Wang, D., Zhao, Y., 2012. Staggered boards, corporate opacity and firm value. *Journal of Banking & Finance* 37, 341-360.

Faleye, O., 2007. Classified boards, firm value, and managerial entrenchment. *Journal of Financial Economics* 83, 501-529.

Field, L., Karpoff, J., 2002. Takeover defenses of IPO firms. Journal of Finance 57, 1857 – 1889.

Field, L., Lowry, M., Mkrtchyan, A., 2013. Are busy boards detrimental? *Journal of Financial Economics* 109, 63-82.

Gompers, P., Ishii, J., Metrick, A., 2010. Extreme governance: An analysis of dual-class firms in the United States. *Review of Financial Studies* 23, 1051-1088.

Guo, R., Kruse, T., Nohel, T., 2008. Undoing the powerful anti-takeover force of staggered boards. *Journal of Corporate Finance* 14, 274-288.

Hochberg, Y., 2011. Venture capital and corporate governance in the newly public firm. *Review of Finance* 0, 1-52.

Iliev, P., Lowry, M., 2015. Are mutual funds active voters? *Review of Financial Studies* 28, 446-485.

Jensen, M., 1988. Takeovers: Their causes and consequences. *Journal of Economic Perspectives* 2, 21-48.

Jensen, M., 1993. The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance* 48, 831-880.

Johnson, W., Karpoff, J., Yi, S., 2015. The bonding hypothesis of takeover defenses: Evidence from IPO firms. *Journal of Financial Economics* 117, 307-332.

Johnson, W., Karpoff, J., Yi, S., 2018. The lifecycle effects of firm takeover defenses. Working paper.

Jordan, B., Kim, S., Liu, M., 2016. Growth opportunities, short-term market pressure, and dual-class share structure. *Journal of Corporate Finance* 41, 304-328.

Kim, H., Michaely, M., 2019. Sticking around too long? Dynamics of the benefits of dual-class voting. Working paper.

Lipton, M., Rosenblum, S., 1991. A new system of corporate governance: The quinquennial election of directors. *University of Chicago Law Review* 58, 187-253.

Loughran, T., Ritter, J., 2004. Why has IPO underpricing changed over time? *Financial Management* 33, 5 – 37.

Lowry, M., Michaely, R., Volkova, E., 2017. Initial public offerings: A synthesis of the literature and directions for future research. *Foundations and Trends in Finance,* forthcoming.

Malenko, N., Shen, Y., 2016. The role of proxy advisory firms: evidence from a regression-discontinuity design. *Review of Financial Studies* 29, 3394-3427.

Masulis, R., Wang, C., Xie, F., 2009. Agency problems at dual class companies. *The Journal of Finance* 64, 1697-2727.

Romano, R., 1985. Law as a product: some pieces of the incorporation puzzle. *Journal of Law, Economics, and Organization* 1, 225-283.

Smart, S., Zutter, C., 2003. Control as a motivation for underpricing: a comparison of dual and single-class IPOs. *Journal of Financial Economics* 69, 85-110.

Smart, S., Thirumalai, R., Zutter, C., 2008. What's in a vote? The short- and long-run impact of dual-class equity on IPO firm values. Journal of Accounting and Economics 45, 94 – 115.

Stein, J., 1988. Takeover threats and managerial myopia. *Journal of Political Economy* 96, 61-80.

Stein, J., 1989. Efficient capital markets, inefficient firms: a model of myopic corporate behavior. *Quarterly Journal of Economics* 1989, 655-669.

Strine, L., 2006. Toward a true corporate republic: A traditionalist response to Bebchuk's solution for improving corporate America. *Harvard Law Review* 119, 1759-1783.

Zingales, L., 1995. Insider ownership and the decision to go public. Review of Economic Studies 62, 425-448.

Appendix I: Variable descriptions

Governance structures	
Classified board	A dummy equal to one if the firm has a classified board, directors serving 3-year terms and only 1/3 of directors up for vote each year
Dual class	A dummy equal to one if the firm has a dual class share structure, defined as having two classes of stock. In many cases, one share has superior voting rights.
Wedge	Among dual class firms, the wedge is defined as Director and Officer voting rights minus Director and Officer cash flow rights. Voting rights equal the sum across all share classes of (voting rights per share × the number of shares owned), divided by the sum across all share classes of number of shares outstanding. Among single class firms, the wedge equals zero.
Controlled company, not dual	A dummy equal to one if the firm claims the controlled company exemption in its prospectus but does not have a dual class share structure, zero otherwise. Obtained from IPO prospectuses.
Incorporated in Delaware	A dummy equal to one if the firm is incorporated in the state of Delaware.
Incorporated in home state	A dummy equal to one if the firm's state of incorporation is the same as the state in which the firm's headquarters is located.
Firm variables	
Firm age	The year of the firm's IPO minus the year in which the firm was incorporated, as obtained from Field and Karpoff (2002), Loughran and Ritter (2004), Jay Ritter's website, and manual collection from prospectuses.
Proceeds	Global proceeds raised in the IPO, as obtained from Thomson Financial
Post-IPO market capitalization (2015 $)	The number of shares outstanding times the closing market price one month after the IPO, expressed in millions of real 2015 dollars.
VC backed	A dummy equal to one if the firm received VC funding prior to going public, as obtained from Thomson Financial
Underwriter rank	A score from 0 to 9 with higher scores reflecting higher quality underwriters, following Carter and Manaster (1990), as updated by Carter, Dark and Singh (1998) and Loughran and Ritter (2004). Data are obtained from Jay Ritter's website.
Initial return	The percentage difference between the IPO offer price and the closing price on the first day of trading.
Carve-out	A dummy equal to one if the IPO represents an equity-carve-out, as obtained from Thomson Financial and manual inspection of prospectuses.
Technology company	A dummy equal to one if the IPO firm is in a high-technology industry, as defined by Thomson Financial.
EBITDA/Assets	EBITDA / assets, obtained from Compustat. Unless specified otherwise, this is measured at the end of the fiscal year prior to the annual meeting.
R&D/Assets	R&D / assets, obtained from Compustat. Unless specified otherwise, this is measured at the end of the fiscal year prior to the annual meeting. If R&D is missing, it is assumed to equal zero.
Positive R&D	A dummy equal to one if R&D / assets is positive, zero otherwise. Unless specified otherwise, this is measured at the end of the fiscal year prior to the annual meeting.

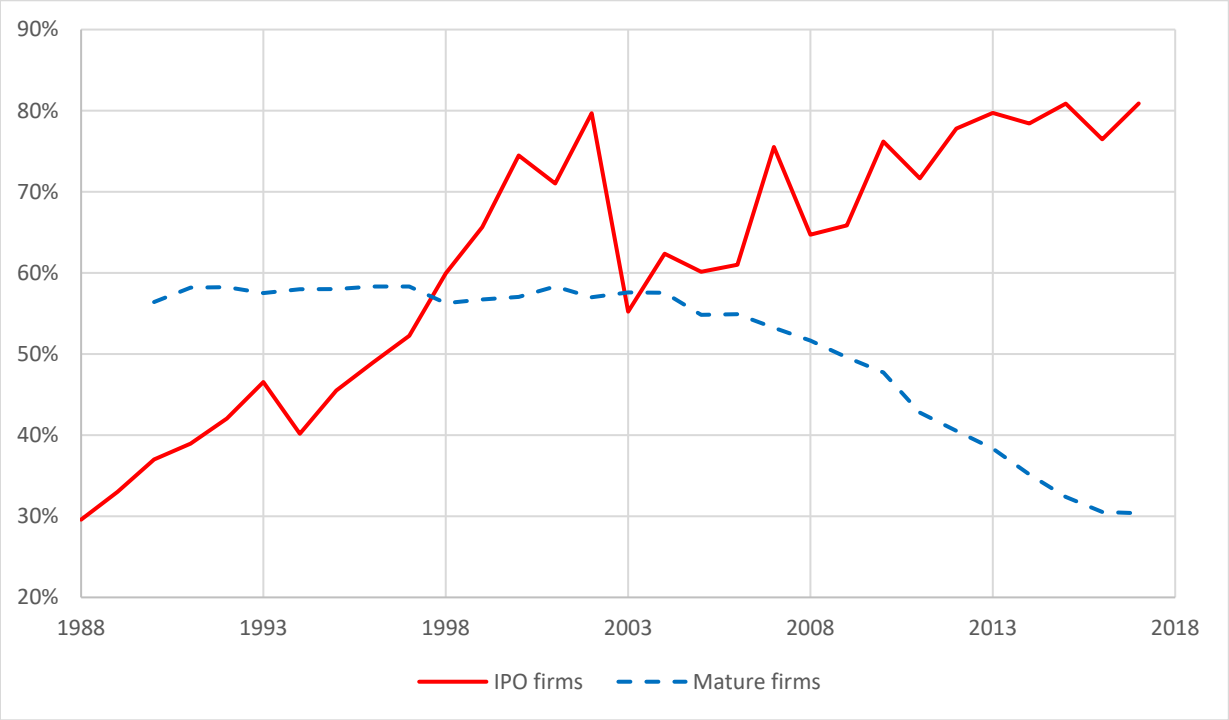
Assets	Assets, obtained from Compustat. Unless specified otherwise, this is measured at the end of the fiscal year prior to the annual meeting.
Market-to-book	Total Assets minus book value of equity plus market value of equity, all divided by total assets. This is obtained from Compustat and measured as of the fiscal year end prior to the annual meeting.
Book leverage	Book value of total debt as a fraction of total assets, measured as of the fiscal year end prior to the firm's annual meeting. Obtained from Compustat, and unless specified otherwise, measured at the end of the fiscal year prior to the annual meeting.
Acquisition attempt	A dummy equal to one if a firm attempted to acquire the newly public firm within the first three years after the IPO regardless of whether the attempt was successful or not, zero otherwise. Obtain from Thomson Financial, merger and acquisition database.
Completed acquisition	A dummy equal to one if a firm successfully acquired the newly public firm within the first three years after the IPO, zero otherwise. Obtain from Thomson Financial, merger and acquisition database.
Merger premium	The percentage difference between the merger offer price and the closing stock price 42 trading days prior to the merger announcement. Obtained from Thomson Financial merger and acquisition database and from CRSP.
Shares offered / Shares outstanding	Number of shares offered in the IPO, divided by shares outstanding one month after the IPO. Obtained from Thomson Financial and from CRSP.
Firm management variables	
CEO tenure	The number of years the CEO has served in this capacity at the firm, obtained from IPO prospectuses for IPO firms and from IRRC for mature firms. In regressions in which we use the logged value, we add 1.
Chair tenure	The number of years the Chairman of the Board has served in this capacity at the IPO firm, obtained from IPO prospectuses.
CEO ownership	The number of shares owned by the CEO as a percent of shares outstanding. For IPO firms, data are obtained from IPO prospectuses and all shares are measured pre-IPO. For dual class firms, both CEO shares owned and shares outstanding are summed across all share classes. For mature firms, data are obtained from IRRC and represent the most recent data prior to the annual meeting.
CEO vote percentage	For single class firms, this is the same as CEO ownership, as defined pre-IPO. For dual class firms, we do the following. For each class of shares, the number of shares owned by the CEO prior to the IPO is multiplied by the number of votes per share for that share class. This is summed over all share classes, and then divided by shares outstanding (similarly summed across all share classes). Obtained from IPO prospectuses.
Officer and director ownership	Defined similarly to CEO ownership for IPO firms, as defined pre-IPO, but summed across all officers and directors. Obtained from IPO prospectuses.
Officer and director vote percentage	Defined similarly to CEO vote percentage, as defined pre-IPO, but summed across all officers and directors. Obtained from IPO prospectuses.

