Contrasts in governance: newly public firms versus mature firms

Laura Field
University of Delaware
lfield@udel.edu

Michelle Lowry
Drexel University
michelle.lowry@drexel.edu

January 3, 2017

Abstract:

While the percentage of S&P1500 firms with classified boards has decreased from nearly 60% to less than 40% since 1990, trends among IPO firms have gone strongly in the opposite direction. The percent of firms going public with a classified board has increased from 40% in 1990 to nearly 80% today. Results provide strong support for differences in the value of classified boards across firms contributing toward these trends, with market forces pushing each group in the value-increasing direction. We find little evidence that the increased tendency of IPO firms to adopt classified boards is driven by agency issues. Rather, results suggest that classified boards potentially protect newly public firms from the influence of shareholders that may not appreciate the unique aspects of these firms and may push for change that is not in the firm's best interests.

1. Introduction

Over the past two decades, there has been an increased concern by practitioners and academics alike as to the effects of classified boards on corporate governance and firm value. As noted by Guo, Kruse and Nohel (2011), many institutional investors and proxy advisory service companies specifically state that directors should be accountable to shareholders on an annual basis. Multiple academic studies show the detrimental effect of classified boards: Bebchuk, Coates, and Subramanian (2002) find that classified boards serve to entrench managers; Bebchuk and Cohen (2005) find that classified boards reduce firm value; Faleye (2007) finds that classified boards reduce director effectiveness, and Ruo, Kruse and Nohel (2008) find that announcements to de-stagger the board earn positive abnormal returns.

Consistent with this preponderance of evidence on the costs of classified boards, firms in recent years have been declassifying their boards at an unprecedented rate. While almost 60% of S&P1500 firms had a classified board in 1990, fewer than 40% of S&P1500 firms had a classified board by 2014. By contrast, we show that the trend among newly public firms is in the exact opposite direction. The percentage of firms going public with a classified board has almost doubled over the same period, from 40% in 1990 to nearly 80% in 2014. The objective of this paper is to understand the forces underlying these two strikingly different trends, and in particular to examine the extent to which these trends can be explained by the net benefits of classified boards being particularly high for some types of firms. These divergent trends in board structure make this a particularly strong setting in which to examine the one-size-doesn't-fit-all concept of governance

We posit that the contrasting trends in IPO versus mature firms reflect the fact that IPO firms' net benefits of having a classified board have increased over time, whereas those of mature firms have not. As argued by Bratton and Wachter (2010), Strine (2006), and Lipton and

Rosenblum (1991), the benefit of less frequent director elections is that directors are less susceptible to market forces of the type discussed by Stein (1988, 1989), which exert pressure to focus on the short-term at the expense of long-term value. This benefit of classified boards in enabling the firm to focus on long-term value creation is highest among firms characterized by high information asymmetry, with long-term projects that they cannot credibly convey to external investors. We posit that changes in these benefits, as well as changes in the market's perception of these dynamics, can explain the observed trends. Specifically, increases in the information asymmetry of companies going public and/or increases in market pressure on firms to focus on short-term performance goals may explain the increased tendency of IPO firms have classified boards.

In contrast, we conjecture that the decrease in the proportion of mature firms with classified boards reflects these firms' lower information asymmetry combined with increased public recognition of and attention to agency costs. That is, there is an increased awareness that the costs of classified boards exceed the benefits within these firms. In sum, we posit that the increased attention by academics and institutional shareholders on the costs and benefits of classified boards has pushed both mature and newly-public firms closer to their optimal board structure.

Throughout the paper, we contrast these conjectures with the possibility that agency costs drive the observed trends in both IPO and mature firms. Increased attention to agency costs among public firms may motivate managers to install a classified board prior to the IPO, as a means of protecting their post-IPO private benefits of control. If such structures are motivated by agency problems, then IPO firms would raise lower proceeds and may face pressure to declassify at a later point, but in the short-term managers would benefit from higher perquisite consumption. Analogously, to the extent that the classified board structure among mature firms

is motivated by agency costs, we would expect all types of mature firms, irrespective of the extent of information asymmetry that Stein (1988, 1989) suggests would make classified boards beneficial, to be equally likely to face pressure to declassify their boards..

We conduct several empirical tests to evaluate the extent to which the increasing trend among IPO firms and the decreasing trend among mature firms to have classified boards reflect both firm types making optimal governance choices. First, we investigate changes in the types of firms going public over time, the types of IPO firms choosing a classified board, and also the types of mature firms declassifying their board. We find that the firms going public are increasingly characterized by high information asymmetry and long-term projects, i.e., characteristics associated with classified boards being beneficial. Moreover, the increasing tendency of IPO firms to have a classified board is highest among these firm types. Further, among mature firms, these same firm types are the least likely to declassify their boards. Firm characteristics associated with the benefits of classified boards explain approximately 47% of the increased tendency of IPO firms to have this governance structure and 43% of the decreased tendency among mature firms.

Second, we posit that changes in the market environment have also contributed to the divergent trends among IPO versus mature firms. Two notable trends over the past several decades have been the rise of certain types of investor activism, e.g., in the form of hedge fund activists (Gantchev, Gredil, and Jotikasthira, 2016), and multiple market dynamics pushing all firms toward a set of common governance practices. We examine the effects of each.