CEO-chair duality	A dummy equal to one if the CEO is also Chairman of the Board at the time of the IPO, zero otherwise. Obtained from IPO prospectuses.
Founder firm	A dummy equal to one if either the CEO or the Chairman of the Board founded the firm, zero otherwise. Obtained from IPO prospectuses.
Shareholder voting variables	
Management proposal	Agenda items up for vote at the firm's annual meeting that management proposes and that are listed on the firm's proxy statement. Obtained from ISS Voting Analytics.
Director proposal	Agenda items up for vote at the firm's annual meeting that pertain to directors up for vote. Obtained from ISS Voting Analytics.
Shareholder proposal	Agenda items up for vote at the firm's annual meeting that a shareholder proposes and that are listed on the firm's proxy statement. Obtained from ISS Voting Analytics.
Years since IPO	This equals one for the first annual meeting after the IPO, conditional on this meeting being within the first 18 months after the IPO. This equals two for the subsequent annual meeting, three for the meeting after that, etc.
Vote For	A dummy equal to one if the mutual fund votes For the proposal, zero otherwise.
ISS For (ISS Against)	ISS For equals one if ISS recommends For the proposal, zero otherwise. Some descriptive statistics report the percentage of cases on which ISS recommends Against, and this equals one if the ISS recommendation is 'abstain', 'against', 'do not vote', 'none', or 'withhold'., zero otherwise. Obtained from ISS Voting Analytics.
Engaged mutual fund	The principal factor extracted from our four fund-level proxies for net benefits of voting: fund size, membership in top-five family, location in top fund MSA, fund turnover. The construction of this factor follows Iliev and Lowry (2015), and is summarized in the text.
Other variables	
Time trend	A count variable equal to one in the first year of the sample (1988), and increasing by one for every subsequent year.

Figure 1: Evolution of IPO vs Mature firms' governance

The sample consists of 5,980 IPOs between 1988 and 2017, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5. We further require that we can determine board status and share structure (dual or single class) as of the time of the IPO. The mature firm sample consists of S&P1500 firms that have been public for at least five years, as listed on IRRC. Panel A depicts the percent of both IPO firms and mature firms with classified boards over this period, and Panel B depicts the percent with dual class share structures.

Panel A: Percent of firms with Classified boards



Panel B: Percent of firms with Dual Class

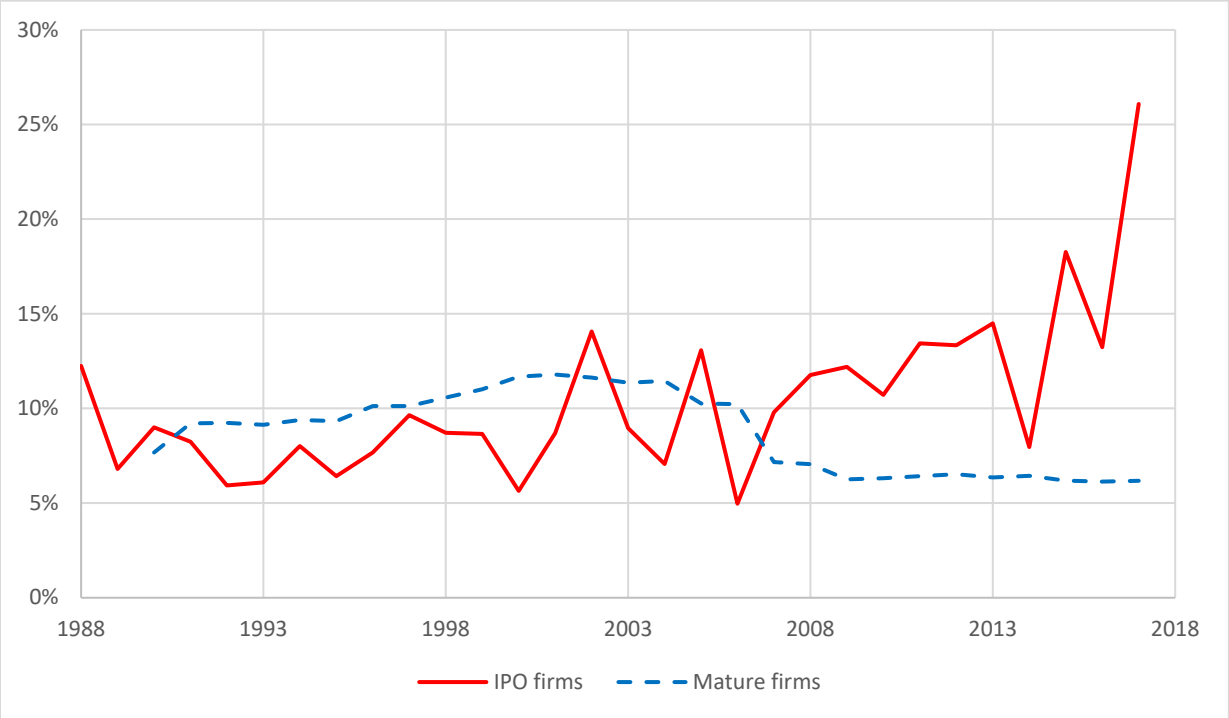
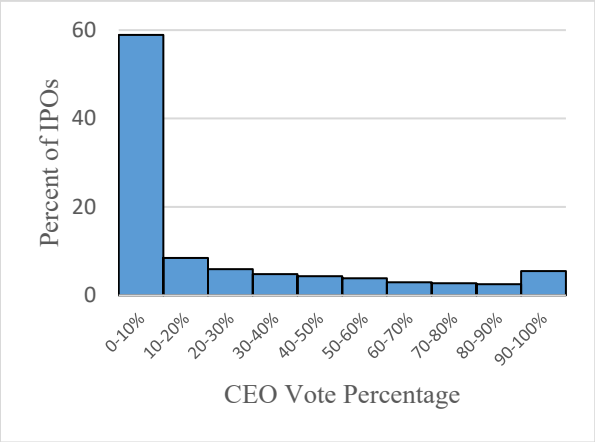


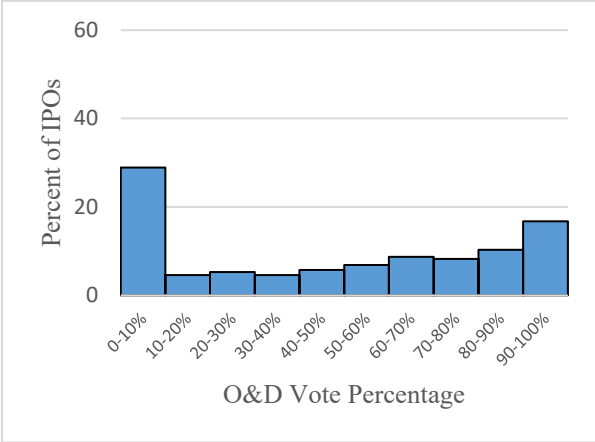
Figure 2: Voting power within dual class IPOs

The sample consists of IPOs as described in Figure 1, further restricted to the 438 companies over the 1996 – 2017 period with dual class share structures and with available data from prospectuses. Panel A shows a histogram depicting the distribution of IPOs within different levels of CEO voting power, i.e., the percent of IPOs in which the CEO's Pre-IPO voting percentage is less than 10%, between 10 and 20%, etc. Panel B shows a similar histogram, but it shows the distribution of officer and director (O&D) Pre-IPO voting percentage. Panels C and D are similar, but they are restricted to the subset of dual class IPOs that are founder firms.