As shown by Brav et al (2008), Becht et al (2008) and Brav et al (2015), activists place potent pressure on firms to make value-increasing changes. Campaigns to declassify mature firms' boards, in particular mature firms with lower informational asymmetries and higher potential agency costs, is consistent with the costs of this governance structure outweighing the

benefits among these firms, and with market forces driving them toward more optimal structures. Our conjecture that the benefits of classified boards outweigh the costs among IPO firms leads to the prediction that activists would not similarly pressure newly public firms to declassify. Empirical results are consistent with this prediction. There are virtually no shareholder proposals among newly public firms, and only 3% of firms declassify within the first five years after the IPO. Moreover, this lack of pressure to declassify is not driven by activists simply not investing in such firms: hedge funds are equally likely to invest in IPO firms with versus without a classified board. Finally, while the findings of Greenwood and Schor (2009) suggest that hedge funds rely heavily on takeovers to create value in undervalued firms; we find no time trend in the percent of newly public firms that are acquired.

In contrast to the value-increasing effects of shareholder activists, multiple forces are increasingly pressuring firms toward a common set of governance practices, which may or may not contribute positively to shareholder value. Examples include changes in exchange listing requirements, regulatory changes related to SOX and Dodd-Frank, institutional investors' governance guidelines, and the increased influence of proxy advisory service companies' on shareholder voting. For reasons largely related to empirical specification and identification, we focus on proxy advisory service companies. Academic evidence suggests that the influence of these entities is costly for U.S. public firms.[1] Malenko and Yao (2016), Iliev and Lowry (2014), and Larcker, McCall, and Ormazabal (2014) show that ISS frequently uses one-size-fits-all metrics to make recommendations, thus not considering firm specifics and increasing the probability that the recommendation is not in the best interests of the firm. Moreover, Malenko and Yao estimate that ISS recommendations can sway votes by substantial magnitudes, and Iliev

[1] In 1988 a key labor ruling stated that pension fund managers who ignored proxy votes were subject to legal risk. Additionally, in 2004, two SEC no-action letters stated that investment managers could satisfy fiduciary duty by relying on proxy advisory service recommendations.

and Lowry find that the least informed shareholders are most likely to follow these recommendations. We predict that the unique aspects of newly public firms make ISS's one-size-fits-all policies particularly inappropriate for them. To the extent that this is the case, ISS's growing influence would make it increasingly optimal for IPO firms to protect themselves by adopting classified boards, thereby subjecting a director to ISS's influence only once every three years.

Our results are consistent with ISS being a disruptive force for many newly public firms. Over the 2004 – 2014 sample period, ISS recommends against at least one director in nearly 28% of newly public firms, versus only 18% of mature firms. Across all directors up for vote, ISS recommends against 16% of those up for election in newly public firms, compared to only 9% in mature firms. Further results suggest that these differences reflect a tendency of ISS to adopt a one-size-fits-all policy rather than to consider the specific governance aspects of the firm. Specifically, following Iliev and Lowry, we compare the voting behavior of the most engaged mutual funds, those which are most likely to consider the unique characteristics of firms, with other funds that are more likely to indiscriminately follow ISS's recommendations. We find that engaged funds are significantly more likely to disagree with ISS when voting on matters for newly public firms relative to mature firms. In sum, our results suggest that IPO firms have unique governance demands (e.g., director characteristics) that do not fit ISS's one-size-fits-all policies and that ISS imposes those policies through its voting recommendations even though the most engaged shareholders do not agree with ISS's voting recommendations. The growth in such market forces contributes further to the benefits for IPO firms to have a classified board.

Our evidence that classified boards are increasingly beneficial for the sample of firms going public is further substantiated by the fact that the increasing trend toward this governance structure is particularly strong among IPOs backed by venture capitalists, whose large ownership

position and reputation costs give them strong incentives to maximize shareholder value. Classified boards enable firms to focus on long-term value creation, as they mitigate uncertainty and provide stability.

Finally, firms' choices regarding state of incorporation reinforce the importance of these factors. 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 corporation law cases, facilitates the development of judicial expertise in corporate law and makes Delaware decisions more predictable than those of other states. In contrast, the lack of any time trend in the tendency of IPO firms to adopt dual class structures casts some doubt on the likelihood that these firms, on average, are motivated predominantly by issues of control.

Our paper contributes to several streams of literature. First, we contribute to the ongoing debate regarding the merits of classified boards. While a broad set of papers examines the extent to which classified boards are beneficial versus detrimental to firm value, the vast majority estimate an average effect across all firms. For example, Bebchuk and Cohen (2005), Faleye (2007), and Cohen and Wang (2013) conclude that classified boards are harmful, whereas Bates, Becher, and Lemmon (2008) and Cremers, Litov and Sepe (2005) cast doubt on this conclusion. In a broader analysis of corporate governance, Coles, Daniel and Naveen (2008) argue against this one-size-fits-all approach, arguing that different types of firms have different demands for governance. The contrasting trends in board structure for mature firms versus newly public firms presents a powerful setting in which to examine the one-size-doesn't-fit-all conjecture. Related to this, and thus more related to our paper, Bebchuk (2003) notes an increased incidence (based on several relatively small subsamples used in previous studies) of IPO firms going public with a classified board structure. He posits that founders implement such structures because they

value their private benefits and because without such provisions they would forego positive NPV projects that require raising outside capital and a consequent loss of control. While this hypothesis does not have anything to say about the strong time trend in IPO firms' tendency to have a classified board, we nevertheless attempt to examine it in various subsamples and fail to find strong support that this explanation contributes to the observed trends.

Our analysis also contributes to the IPO literature. A substantial body of literature examines the dynamics of firms around the time of the IPO, for example the pricing and timing of the offer. Much of this literature recognizes that firms going public for the first time are unique along a variety of dimensions. However, there has been less attention to the ways in which these unique characteristics affect the optimal governance structure. The issue is an important one, given pressure from regulatory authorities and various institutional entities to push all firms toward common governance mechanisms. Our contributions along this front are related to Field, Lowry, and Mkrtchyan (2013) and Johnson, Karpoff, and Yi (2015, 2016).

2. Data

For our IPO sample, we identify all firms that went public between 1988 and 2014, as listed on the Securities Data Company (SDC) database. We omit financial institutions (SIC codes 6000-6999), 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 5,923 firms.

For IPO firms, we determine their board structure as they go public by examining their IPO prospectuses. For 1988-1992, we use data from Field and Karpoff (2002), which identifies firms' board structures from the prospectuses. 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) and use the board structure in place at that time. We employ similar sources to determine firms' board structures five and ten years after the IPO. In addition, we also identify whether each of our IPO firms had a dual class share structure. For firms with multiple classes of shares, we also collect the number of votes per share.

We use SDC to identify firms that have been acquired or for whom a merger attempt failed. 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 IPO firm's price 42 trading days prior to the merger announcement. We collect institutional ownership from Spectrum, for each of the first five years (60 calendar quarters) after the IPO. We follow the process outlined in Boyson, Ma and Mooradian (2015) to identify which of these institutions is a hedge fund.[2]

Our mature firm sample consists of S&P 1500 firms that have been public for at least 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 1990-2014.

For both the IPO and mature firm samples, 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 the period from 2004-2014; these data include both the voting outcomes on each proposal across a broad set of firms, and the vote of each individual mutual fund on each of these proposals.

[2] We thank Nikki Boyson for providing us with these data.

3. Trends in Governance

Figure 1 illustrates the substantial changes in firms' board structures over the twenty-seven year period, 1988−2014. In 1988, only about 30% of companies going public had classified boards. By comparison, nearly 80% of IPO firms had classified boards by 2014. Between 1988 and 2002, the percentage of firms with classified boards appears to be monotonically increasing. The percentage of IPOs with classified boards then decreased from 80% in 2002 to 55% in 2003, perhaps in response to increased attention surrounding governance in the wake of Enron and the regulatory changes of Sarbanes-Oxley. Since 2003, however, there has again been a steady increase in the percentage of firms going public with a classified board, ranging from around 60% in 2004−2006, to over 75% since 2010.

This substantial increase in the percentage of IPO firms with classified boards contrasts sharply with trends among mature firms, defined as S&P 1500 firms that have been publicly traded for at least five years. 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 as of 2014 only 36% of mature S&P 1500 firms have a classified board.

To determine 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). As shown in Table 1, 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 group. While trends have been sharper within some industries than others, there is no IPO industry group without an upward trend and no mature firm industry group without a downward trend.

4. The effects of changes in firm type

As discussed in the introduction, the benefits of classified boards are likely to be particularly large for firms whose business entails projects that are long-term in nature and whose value is costly to credibly convey to external market participants. To the extent that a greater number of firms going public in recent years represent this type of firm, we would expect a greater percentage to have a classified board. The net benefits of the classified structure would be positive for a larger number of IPO firms.

Any time-series analysis of the types of firms going public must consider the variation in the number of IPOs each year. In years with very low IPO volume, the average characteristic of companies going public might not be particularly informative because it would be based on such a small number of observations. Figure 2 graphs the number of companies going public, as well as total proceeds raised across all IPOs, for each year between 1988 and 2014. The mid- to late-1990s were a period of particularly high IPO volume, while the numbers of companies going public since the collapse of the internet bubble in 2000 has been substantially lower, a trend examined in depth by Doidge, Karolyi and Stulz (2013) and Gao, Ritter, and Zhang (2013). Across this period, the lowest number of IPOs were in 2008 and 2009, contemporaneous with the financial crisis.

Figure 3 examines the extent to which the type of firm going public has changed over time, along four different dimensions: the percentage of IPO firms each year with positive R&D expenditures during the year of the IPO, median R&D/Assets for IPO firms with positive R&D, median market capitalization in the first month after the IPO, and median EBITDA/Assets as of the first fiscal year end after the IPO. For each variable, we calculate the mean or median across firms going public within six different periods: 1988 – 1992, 1993 – 1995, 1996 – 2000, 2001 – 2005, 2006 – 2010, and 2011 – 2015. Figure 3 shows that firms going public are increasingly likely to have positive R&D, median R&D among firms with positive R&D has increased, and

median profitability (measured as EBITDA / assets) has decreased. These patterns suggest that more recent IPO firms are likely characterized by high information asymmetry and projects that tend to be long-term in nature, both of which are consistent with greater benefits of classified boards for IPO firms in recent years.

In addition, Figure 3 also shows that IPO firms in the later portion of the sample period tend to be larger. *Ex ante* it is unclear how size relates to the benefits of a classified board, 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, but they might also be more likely to attract the attention of activist investors; 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.

Table 2 examines the extent to which these trends in the types of firms going public are associated with the tendency to have a classified board. Specifically, if change in firm type explains at least a portion of the trends in board structure, then the increasing tendency to have a classified board should be strongest among firm types that derive the greatest benefit from this structure, e.g., in firms with high R&D spending and low profitability. Moreover, we also compare the extent to which these firm characteristics explain not only the observed trends among IPO firms, but also among mature firms.

In each regression shown in Table 2, the dependent variable equals one if the firm has a classified board, zero otherwise. Because we focus on interaction terms, we employ OLS regressions.[3] Models 1, 2, and 3 focus on IPO firms, whereas models 4, 5, and 6 focus on mature firms. In models 1 and 4 a time trend is the only explanatory variable. Results in these

[3]Ali and Norton (2003) show that interaction terms lead to biased inferences in nonlinear regressions such as probits.

regressions highlight what we previously observed in Figure 1. IPO firms have become increasingly likely to have a classified board, with an average 1.9% more firms having a classified board in each subsequent year. In contrast, mature firms have become an average 0.7% less likely to have a classified board in each subsequent year.