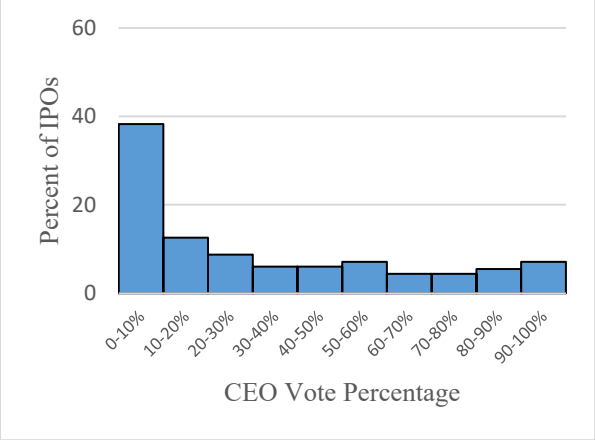
Panel A: Distribution of CEO voting power across all dual class IPOs



Panel B: Distribution of O&D voting power across all dual class IPOs



Panel C: Distribution of CEO voting power across dual class IPOs that are founder firms



Panel D: Distribution of O&D voting power across dual IPOs that are founder firms

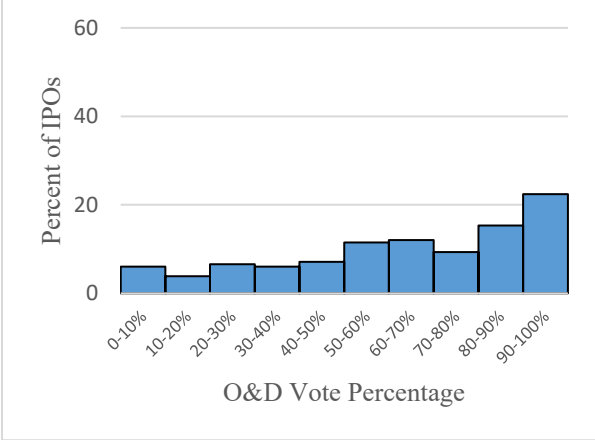
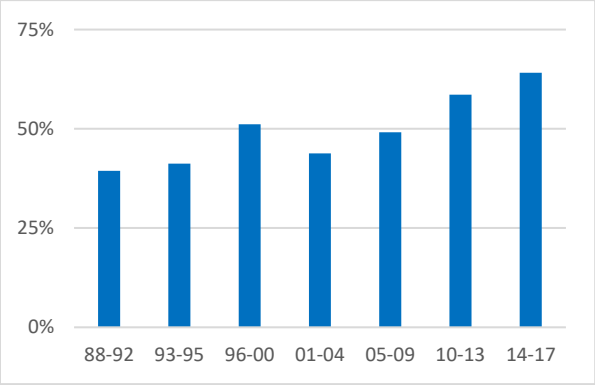


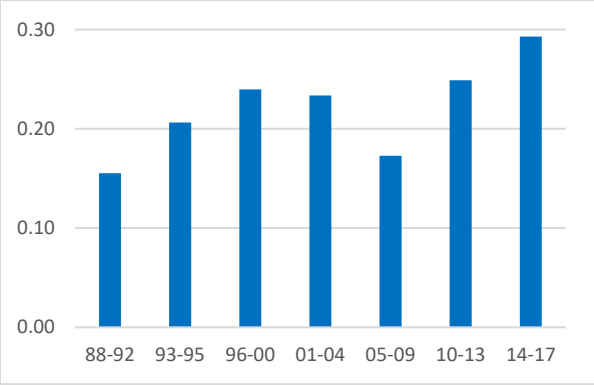
Figure 3: Trends in information asymmetry proxies for all IPOs

The sample consists of IPOs between 1988 and 2017, as described in Figure 1. For IPOs within each of the seven denoted time periods, Panels A - D show respectively: the percent of firms with positive pre-IPO R&D, median pre-IPO R&D / total assets among the subset of firms with positive R&D, median pre-IPO EBITDA/Assets, and median market capitalization measured one month after the IPO. Full variable descriptions are provided in Appendix I.

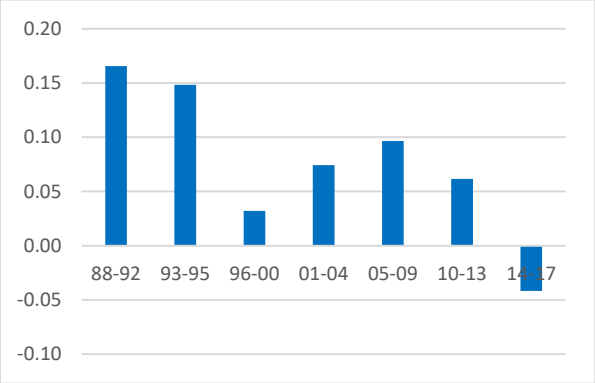
Panel A: Firms with positive R&D



Panel B: Median R&D/A for firms with positive R&D



Panel C: Median EBITDA/Assets



Panel D: Median market capitalization post-IPO

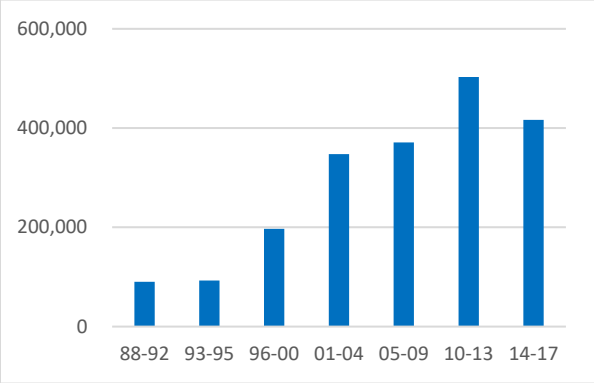
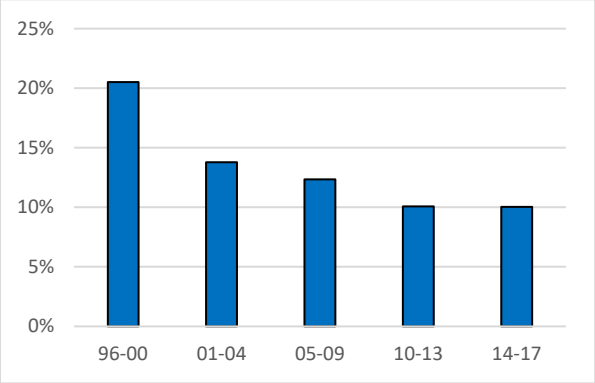


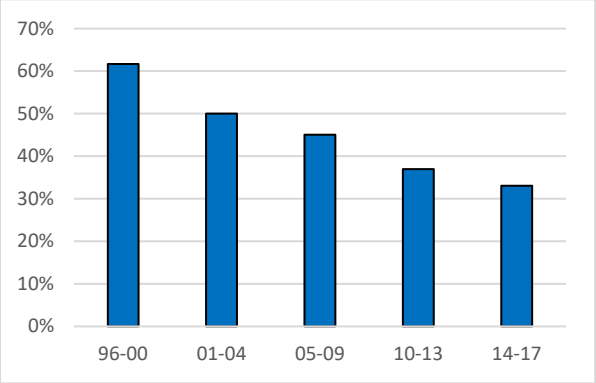
Figure 4: Trends in agency proxies for all IPOs

The sample consists of IPOs as described in Figure 1, restricted to the 1996 – 2017 period where data on all the depicted variables are available. For IPOs within each of the five denoted time periods, Panels A – D show respectively: average pre-IPO CEO ownership, the percent of firms in which the CEO is also Chairman of the Board (CEO – Chair Duality), CEO tenure, and the percent of firms in which either the CEO or Chair is the founder (founder firms). Full variable descriptions are provided in Appendix I.

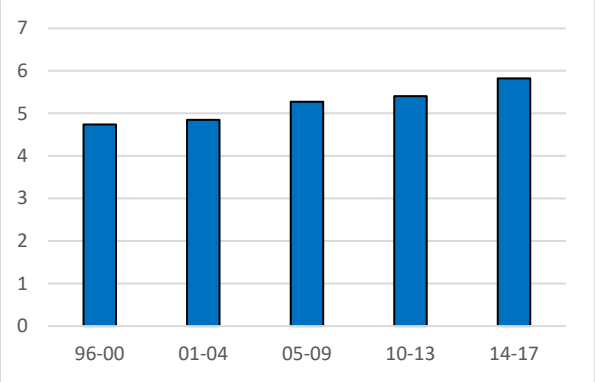
Panel A: CEO pre-IPO ownership



Panel B: CEO-Chair duality



Panel C: CEO tenure



Panel D: Founder firms

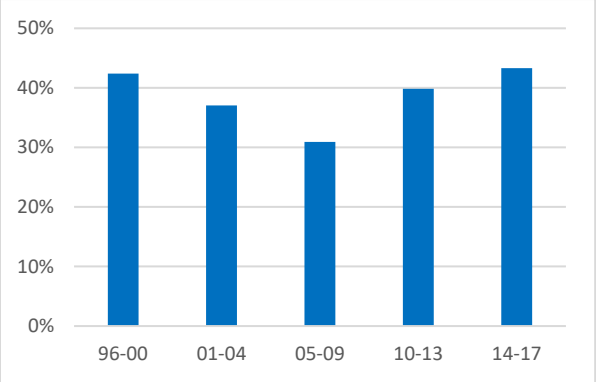
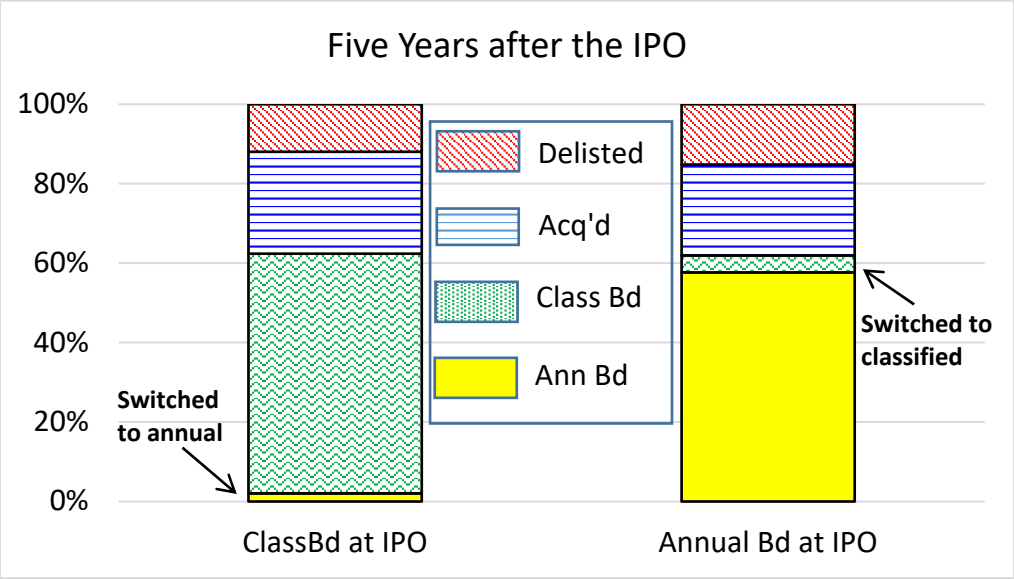


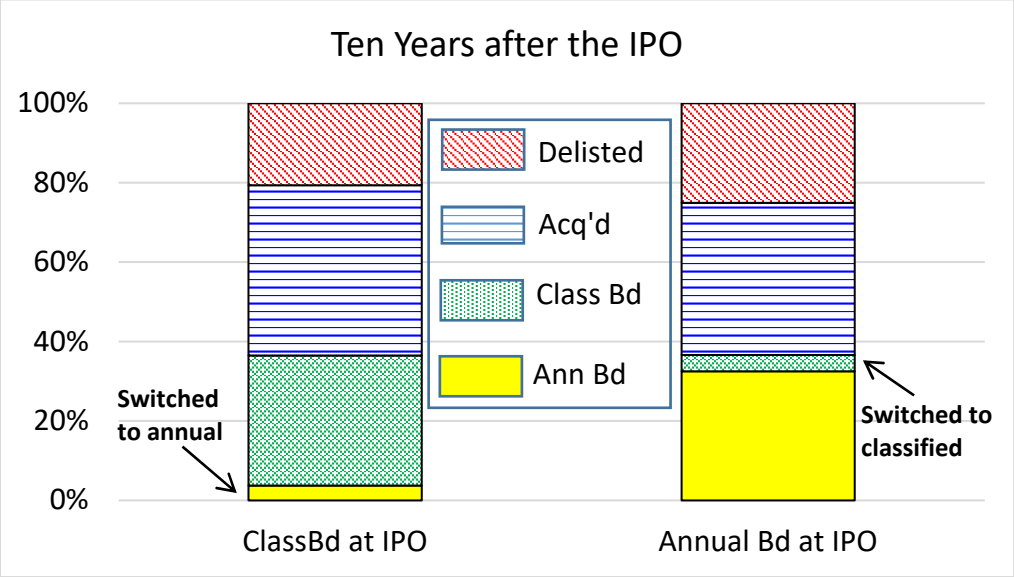
Figure 5: Changes in firm governance, five years after IPO

The sample in Panels A and B consists of the 5,980 IPOs as described in Figure 1. Panels A and B show the percent of IPO firms that had switched from a classified board to an annual board by either five or ten years after the IPO, and analogously the percent that had switched from an annual board to a classified board. In Panel A (Panel B), data on year 5 (year 10) exclude 448 firms (734 firms) that have been public less than five (ten) years as of 2017 and 40 (24) firms for which we are unable to determine board status as of year five (ten). In Panel C (Panel D), the sample is restricted to a sample of 111 (100) Dual Class IPOs that had been public for five (ten) years as of 2017, consisting of carve-outs and matched non-carve-outs. For each carve-out IPO with a dual class structure, we select a matched non-carve-out IPO that similarly had a dual class structure. We match on offer year (requiring a maximum of two years between offer dates), industry, and size, as described in more detail in the text. Bars depict the percent of these offerings that switched to single class, were still dual class, were acquired, or were delisted, five years after the IPO. The left-hand bar depicts these rates for the full sample, whereas the righthand two bars separate by carve-out versus non-carve-out.

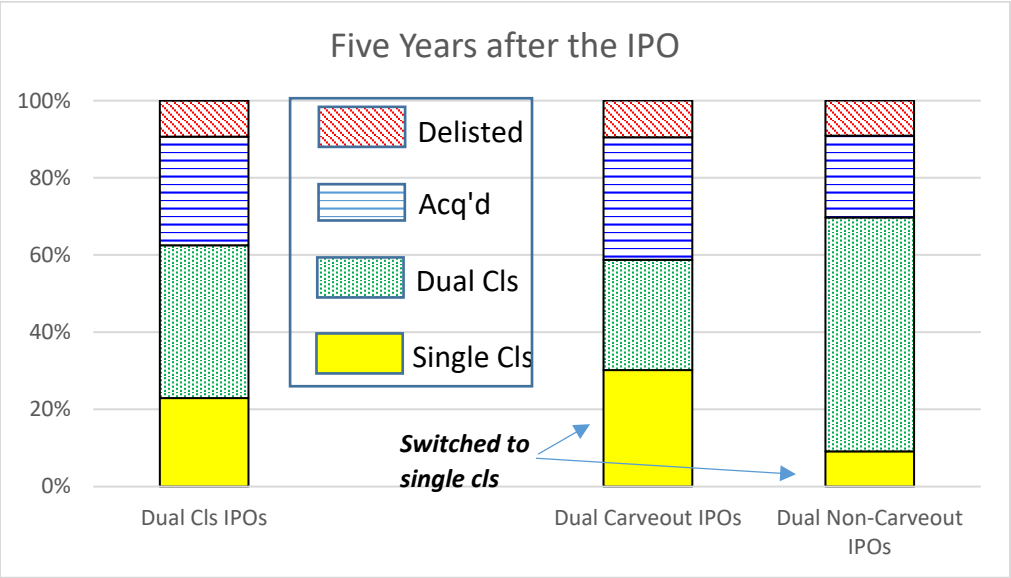
Panel A: Evolution of firms with Classified boards vs Annual Boards at IPO, five years after IPO



Panel B: Evolution of firms with Classified boards vs Annual Boards at IPO, ten years after IPO



Panel C: Evolution of firms with Dual Class Structure at IPO: Carveouts vs. Non-Carveouts, five years after IPO



Panel D: Evolution of firms with Dual Class Structure at IPO: Carveouts vs. Non-Carveouts, ten years after IPO

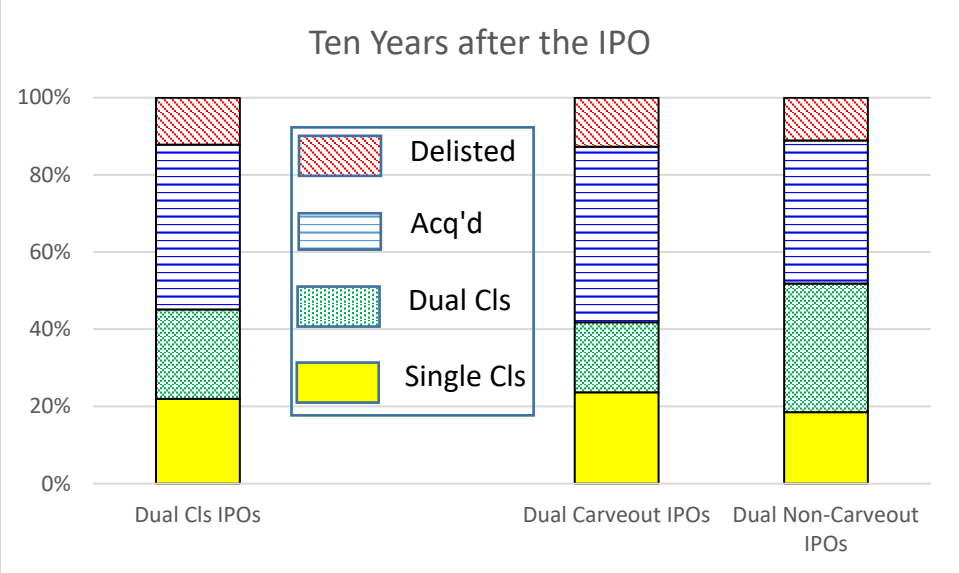


Figure 6: Percent of Firm Years with Shareholder Proposals

The sample represented by red bars consists of IPOs as described in Figure 1, further restricted to those over the 2005 – 2017 period for which ISS Voting Analytics data are available. Each bar shows the percent of firm-years with a shareholder proposal, for the first year after the IPO, the second year after the IPO, etc. The left-hand blue bar depicts the frequency among matched mature firms, defined as publicly traded firms included in the ISS Voting Analytics database, which have been publicly traded for at least five years, matched on date, 2-digit SIC code, and finally with the closest market capitalization. The right-hand blue bar depicts the frequency among all mature firms, defined as publicly traded firms included in the ISS Voting Analytics database, which have been publicly traded for at least five years.