Additional models also examine the effects of three firm characteristics: R&D expenditures, market capitalization, and EBITDA/Assets. For each of these variables, we define dummy variables to facilitate interpretation of interaction terms. Positive R&D equals one if R&D expenditures are positive, zero otherwise. Large market capitalization and high EBITDA equal one if the respective underlying variables are above the median, zero otherwise. We include each of these dummy variables, the time trend, and interactions between the time trend and each dummy variable.

Results support the conjecture that changes in firm type contribute to the observed trends. The significantly positive coefficient on Time × Positive R&D in Column 2 indicates that the positive trend in the tendency of IPO firms to have classified boards is significantly stronger among firms with R&D spending, consistent with these firm types garnering greater benefits from this structure. Analogously, the negative trend among mature firms (column 5) is significantly less strong among these firms, indicating that mature firms with positive R&D are more likely to maintain a classified board, while firms with zero R&D are more likely to switch to an annual board. Firms with higher EBITDA tend to be characterized by lower information asymmetry, suggesting that the benefits of classified boards are lower for these firms. Consistent with this, the positive trend toward classification within IPO firms has been weaker for more profitable firms, and the negative trend among mature firms has been particularly pronounced for more profitable firms. In sum, the observed trends among both IPO and mature firms are

concentrated within certain types of firms, in ways that are consistent with firms choosing (or being pressured into) the board structure that provides them with greater benefits.

Consistent with classified boards providing benefits to IPO firms, column 3 also shows that venture capitalists (VCs) have become increasingly likely to be associated with IPOs in which the boards are classified. This is informative because VCs should have particularly strong incentives to bring firms public at the highest possible price.

Finally, the significantly negative coefficients on the time trend interacted with large market capitalization indicates that small firms are increasingly likely to go public with a classified board, while larger mature firms are increasingly likely to de-stagger their boards. These trends potentially reflect a greater susceptibility of smaller firms to control contests and a greater pressure on larger mature firms to de-stagger their boards, particularly from activist investors. For example, the Shareholder Rights Project (SRP) at Harvard University worked on behalf of SRP-represented investors (public pension funds and charitable organizations) from 2012 through 2014 to introduce proposals to declassify boards of S&P 500 and Fortune 500 firms (Bebchuk et al, 2014).

While these interactions between firm characteristics and the time trend indicate that firm type contributes significantly to the observed trends, they explain only a portion of the trends. As shown in columns 3 and 5, the coefficient on the time trend by itself remains significantly positive in the IPO firm sample and significantly negative in the mature firm sample. Comparing the coefficient on the time trend between models 1 and 3, we can conclude that within the IPO sample, these three characteristics explain approximately 47% of the increased tendency to have a classified board [(0.019 – 0.010) / 0.019]. Analogously, within the mature firm sample they explain approximately 43% [(−0.007 – (−0.004)) /−0.007].

The evidence we observe among mature firms could be due to either newer firms entering the sample with annual boards or firms de-staggering their boards over time. To shed some light on these possibilities, column (6) examines a constant sample of mature firms – that is, those that were in IRRC in 1990 and remained in IRRC through 2015. Results using this constant sample are similar to those or the full sample: smaller firms with positive R&D and lower EBIDTA are more likely to de-stagger their boards.

5. Effects of Shareholder Activism

In addition to the types of firms changing over time, there have also been dramatic changes in the activism environment over our sample period: proxy advisory service firms have had a growing influence, and shareholder activists such as hedge funds increasingly advocate for change within companies. While both forces potentially influence companies, prior literature suggests that the effects are quite different. Brav et al (2008), Becht et al (2008) and Brav et al (2015) suggest that shareholder activists such as hedge funds push for changes that lead to increases in shareholder value. In contrast, Iliev and Lowry (2014) and Larcker et al (2014) suggest that ISS recommendations are frequently based on one-size-fits all recommendations that do not adequately consider firm specifics and do not contribute positively to shareholder value. This contrast raises an interesting question. Are IPO firms adopting classified boards as a means to shield themselves from the value-decreasing influence of proxy advisory service firms and thereby better enabling themselves to focus on long-term shareholder value? Or alternatively, are IPO firms adopting classified boards as a way to shield themselves from the value-increasing effects of shareholder activists and thereby enabling their managers to consume more perquisites at the expense of shareholder value? Sections 5.1 and 5.2 focus on these issues.

5.1 Proxy Advisory Service Companies

Proxy advisory service firms offer recommendations on how to vote on each agenda item up for vote at each company's annual meeting. Proxy statements detail all proposals up for vote. Management proposes directors as well as various other items, such as issues related to compensation or governance, all of which are termed, "management proposals". In addition, shareholders also have the power to put items on the agenda if they are dissatisfied with the running of the company, and these are termed, "shareholder proposals".[4]

Proxy advisory service firms, such as ISS, offer recommendations on how to vote on all these items. A substantial benefit of proxy advisory service companies is their ability to accumulate and sell large amounts of information at a cost below that which shareholders could gather for themselves, thus making it less costly for shareholders to vote. This is an important service given that voting is considered a fiduciary duty for institutional shareholders and is required by the SEC. However, proxy advisory service companies have also received considerable negative attention for employing 'one-size-fits-all' approaches to voting and not fully considering firm-specific characteristics.