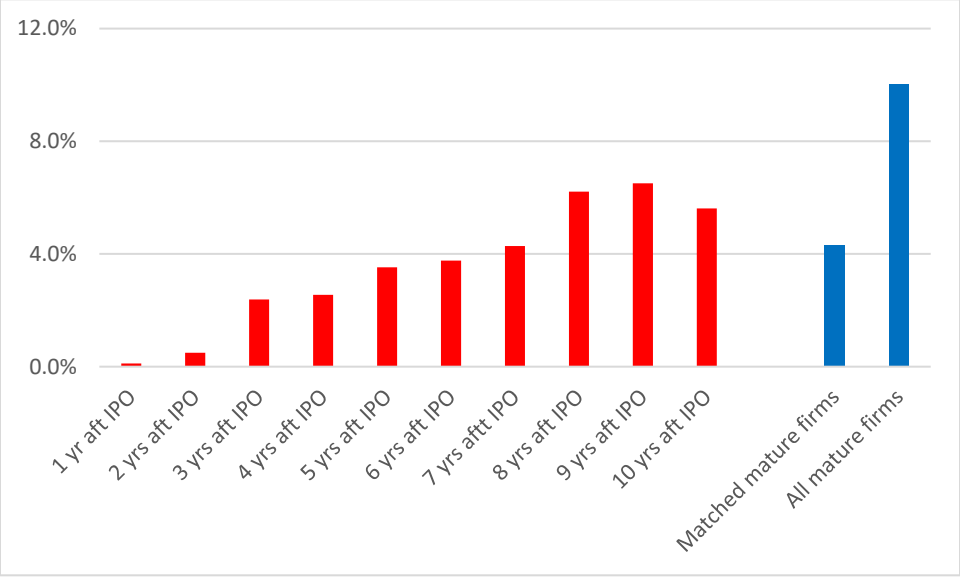
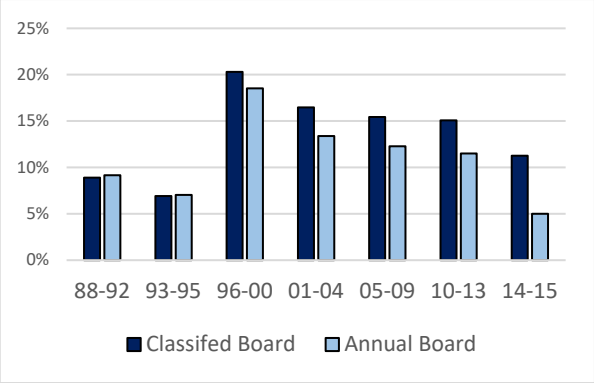


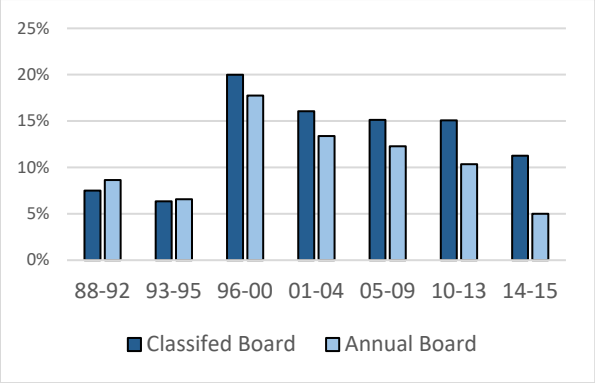
Figure 7: Acquisitions of IPO firms, conditional on governance status

The sample consists of IPOs between 1988 – 2017, as described in Figure 1. Panels A and C (Panels B and D) show the percent of IPO firms that were attempted to be acquired as measured by an acquisition announcement (that were actually acquired as measured by a completed acquisition) over the three years following the IPO, respectively, over seven time periods: 1988 – 1992, 1993 – 1995, 1996 – 2000, 2001 – 2004, 2005 – 2009, 2010 – 2013, 2014 – 2015. Panels A and B show these percentages separately for firms with a classified board (CB) versus annual board, and Panels C and D show these percentages separately for firms with a dual class ("dual") versus single class share structure.

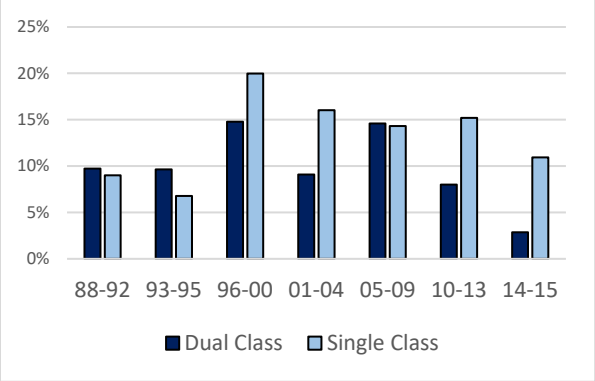
Panel A: Acquisition attempts, conditional on CB



Panel B: Completed acquisitions, conditional on CB



Panel C: Acquisition attempts, conditional on dual



Panel D: Completed acquisitions, conditional on dual

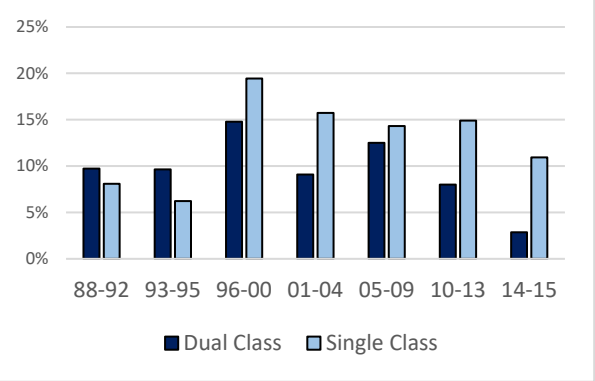
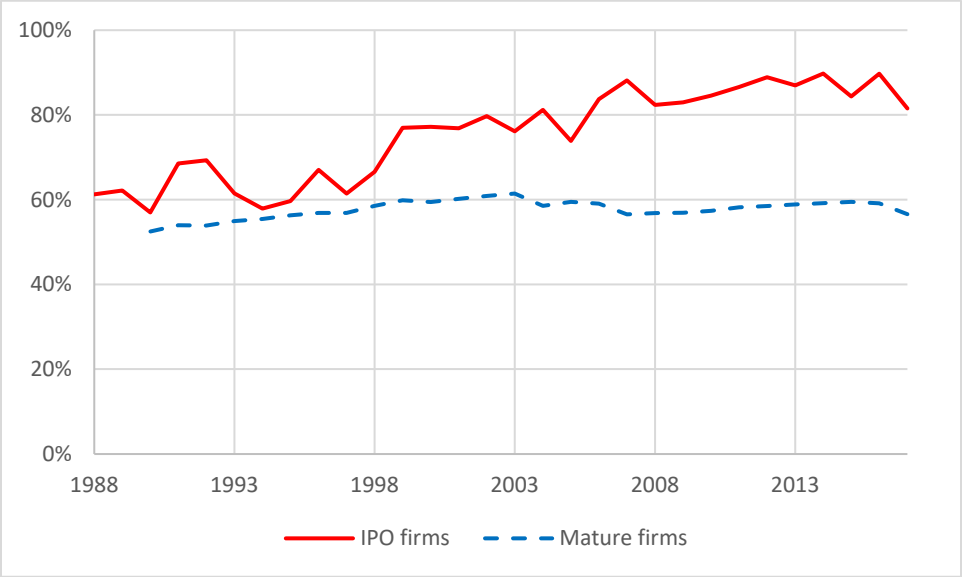


Figure 8: State of incorporation

The sample consists of IPO firms and mature firms, as previously described in Figure 1. Panel A plots the percent of firms going public each year that are incorporated in Delaware, as well as the percent of mature firms during that year that are incorporated in Delaware. Panel B plots analogous statistics, but it measures the percent of firms incorporated in their home state, defined as the state of their headquarters.

Panel A: Percent firms incorporated in Delaware



Panel B: Percent firms incorporated in home state

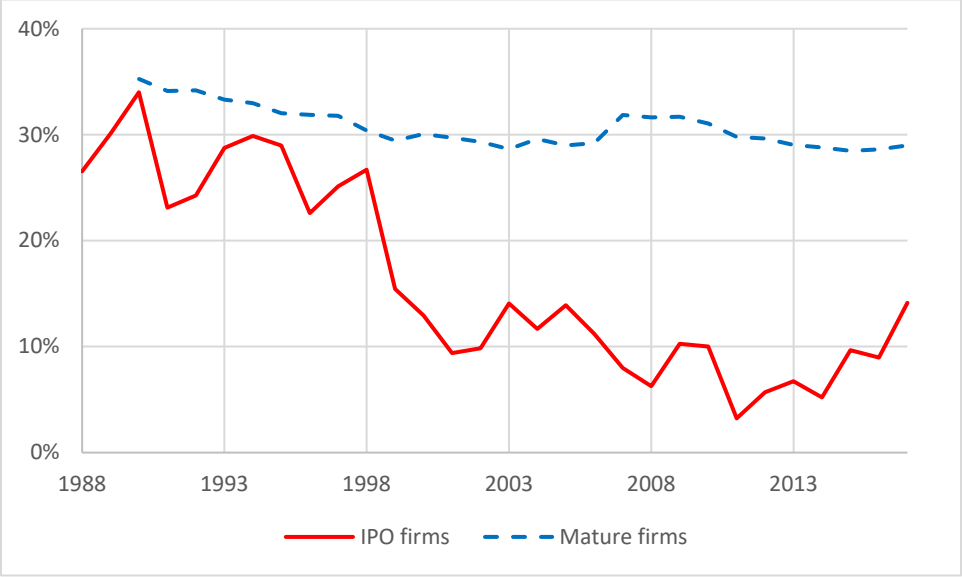


Table 1: Descriptive Statistics

The sample consists of 5,980 IPOs between 1988 and 2017, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5. Means of firm and offer-specific characteristics are reported. We present these descriptives across all 5,980 IPO firms in the sample, and also across firms with classified versus annual boards, and across firms with dual class versus single class share structures. Asterisks in Column 3 (Column 5) indicate significance of differences between firms with classified boards and annual boards (dual class and single class). Variable definitions are provided in Appendix 1. ***, **, and * indicate significant differences at the 1, 5, and 10% levels between (i) classified and annual boards, and (ii) dual class and single class structures.