ISS, which 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, grew substantially beginning in the mid-1990s when Thomson Financial bought the company 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. In sum, as a result of a series of

[4] Generally a shareholder has to meet certain requirements in order to put a proposal on the agenda, for example owning a certain percent of the company and/or owning shares for a minimum amount of time.

events, the influence of proxy advisory service companies, of which ISS is by far the largest, has grown substantially over our sample period.

Although proxy advisory service companies do not own any shares, they can influence vote outcomes due to the large number of mutual funds that follow their recommendations. Thus, we examine the extent to which ISS recommends for or against proposals at firms' annual meetings. Results in Table 3 suggest that ISS aggressively recommends against proposals of newly public firms. As shown in Panel A, ISS recommends against at least one agenda item in 53% of companies during the first year after the IPO. Among IPO firms, the types of agenda items that ISS frequently recommends against include proposals to elect directors, proposals to amend or approve omnibus stock plans, and proposals related to Say on Pay. The most common agenda item on which ISS recommends against is directors: 37% of IPO firms receive an ISS against recommendation on at least one director in the first proxy season after the IPO, 27% in the second, and 29% in the third.

Panel B illustrates the time trends in these effects, comparing newly public firms with mature firms. Columns 1 and 2 examine the frequency with which ISS recommends against at least one agenda item in the company, and columns 3 and 4 focus on director recommendations alone. Across both categories and across every calendar year, we find that ISS is more likely to recommend against at least one agenda item for newly public firms than for mature firms.

Iliev and Lowry (2014) conclude that ISS tends to follow one-size-fits-all policies when making its recommendations. Smaller mutual funds, with fewer resources to conduct independent research and with less money invested in each firm, are particularly likely to follow these recommendations, whereas larger mutual funds are significantly more likely to make independent assessments and to base these assessments on firm-specific characteristics. This one-size-fits-all policy suggests that ISS will be less likely to recognize the unique aspects of

newly public firms: the long-term nature of these firms' projects combined with the prohibitively high costs of conveying the details of these projects to shareholders mean that short-term downturns in performance do not necessarily warrant substantial changes to the firm's governance structure.

The extent to which ISS fails to recognize these issues generates several predictions. First, ISS should be more likely to recommend against management in newly public firms, compared to in mature firms that are less sensitive to these one-size-fits all policies. Second, large mutual funds who conduct their own research should be more likely to disagree with ISS in these cases, i.e., when ISS recommends against management in newly public firms. Third, because small mutual funds are more likely to follow the recommendations of ISS, the gap between the percent of large versus small funds following ISS should be significantly larger in newly public firms, compared to mature firms. Moreover, this gap should be greatest among newly public firms with the longest term projects and with the highest information asymmetry, i.e., among firms that are more likely to benefit from a unique governance structure that conflicts with ISS's one-size-fits-all policy. Table 3 provided evidence in support of the first prediction, and Table 4 provides further evidence on each of these issues. To make all samples as comparable as possible, we restrict the analysis to director elections. Every firm has directors up for vote every year, whereas the composition of other agenda items can vary widely across firms.

Across each director up for vote in each IPO firm over the first three years it is public, we tabulate the percentage of directors that ISS recommends against. For the mature firm sample, we tabulate the percentage of directors that ISS recommends against, across all firm-years for S&P1500 firms that have been public for at least five years.

First, consistent with what was previously shown in Table 3, Panel A of Table 4 shows that ISS is significantly more likely to recommend against directors in newly public firms

compared to mature firms: ISS recommends against nearly 16% of directors up for vote in newly public firms, compared to only 9% of directors in mature firms.[5]

Second, Panel B of Table 4 shows the percent of funds following ISS's recommendation, across both IPO firms and mature firms and conditional on ISS recommending "For" or "Against" management. First, we see that when ISS recommends "For" a director, funds are very likely to also reach the same conclusion. This is not surprising, as all directors are proposed by management. Thus, directors with a positive recommendation from ISS have the blessing of both management and ISS, and the probability that a fund determines that such a director is poor quality is relatively low. In contrast, if management proposes the director and ISS recommends against, funds are more likely going to come to varying opinions.

Third, and more interesting, among the subsample where ISS recommends against, Panel B shows that large funds are less likely to follow ISS's recommendation in IPO firms than in mature firms: 46.1% versus 48.9%.[6] This is consistent with large funds, which more likely do their own research, concluding that ISS is not sufficiently considering the unique characteristics of newly public firms.

Fourth, looking again at the "ISS Against" subsamples, the differential between the votes of small versus large funds is particularly large within the newly public firms. Within the IPO firms, large funds are 7.6% less likely than small funds to follow ISS recommendations. In comparison, the differential among mature firms is a much smaller 4.5%.

Panel C provides even stronger evidence that ISS fails to recognize the unique characteristics of newly public firms. Specifically, results show that the tendency of large

[5] Note that Table 3 tabulates the percent of *firms* in which ISS recommends against at least one director, whereas Table 4 tabulates the percent of *directors* (across all firms) that ISS recommends against.
[6] Across the total sample of 543 IPO firms, Panel B shows that the vast majority of firms (517) receive ISS support for at least some directors, but a substantial number (339) receive ISS against recommendations on at least one director. Across the total sample of 14,668 mature firm-years, 14,561 (5,559) contain ISS support (against recommendations) for at least some directors.

mutual funds to follow ISS is especially low among IPO firms characterized by greater information asymmetry. The most engaged mutual funds, as proxied by fund family size, are substantially more likely to disagree with ISS among firms that are VC-backed, that have positive R&D, and that have low profits. Within each of these subsamples, there is an approximately ten percentage point difference in the voting of the most engaged mutual funds (proxied as the five largest fund families) versus those are more likely to indiscriminately follow ISS (proxied as all other funds). For example, while 54.6% of smaller mutual funds vote in accordance with ISS on VC-backed firms, only 44.9% of the large funds do.

Finally, the last two rows of Panel C show that the more engaged funds are also less likely to agree with ISS for IPO firms that have a classified board. Among firms with classified boards, the difference in voting patterns between large and small mutual funds is sizeable, at 12.0 percentage points. In comparison, the difference is only 5.2% in firms with annual boards. These differences are consistent with the subset of firms that choose a classified board representing firms that have a higher probability of facing pressure from short-term forces such as proxy advisory service companies.

5.2 Shareholder activism

In addition to the growing influence of proxy advisory firms such as ISS, there have also been dramatic increases in shareholder activism, for example by activist investors and hedge funds. Contemporaneous with this trend in activism, we find an increasing tendency of hedge funds to invest in newly public firms. For each IPO firm, we examine each of the first 12 quarters after the IPO to determine whether a hedge fund that owned less than 1% of the equity in the firm during the previous quarter increased its ownership to 5% or greater. In cases where one or more hedge fund took such a position within the first twelve quarters after the IPO, we consider this firm to have obtained a new hedge fund blockholder. Panel A of Figure 4 shows

that the rate of these large hedge fund investments in newly public firms has increased markedly. Before 1992, fewer than 10% of firms obtained such hedge fund blockholders in their first three years post-IPO, while for 1992-2003, the figure is between 10% and 20%. Notably, in most years since 2004 between 20% and 30% of firms obtain a hedge fund blockholder in the first three years following the IPO.

Finally, an additional form of activism is mergers and acquisitions. Harford (2005) and Rhodes-Kropf and Viswanathan (2004) both show that the number of mergers fluctuates substantially over time. However, among IPO firms, we observe no strong time trend analogous to that observed for hedge fund activism. Panel B of Figure 4 shows the percent of firms acquired within the first three years after the IPO. The x-axis depicts the year in which the firms went public, and the y-axis shows the percent that were acquired within three years after the offer year. The figure shows that IPO firms have a somewhat lower likelihood of being acquired in more recent years, a trend that may be partially driven by the fact that IPO firms in more recent years tend to be much larger.

An agency cost explanation would postulate that the increasing rate of hedge fund investments in IPO firms represents a growing threat to the managers' personal value of control, e.g., to their perquisite consumption, and thus these firms increasingly implement classified boards as a way to shield themselves from this influence. Activists would either avoid investing in firms with classified boards — where these agency costs are arguably most severe and where activists have less ability to force change — or they would advocate for change, for example via shareholder proposals. Alternatively, if the benefits of classified boards outweigh the costs for IPO firms, hedge funds would have no reason to avoid investing in them and would have no reason to advocate for change through shareholder proposals to declassify the board. Tables 5 and 6 investigate these issues.

Looking first at Table 5, we observe virtually no firms receiving shareholder proposals within the first three years after the IPO. As shown in Panel A, across the sample of firms that went public between 2004 and 2014, no firms received a shareholder proposal during the first year after the IPO and only 0.21% (1.06%) received a proposal in the second (third) year. Panel B shows by calendar year the percent of newly public firms (defined as firm-years within three years of the IPO) and mature firms (defined as S&P1500 firms that are at least five years old) that receive a shareholder proposal. Compared to virtually nonexistent shareholder proposals for newly-public firms, between 13% and 15% of mature firms receive at least one shareholder proposal in most calendar years. Moreover, the instance of shareholder proposals is higher for mature firms with classified boards.

Our finding of virtually no shareholder proposals within IPO firms is consistent with results from an independent analysis that analyzes a random sample of hedge funds that become blockholders in newly public firms. Results suggest that most of these investments are passive in nature. We observe few instances of 13D filings.

To the extent that a hedge fund aggressively agitating for change within a company would be likely to file at least one shareholder proposal, combined with the fact that virtually no newly public firms receive such proposals, it seems unlikely that IPO firms' increased tendency to adopt classified boards is motivated by an effort to deter investments by hedge funds in the first few years after the IPO. To examine this possibility more directly, we examine the determinants of hedge fund blocks in newly-public firms. In Table 6, Model 1 shows a simple OLS regression where the sample consists of all IPO firms, and the dependent variable equals one if the firm obtains a hedge fund blockholder within three years after the IPO, as defined above. The independent variable of interest, classified board, equals one if the firm has this board structure at the time of the IPO, zero otherwise. Additional independent variables include

firm characteristics defined either prior to or shortly following the IPO. Model 2 shows a 2SLS regression to address the potential endogeneity: firms that choose to adopt classified boards are significantly different from those with annual boards, and to the extent we cannot completely control for these differences, inferences might be biased. Following Johnson, Karpoff, and Yi (2014), we use law firm fixed effects as an instrument. We restrict our sample to IPOs that hired a law firm that was used by at least three firms across our sample, and in the first stage we regress the classified board dummy on these law firm fixed effects, plus the set of control variables. As shown in Model 2, the Angrist-Pishke Weak Instruments statistic equals 40.52, well above the critical value of 10 that suggests the first stage is well-specified. The second-stage regression, shown in Model 3, is also well-specified, as indicated by the fact that the Hansen J statistic is insignificant at conventional levels.

For both the OLS and the 2SLS specifications, we find no evidence that a classified board deters a hedge fund from taking a stake in the firm. In sum, hedge funds appear equally likely to take positions in firms with classified or with annual boards. Critics of classified boards would claim that classified boards contribute to lower future performance and/or inhibit the ability of shareholders to enact changes. The finding that hedge funds are no less likely to invest in IPO firms with these board structures contradicts both these conjectures.