		Board structure		Share structure	
	All firms (n=5980)	**Classified (n=3366)**	**Annual (n=2614)**	**Dual class (n=530)**	**Single class (n=5450)**
Information Asymmetry Proxies					
Firm age	16.43	16.85	15.87*	25.83	15.51***
R&D/Assets pre-IPO	0.19	0.20	0.19	0.05	0.21***
EBITDA/Assets pre-IPO	-0.16	-0.16	-0.16	0.05	-0.18***
Technology company	0.52	0.55	0.48***	0.39	0.53***
Initial return	21.05	23.89	17.40***	18.22	21.33**
Market-to-book	3.48	3.73	3.16***	2.90	3.54***
Agency Proxies and CEO Characteristics					
Founder firm	0.34	0.35	0.31***	0.38	0.33*
CEO pre-IPO ownership	0.17	0.15	0.22***	0.21	0.17***
CEO tenure	5.62	5.51	5.78	6.48	5.53***
CEO-chair duality	0.62	0.59	0.65***	0.60	0.62
Measures of Firm Size / Type					
Proceeds (mil $2015)	149.10	152.43	144.81	400.72	124.63***
Market cap (mil $2015)	733.54	848.42	585.59***	869.10	720.36*
Carve-out	0.15	0.15	0.15	0.17	0.14**
Quality of Associated Intermediaries					
Underwriter rank	7.49	7.92	6.95***	8.41	7.41***
VC backed	0.54	0.60	0.46***	0.36	0.56***

Table 2: Percent of firms with classified boards, by industry

The sample in Panel A consists of IPOs, as described in Table 1. The sample in Panel B consists of mature firms, defined as S&P1500 firms that have been public for at least five years, as listed on IRRC. Each sample is classified according to the twelve Fama-French industries. Panel A (Panel B) shows the percent of IPO firms (mature firms) within each time period and each industry group that have a classified board.

Panel A: IPO firms

	Fama-French Industry 12 Group										
Time Period	Consumer Nondurable	Consumer Durable	Manu-facturing	Energy	Chemicals	Business Eqpt	Telecom	Shops	Health-care	Finance	Other
1988 - 1992	36%	33%	46%	48%	27%	37%	59%	41%	33%	43%	35%
1993 - 1995	33%	55%	45%	59%	50%	38%	44%	42%	48%	59%	46%
1996 - 2000	44%	29%	53%	47%	25%	63%	53%	57%	58%	64%	59%
2001 - 2004	64%	80%	77%	50%	75%	70%	83%	56%	79%	52%	62%
2005 - 2009	43%	29%	57%	65%	77%	74%	55%	60%	79%	63%	54%
2010 - 2013	90%	83%	83%	57%	60%	81%	71%	91%	83%	61%	75%
2014 - 2017	89%	100%	88%	71%	100%	83%	75%	84%	84%	57%	81%

Panel B: Mature firms

	Fama-French Industry 12 Group										
Time Period	Consumer Nondurable	Consumer Durable	Manu-facturing	Energy	Chemicals	Business Eqpt	Telecom	Shops	Health-care	Finance	Other
1988 - 1992	54%	60%	68%	53%	63%	44%	61%	54%	58%	57%	62%
1993 - 1995	54%	61%	69%	54%	64%	45%	60%	54%	52%	59%	61%
1996 - 2000	54%	62%	66%	52%	66%	44%	66%	59%	56%	58%	57%
2001 - 2004	51%	63%	68%	51%	70%	48%	51%	58%	55%	61%	58%
2005 - 2009	50%	62%	67%	54%	66%	46%	31%	52%	53%	54%	50%
2010 - 2013	39%	49%	57%	42%	55%	41%	18%	40%	45%	36%	42%
2014 - 2017	27%	30%	47%	25%	43%	32%	14%	29%	37%	27%	33%

Table 3: Predictions for the Agency and Optimal Governance Hypotheses

	Predictions of Agency Hypothesis	Predictions of Optimal Governance Hypothesis
IPO firms	Managers seek to protect private benefits of control and choose governance structures that allow them to do so. • Classified boards and dual class structures facilitate managers' protection of private benefits of control.	IPO firms have unique governance demands, due to long-term projects and high information asymmetry. • These unique governance demands motivate firms to implement classified boards and/or dual class structures.
ISS	Recognizes these high agency costs and, as a result, is more likely to: • Recommend against directors of IPO firms. • Recommend against directors of firms with classified boards and dual class structures.	Does not recognize the unique demands of IPO firms. Follows one-size-fits all policy and, as a result, is more likely to: • Recommend against directors of IPO firms. • Recommend against directors of firms with classified boards and dual class structures.
Mutual funds, especially the engaged funds	Independently conclude that directors of IPO firms with particular governance structures facilitate agency: • Vote against directors of IPO firms. • Vote against directors of firms with classified boards and dual class structures.	Determine that directors of IPO firms satisfy firms' unique governance demands: • Vote for directors of IPO firms. • Vote for directors of firms with classified boards and dual class structures.

Table 4: ISS's tendency to recommend against proposals in newly public firms

In panel A, the sample in the left-hand columns consists of IPOs between 2005 and 2015 for which ISS Voting analytics data on ISS recommendations are available, over the one to five firm annual meetings after the IPO. For each calendar year, column (1) shows the number of director proposals across these firms, and column (2) shows the percent of these directors on which ISS recommends. Columns (3) and (4) are similar, with the exception that they focus on a sample of mature firms, defined as IRRC 1500 firms that have been publicly traded for at least five years and for which ISS Voting Analytics data are available. In Panel B, the sample is restricted to the IPOs, as used in columns (1) and (2) of Panel A. We tabulate the percent of directors on which ISS recommended against for classified boards versus annual boards (row 1), and dual class versus single class (row 2).

Panel A: Director proposals in IPO versus mature IRRC firms

	IPO firms		Mature firms	
Meeting year	# Director proposals	%Directors ISS recommends against	# Director proposals	%Directors ISS recommends against
	(1)	(2)	(3)	(4)
2006	1,417	16%	6,561	6%
2007	1,538	16%	7,112	7%
2008	1,523	14%	6,579	7%
2009	1,482	21%	7,776	12%
2010	1,053	19%	7,975	8%
2011	1,067	10%	8,285	5%
2012	943	17%	8,512	4%
2013	927	18%	8,776	5%
2014	1,212	15%	9,013	5%
2015	1,655	21%	9,210	6%
2016	1,693	27%	9,236	4%
2017	1,517	41%	8,295	5%
Total	16,027	20%	97,330	6%

Panel B: Director Proposals within subsets of IPO firms

	% directors ISS recommends against	
	Yes	No
Classified board	22%	18%
Dual Class	25%	19%

Table 5: ISS Recommendations

The sample consists of director proposals in firms' annual meetings, over 2006 - 2017. In column 1, firm-years include IPO firms over the first five annual meetings after the IPO plus mature firms, as used in Column 1 of Panel A, Table 4. In columns 2 and 3, the sample is restricted to the IPO firms over the first five years after the IPO. The dependent variable is a dummy equal to one if ISS recommended for the director, zero otherwise. In column 1, IPO firm equals one if it is a recent IPO firm (defined as one of the first five annual meetings after the IPO), zero otherwise. In columns 2 and 3, classified board and dual class equal one if the firm had this structure at the time of the IPO, zero otherwise. In column 3, wedge is defined as insider voting rights minus cash flow rights for dual class firms, where insiders include all officers and directors. Carveout equals one if the IPO was a carve-out, zero otherwise. All control variables are defined in Appendix I. Robust standard errors are shown in parentheses, and all regressions include meeting year fixed effects. ***, **, and * denote significance at the 1, 5, and 10% significance levels.

	Dependent variable = ISS for		
	IPO & IRRC firms	IPO firms	IPO firms
IPO firm	-0.0976***		
	(0.00300)		
Classified board		-0.0565***	-0.0566***
		(0.00603)	(0.00604)
Dual class		-0.112***	-0.102***
		(0.0100)	(0.0128)
Dual class × Wedge			-0.0008
			(0.0650)
Dual class × Carve-out			-0.0690**
			(0.0277)
R&D/Assets	0.00458	0.0485	0.0503
	(0.0147)	(0.0318)	(0.0318)
EBITDA/Assets	0.0344***	0.0620***	0.0625***
	(0.00761)	(0.0174)	(0.0173)
Log(Assets)	0.00931***	0.0106***	0.0103***
	(0.000439)	(0.00255)	(0.00255)
Market-to-book	0.00580***	0.00851***	0.00862***
	(0.000732)	(0.00148)	(0.00148)
Book leverage	-0.0712***	-0.135***	-0.137***
	(0.00461)	(0.0141)	(0.0141)
CEO ownership	-0.00138***	-0.000593**	-0.000629***
	(0.000133)	(0.000231)	(0.000233)
Log(CEO tenure)	-0.00452***	0.0124***	0.0110**
	(0.00113)	(0.00426)	(0.00430)
Carve-out		0.0223**	0.0353***
		(0.0111)	(0.0121)
Controlled co, not dual		-0.161***	-0.165***
		(0.00972)	(0.00981)
Founder firm		0.0254***	0.0248***
		(0.00704)	(0.00705)
Years since IPO		0.0419***	0.0421***
		(0.00234)	(0.00234)
Initial return		-0.000115	-0.000124
		(0.000137)	(0.000137)
VC-backed		0.0128*	0.0106
		(0.00751)	(0.00756)
Ln(Firm age at IPO)		0.0184***	0.0191***
		(0.00370)	(0.00372)
Observations	129,906	16,373	16,373
Fixed effects	Year	Year	Year
Adjusted R^2	0.059	0.111	0.111

Table 6: Mutual fund votes on IPO firms

The sample consists of mutual funds' votes on directors in IPO firms. Firm-years include the first five annual meetings after firms' IPOs, over 2006 - 2017. The dependent variable is a dummy equal to one if the mutual fund voted for the director, zero otherwise. Engaged voter comes from a principal factor analysis based on mutual fund family size, mutual fund size, mutual fund concentration within the MSA, and mutual fund turnover, as discussed in more detail in the text. Funds with an above-median value of this principal factor are labeled as engaged funds. All other variables are defined in Table 5 and in Appendix 1. Robust standard errors are shown in parentheses, and all regressions include meeting year fixed effects. ***, **, and * denote significance at the 1, 5, and 10% significance levels.