In unreported results, we also examine the possibility that IPO firms implement classified boards to protect themselves against unwanted takeover threats. It seems unlikely that acquisitions are a primary driver of the trend toward classified boards in IPOs, as Figure 4 showed that there has been no meaningful trend in acquisitions of newly public firms. Thus, it is perhaps not surprising that we find no evidence of merger attempts or merger premiums being related to whether firms have classified boards. Consistent with results of Bates, Becher and

Lemmon (2007) and Faleye (2007) for samples of mature firms, we find no evidence of such a deterrent effect for newly-public firms.

5.3 Discussion

In sum, evidence in this section shows that multiple sources of shareholder activism have changed substantially over our sample period. During the same period that newly public firms became substantially more likely to have a classified board, we have observed increased activism by shareholders such as hedge funds and increased power by proxy advisory service companies such as ISS. While both types of entities have the potential to agitate for change within companies, their tactics differ dramatically. Activists such as hedge funds conduct in-depth analyses of companies, and based on these firm-specific analyses, they determine whether to invest in a company and whether to advocate for change versus maintain a passive investment. In contrast, proxy advisory service companies evaluate every company in the market and make recommendations on each item up for vote in each company. By nature of the sheer scale of this, they are unable to consider in an in-depth manner firm-specific characteristics. As a result, one-size-fits-all policies may disadvantage certain types of firms.

Our findings suggest that while hedge funds invest in an increasing number of newly public firms, these investments are generally passive. In contrast, ISS recommends against at least one director in a large number of firms. Moreover, the most engaged shareholders frequently disagree with these recommendations. The fact that ISS has the potential to influence a large number of votes means that directors are at risk of low vote totals if they fail certain ISS policies, even if these policies are not in the best long-term interests of the firm. Firms can protect themselves against at least a portion of this pressure by only putting directors up for vote every three years, i.e., by having a classified board.

An alternative explanation for the greater likelihood of newly public firms to have classified boards relates to founders' desire to both consume perquisites and bond themselves to taking positive NPV projects. As proposed by Bebchuk (2003), founders implement antitakeover provisions (ATPs) in order to protect their private benefits. Without these provisions, founders would forego positive NPV projects for which they would have to raise outside capital and consequently decrease their ownership control. Since investors in the IPO recognize this dilemma, they realize that ATPs at the IPO are optimal as they allow for efficient investment post-IPO. In Bebchuk's model, IPO firms would choose to include ATPs because this is value-maximizing for both pre- and post-IPO shareholders, but shareholders of mature firms would be unwilling to allow managers to implement them.

While Bebchuk's hypothesis does not have any explicit time-series predictions that would contribute to the substantial rise in IPO firms' tendency to have classified boards, we nevertheless conduct several empirical examinations. Using data on director and officer ownership of all IPO firms over the 1988 – 1992 period (from Field and Karpoff, 2002) and of all venture-backed IPO firms over the 1996 – 2008 period (from Field, Lowry and Mkrtchyan, 2013), we examine the following. First, we look to see whether average director and officer ownership has increased over time, which would potentially contribute to the increased tendency of IPO firms to have a classified board. Second, we examine whether such ownership is positively related to a firm's tendency to have a classified board and whether such ownership contributes to the increasing tendency of IPO firms to have classified boards in more recent years. Consistent with this factor potentially playing a role, we do find an upward trend in the director and officer ownership. However, we find no evidence that higher director and officer ownership is positively related to a firm's tendency to have a classified board. In sum, we fail to

find strong support for this factor being a first-order determinant of the increasing tendency of IPO firms to adopt classified boards.

6. Extent of Post-IPO Board Structure Changes

Findings from the prior section are consistent with the notion that the net benefits of classified boards have increased over time for IPO firms and provide no evidence to support an agency cost explanation. As another way to shed light on the extent to which the benefits of classified boards drive firms' choices, we collect data on IPO firms' board structure five and ten years after the IPO. We search through post-IPO proxy statements to determine whether each IPO firm had either an annually-elected board or a classified board at these two points in time. If the net benefits of newly public firms having classified boards have truly increased, then we would not expect investors to pressure these firms soon after the IPO to declassify their boards (in a manner similar to what we have observed for mature firms). IPO firms would only 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, we would expect IPO firms to declassify at a rate similar to that observed among mature firms.

Panel A of Figure 5 depicts the percent of all IPO firms at the time of the IPO, at year 5, and at year 10: with an annual board, with a classified board, that have delisted, and whose status is unknown. Across our entire 1988–2014 sample period, 42% of firms had an annual board at the time of the IPO and 52% had a classified board. Five years later, the ratio of these structures is similar, with 24% having an annual board and 30% a classified board. By year ten,

the analogous percentages are 15% with an annual board and 18% with a classified board. The vast majority of the drop in each category is due to delistings. By year five (ten) nearly 40% (60%) of firms have delisted, either because they were acquired or because they failed to meet exchange listing standards. In sum, this panel fails to show any evidence of that a lower percentage of firms maintain their classified board status versus an annual board status.

Panel B provides more direct evidence on the portion of firms switching board structure within the first five or ten years after the IPO. By year five, 7% of firms going public with annually-elected boards elected to classify their board and while 3% of those with classified boards switch to an annual structure. Thus, a greater percent of firms are switching *to* a classified board. This is inconsistent with an agency cost explanation that firms inefficiently choose classified boards at the time of the IPO and are pressured to de-stagger them. By year ten, an increasing percentage of firms have changed board structure, which is consistent with many aspects of these firms changing and their governance structures evolving with these changes (see, e.g., Boone et al 2007 and Baker and Gompers 2003).