	Dependent variable = Fund for		
Classified board	-0.0156***	-0.0159***	-0.0181***
	(0.000731)	(0.000733)	(0.00105)
Classified board × Engaged voter			0.00433***
			(0.00141)
Dual class	-0.0718***	-0.0679***	-0.0807***
	(0.00108)	(0.00137)	(0.00193)
Dual class × Engaged voter			0.0251***
			(0.00258)
Dual class × Wedge		-0.0453***	-0.00181
		(0.00850)	(0.0115)
Dual class × Wedge × Engaged voter			-0.0888***
			(0.0163)
Dual class × Carve-out		-0.00124	0.00448
		(0.00267)	(0.00377)
Dual class × Carve-out × Engaged voter			-0.0116**
			(0.00481)
Engaged voter			0.0180***
			(0.00110)
Carve-out × Engaged voter			0.00306
			(0.00199)
R&D/Assets	-0.0414***	-0.0420***	-0.0433***
	(0.00471)	(0.00471)	(0.00471)
EBITDA/Assets	0.00214	0.00213	0.00388
	(0.00251)	(0.00251)	(0.00251)
Log(Assets)	-0.00139***	-0.00148***	-0.00121***
	(0.000275)	(0.000278)	(0.000278)
Market-to-book	0.00596***	0.00588***	0.00606***
	(0.000169)	(0.000170)	(0.000170)
Book leverage	-0.0563***	-0.0562***	-0.0573***
	(0.00163)	(0.00163)	(0.00163)
CEO ownership	-0.000345***	-0.000323***	-0.000330***
	(0.0000311)	(0.0000314)	(0.0000314)
Log(CEO tenure)	0.00252***	0.00276***	0.00285***
	(0.000502)	(0.000519)	(0.000519)
Carve-out	0.0303***	0.0303***	0.0291***
	(0.00113)	(0.00123)	(0.00166)
Controlled co, not dual	-0.0640***	-0.0636***	-0.0639***
	(0.00104)	(0.00105)	(0.00105)
Founder firm	0.00940***	0.0101***	0.0101***
	(0.000901)	(0.000909)	(0.000909)
Years since IPO	0.0175***	0.0176***	0.0179***
	(0.000282)	(0.000282)	(0.000282)

Initial return	0.0000238	0.0000282	0.0000226
	(0.0000171)	(0.0000172)	(0.0000171)
VC-backed	0.00175*	0.00150	0.00158*
	(0.000899)	(0.000913)	(0.000912)
Ln(Firm age at IPO)	0.0213***	0.0210***	0.0210***
	(0.000449)	(0.000456)	(0.000456)
Controls	Yes	Yes	Yes
Fixed effects	Year	Year	Year
Observations	804164	804164	804164
Adjusted R^2	0.028	0.028	0.029

Table 7: Mutual fund votes on IPO firms, controlling for ISS recommendation

The sample consists of mutual funds' votes on directors in IPO firms. Firm-years include the first five annual meetings after firms' IPOs, over 2006 - 2017. Columns 2 and 3 are restricted to directors that ISS recommended Against and For, respectively. The dependent variable is a dummy equal to one if the mutual fund voted for the director, zero otherwise. ISS For equals one if ISS recommended for the director, zero otherwise. All other variables are defined in Tables 5 and 6, and in Appendix 1. Robust standard errors are shown in parentheses, and all regressions include meeting year fixed effects, as well as control variables used in Table 6. ***, **, and * denote significance at the 1, 5, and 10% significance levels.

	Dependent variable = Fund for		
	All director votes	ISS against	ISS for
Classified board	-0.00676***	-0.0266***	-0.00205***
	(0.000871)	(0.00437)	(0.000697)
Classified board × Engaged voter	0.00909***	0.0365***	-0.00338***
	(0.00122)	(0.00547)	(0.000971)
Dual class	-0.0298***	-0.0421***	-0.0122***
	(0.00164)	(0.00627)	(0.00136)
Dual class × Engaged voter	0.0175***	-0.0315***	0.00841***
	(0.00229)	(0.00780)	(0.00193)
Dual class × Wedge	0.0258***	0.207***	-0.0196**
	(0.00990)	(0.0305)	(0.00902)
Dual class × Wedge × Engaged voter	-0.0773***	-0.129***	-0.0649***
	(0.0148)	(0.0429)	(0.0141)
Dual class × Carve-out	0.00699**	-0.0243*	0.0000780
	(0.00309)	(0.0130)	(0.00240)
Dual class × Carve-out × Engaged voter	-0.0103**	0.0538***	-0.00441
	(0.00412)	(0.0170)	(0.00313)
Engaged voter	0.0188***	0.175***	-0.00487***
	(0.000959)	(0.00479)	(0.000786)
ISS for	0.435***		
	(0.00138)		
Controls	Yes	Yes	Yes
Fixed effects	Year	Year	Year
Observations	800,190	137,240	662,950
Adjusted R^2	0.271	0.056	0.006

Table 8: Mutual Fund Votes on Dual Class IPO firms, controlling for ISS recommendation

The sample consists of mutual funds' votes on directors in dual class IPO firms. Firm-years include the first five annual meetings after firms' IPOs, over 2006 - 2017. Columns 2 and 3 are restricted to directors that ISS recommended Against and For, respectively. The dependent variable is a dummy equal to one if the mutual fund voted for the director, zero otherwise. ISS For equals one if ISS recommended for the director, zero otherwise. All other variables are defined in Tables 5 and 6, and in Appendix 1. Robust standard errors are shown in parentheses, and all regressions include meeting year fixed effects, as well as control variables used in Table 6. ***, **, and * denote significance at the 1, 5, and 10% significance levels.

	Dependent variable = Fund for		
	All director proposals	ISS against	ISS for
Wedge	-0.00424	0.0960***	-0.0210**
	(0.0109)	(0.0335)	(0.00988)
Wedge× Engaged voter	-0.0825***	-0.136***	-0.0622***
	(0.0148)	(0.0426)	(0.0141)
Carve-out	-0.000385	-0.0397***	0.00757***
	(0.00357)	(0.0122)	(0.00293)
Carve-out × Engaged voter	0.000137	0.0502***	0.00195
	(0.00375)	(0.0153)	(0.00288)
Engaged voter	0.0412***	0.157***	0.00336*
	(0.00220)	(0.00694)	(0.00187)
ISS for	0.436***		
	(0.00277)		
Controls	Yes	Yes	Yes
Fixed effects	Year	Year	Year
Observations	157,671	37001	120670
Adjusted R^2	0.288	0.047	0.011

Table 9: Determinants of increases in classified boards and dual class, over time

The sample consists of IPOs as described in Table 1. We further restrict the sample to firms with available data on all control variables. The dependent variable in Panel A (Panel B) is a dummy equal to one if the IPO has a classified board (dual class) at the time of the IPO, zero otherwise. The first independent variable is a time trend, equal to one in the first year of the sample (1988) and increasing by one for every subsequent year. This time trend is interacted with information asymmetry proxies, which include a dummy equal to one if the firm had positive R&D in the year prior to the IPO, EBITDA / assets in the year prior to the IPO, and ln(firm age) at the time of the IPO. The time trend is also interacted with agency proxies, which include a dummy equal to one if it is a founder firm, CEO ownership prior to the IPO, and ln(CEO tenure) at the time of the IPO. Finally, the time trend is also interacted with a VC dummy and a carve-out dummy. Full variable descriptions are provided in Appendix I. Columns 2-4 include Fama-French 12 industry fixed effects, and all standard errors are robust. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

Panel A: Classified boards

	Dependent variable = Classified board			
Time trend	0.0166***	0.0111***	0.00835***	0.0118***
	(0.000893)	(0.00366)	(0.00283)	(0.00420)
Information asymmetry proxies × Time trend:				
Positive R&D × Time trend		0.00699***		0.00683***
		(0.00218)		(0.00219)
EBITDA/Assets × Time trend		0.000900		0.000913
		(0.000945)		(0.000945)
Log(Firm age) × Time trend		-0.00224*		-0.00272**
		(0.00116)		(0.00127)
Agency Proxies × Time trend:				
Founder firm × Time trend			0.000193	-0.00122
			(0.00197)	(0.00197)
CEO pre-IPO ownership % × Time trend			-0.00450	-0.00437
			(0.00512)	(0.00523)
log(CEO tenure) × Time trend			0.000224	0.00121
			(0.00129)	(0.00138)
Control Variables:				
VC × Time trend		0.00751***	0.00992***	0.00704***
		(0.00219)	(0.00206)	(0.00226)
Carve-out × Time trend		0.00492*	0.00281	0.00462*
		(0.00255)	(0.00252)	(0.00258)
Positive R&D dummy		-0.0527	0.0273	-0.0509
		(0.0323)	(0.0204)	(0.0325)
Pre-IPO EBITDA/Assets		-0.00672	0.00642	-0.00709
		(0.0185)	(0.00800)	(0.0185)
Log(Firm age)		0.0243	-0.00387	0.0309*
		(0.0165)	(0.00968)	(0.0179)
Founder firm		0.0143	0.00909	0.0287
		(0.0161)	(0.0289)	(0.0301)
CEO pre-IPO ownership %		-0.154***	-0.108*	-0.112*
		(0.0360)	(0.0618)	(0.0627)
log(CEO tenure)		0.0175	0.0187	0.00310
		(0.0108)	(0.0190)	(0.0203)
VC backed		0.0235	-0.00867	0.0285
		(0.0311)	(0.0297)	(0.0317)
Carve-out		-0.0322	-0.0142	-0.0282
		(0.0386)	(0.0389)	(0.0390)
Observations	4167	4167	4167	4167
Fixed Effects	No	Industry	Industry	Industry
Adjusted R^2	0.069	0.099	0.096	0.099

Table 9 (continued)

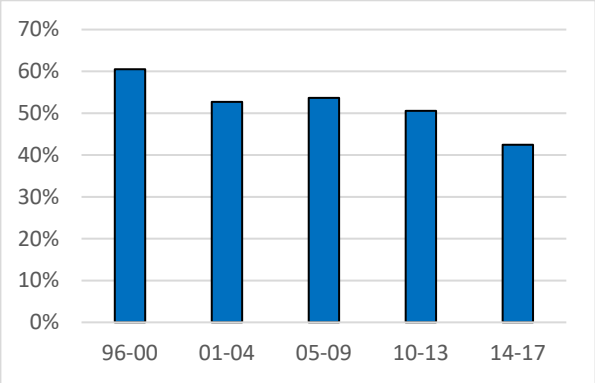
Panel B: Dual class

	Dependent variable = Dual class			
Time trend	0.00294***	0.00859***	0.00336	0.00216
	(0.000645)	(0.00251)	(0.00205)	(0.00281)
Information asymmetry proxies × Time:				
Positive R&D × Time trend		0.00141		0.00177
		(0.00164)		(0.00163)
EBITDA/Assets × Time trend		0.000744**		0.000545*
		(0.000321)		(0.000305)
Log(Firm age) × Time trend		-0.00101		0.000315
		(0.000831)		(0.000887)
Agency proxies × Time trend:				
Founder × Time trend			0.00641***	0.00653***
			(0.00131)	(0.00134)
CEO pre-IPO ownership % × Time trend			0.0118***	0.0119***
			(0.00403)	(0.00404)
Log(CEO tenure) × Time trend			-0.00130	-0.00147
			(0.000955)	(0.00102)
Control Variables:				
VC × Time trend		-0.00295*	-0.00135	-0.00184
		(0.00156)	(0.00143)	(0.00158)
Carve-out × Time trend		-0.000754	0.000870	0.00106
		(0.00178)	(0.00173)	(0.00180)
Positive R&D dummy		-0.0563***	-0.0409***	-0.0606***
		(0.0187)	(0.0123)	(0.0185)
Pre-IPO EBITDA/Assets		-0.00358	0.00968***	0.000622
		(0.00657)	(0.00289)	(0.00644)
Log(Firm age)		0.0515***	0.0369***	0.0340***
		(0.0112)	(0.00661)	(0.0122)
Founder firm		0.0380***	-0.0384*	-0.0397*
		(0.0108)	(0.0213)	(0.0220)
CEO pre-IPO ownership %		0.0264	-0.0821*	-0.0841**
		(0.0250)	(0.0423)	(0.0424)
Log(CEO tenure)		-0.0173**	-0.00229	-0.0000160
		(0.00751)	(0.0128)	(0.0137)
VC backed		-0.0319*	-0.0487***	-0.0435**
		(0.0181)	(0.0172)	(0.0185)
Carve-out		0.0185	-0.00165	-0.00294
		(0.0217)	(0.0214)	(0.0218)
Observations	4167	4167	4167	4167
Fixed effects	No	Industry	Industry	Industry
Adjusted R^2	0.006	0.087	0.099	0.099

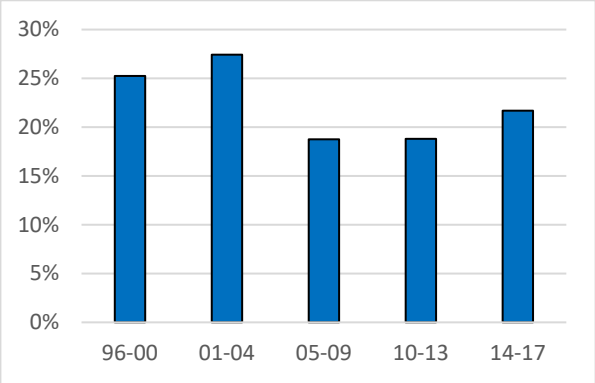
Internet Appendix Figure A1

The sample consists of IPOs as described in Figure 1, restricted to the 1996 – 2017 period where data on all the depicted variables are available. For IPOs within each of the five denoted time periods, Panels A – D show respectively: average pre-IPO ownership across all officers and directors (O&D), average CEO vote percentage, average vote percentage across all officers and directors, and Chair tenure. Full variable descriptions are provided in Appendix I.

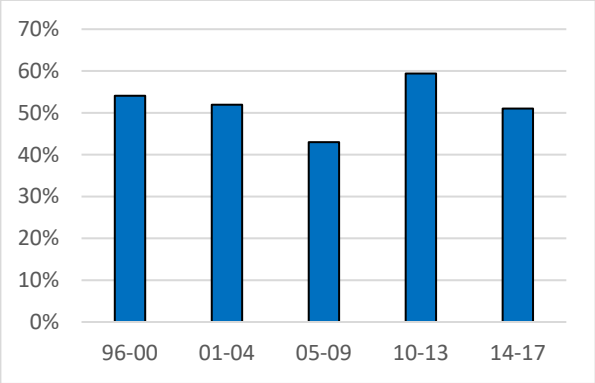
Panel A: O&D pre-IPO ownership



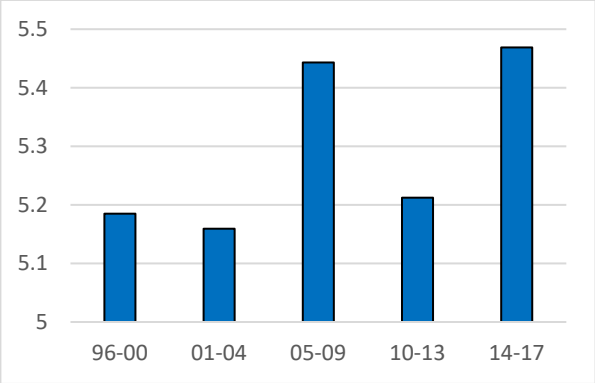
Panel B: CEO vote pre-IPO vote percentage



Panel C: O&D pre-IPO vote percentage



Panel D: Chair tenure



Internet Appendix Table A1: Likelihood of the firm being acquired over the first three years after the IPO, conditional on governance structure

The sample consists of IPOs between 1988 and 2017, as described in Table 1. For each IPO, we determine whether a firm attempted to acquire the recent IPO firm ('Merger Attempt, in column 1, successfully acquired the recent IPO firm ('Merger Completed', in column 2), and for the subset of IPO firms that were acquired the size of the merger premium ('Merger Premium', in column 3, defined as the percentage difference between the merger offer price and the firm closing price 42 trading days prior to the merger announcement). Each of these dependent variables is regressed on three governance structure dummies: Classified board, Dual class, and Controlled company, not dual. We also interact dual class with the wedge between voting and cash flow rights. Full variable descriptions are included in Appendix I. Offer year fixed effects are included in all regressions, robust standard errors are reported in parentheses, and ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Merger Attempt	Merger Completed	Merger Premium
Classified board	-0.004	0.002	0.056
	(0.009)	(0.011)	(0.055)
Dual class	-0.058***	-0.056**	-0.060
	(0.018)	(0.024)	(0.088)
Dual class × wedge		-0.070	0.330
		(0.098)	(0.475)
Controlled company, not dual	-0.013	-0.019	-0.134*
	(0.025)	(0.025)	(0.075)
R&D/Assets	-0.040*	-0.035*	1.015
	(0.021)	(0.020)	(0.673)
EBITDA/Assets	-0.007	-0.013	0.132
	(0.015)	(0.016)	(0.196)
Log(Firm age)	-0.006	-0.010	0.023
	(0.005)	(0.006)	(0.025)
Log(Mkt Cap), real $2015	0.004	0.005	-0.058**
	(0.006)	(0.007)	(0.029)
VC-backed	-0.000	-0.005	0.074
	(0.011)	(0.013)	(0.062)
Underwriter rank	0.015***	0.016***	0.008
	(0.003)	(0.003)	(0.019)
Technology firm	0.008	0.011	0.105
	(0.010)	(0.012)	(0.071)
Initial return	-0.010	-0.014	-0.036
	(0.013)	(0.013)	(0.077)
Shares offered /	0.068***	0.056*	-0.056
Shares outstanding	(0.026)	(0.031)	(0.035)
Observations	5695	4373	587
Fixed Effects	Offer Year	Offer Year	Offer Year
Adjusted R^2	0.032	0.021	0.043