The increasing percentage of firms declassifying their boards as firms progress through their life cycles is consistent with the benefits of these structures being lower for more mature firms, whose lower information asymmetry makes them better able to credibly convey firm-specific information to the market and thus be less susceptible to market pressures pushing them to make changes that do not contribute positively to shareholder value. However, it is perhaps surprising that we do not find more firms evolving toward an annual board a full ten years after going public. By this point, the unique characteristics of newly public firms are unlikely to still persist for most firms. While we would expect activists to pressure firms to declassify their boards if such structures were not value-maximizing, there are several factors that may impede such changes. For example, if agency costs are small, the value-added from changing

governance structures may not outweigh the costs to an activist of waging a campaign. Second, if the company is small, then the value added may be large on a percentage basis but too small on a total dollar basis to justify the costs of agitating for change. Johnson, Karpoff and Yi's (2016) evidence is consistent with the presence of such factors. They find that the benefits of classified boards decrease over firms' life cycles, with Tobin's Q being unaffected by board structure at the time of the IPO, but decreasing as a function of classified boards as the firm matures.

As a matter of comparison, Figure 6 shows similar dynamics related to changes in board structure for the sample of mature IRRC firms. While Figure 1 showed that a decreasing portion of mature firms have classified boards in more recent years, Figure 6 shows the extent to which this trend is driven by changes in the composition of IRRC versus by firms within IRRC switching board structure. The top figure shows the percent of IRRC firms with a classified board each year, among the constant sample of 332 firms that are present in IRRC for the full 1990 – 2015 sample period (solid line) and also among new entrants into IRRC each year (dashed line). To the extent that the constant sample IRRC firms are more mature, we would expect them to be more likely to declassify. Consistent with this, the decreasing tendency of mature firms to have a classified board is substantially stronger among the constant sample firms. The percent of the constant sample with classified boards has decreased from 61% to 27% over the 1990 – 2015 period, compared to an analogous rate of only 57% to 40% among new entrants.

The middle panel shows explicitly the number of IRRC firms that keep an annual board (solid bar), the number that switch to an annual board (i.e., declassify, striped bar), and the number that join IRRC with an annual board (dotted bar). We plot these statistics every five years, and the bottom panel shows analogous statistics for classified boards, i.e., for firms that remain classified, that enter IRRC with a classified board, and that switch to a classified board

structure. Several conclusions emerge from these figures. First, while relatively few mature firms are classifying their boards, an increasing number are declassifying. Second, there has been an increase in the number of firms that remain with an annual board but a decrease in the number of firms that remain classified. Finally, differences in board structure among new entrants are relatively small. While in recent years the vast majority of IPO firms choose a classified board, those firms that are sufficiently large to warrant membership in IRRC are relatively less likely to choose this structure. This is consistent with firms entering IRRC being larger and having lower information asymmetry, compared to the sample of IPO firms.

7. Evolution of other governance structures, among IPO firms

As argued by Bebchuk and Cohen, classified boards are a particularly powerful governance structure because of their ability to deter a takeover. This is due to the fact that firms have the ability to implement a poison pill at any point in time. The combination of a poison pill and a classified board enables the firm to deter or at least delay almost any takeover attempt. However, because one third of directors are up for election every year, it is possible for an acquirer or activist to gain control if they are persistent. While the fixed costs of gaining control are almost certainly higher among firms with classified boards, takeovers will likely still occur if the gains are sufficiently high, for example if substantial agency-related problems caused firm value to be sufficiently below its potential level.

The central debate is whether firms implementing classified boards are motivated by the continuity they provide (a change in the 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 two other factors, one of which contributes primarily to continuity while the other has a strong insulating effect. Specifically, we

examine firms' choices of the state in which to incorporate and firms' choices of a single versus dual class share structure.

7.1 Dual Class Share Structure

Dual class share structures share some similarities with classified boards in the sense that they represent a type of anti-takeover provision. However, they differ along some key dimensions. Perhaps most importantly, while classified boards make it more difficult and thus more costly to take over a firm, the majority of dual class structures completely prevent any takeover that management does not favor.

Panels A and B of Figure 7 examine the time trends in the tendency of both IPO firms and mature firms to have a multiple class share structure, where dual class is defined as a firm having multiple classes of stock. As shown in Panel A, mature firms have become less likely to have a dual class structure, particularly since 2004. In the early years of our sample, 1990−1995, 9% or less of mature firms were dual class. The percentage of firms with dual class structures increased to the 11–12% range throughout the 1998–2004 period. Since 2005, the percentage of mature firms with dual class has steadily decreased, and since 2009, only 6% of mature firms have had a dual class structure. In contrast, Panel B shows no downward time trend in the tendency of IPO firms to have a multiple class structure (solid line), and possibly a weak upward trend. Prior to 2000, approximately 7% of firms going public had multiple share classes, while 12% or more of firms going public in many of the more recent years have had multiple share classes. However, Panel B also highlights that the non-public class only has superior voting rights in a subset of cases, and there is less evidence of an upward trend in IPOs with a superior voting rights class (dashed line). In sum, there exists a divergent time trend between mature firms and IPO firms, but the magnitude is substantially less than that observed for classified boards.

Panels C and D provide more detail on the voting rights on IPO firms with multiple share classes. Although the IPO class almost always receives one vote per share, there are rare instances in which this is not the case.[7] To facilitate comparison across all dual class firms, we define the IPO class as the "Class A" shares, and we normalize these Class A shares to have one vote per share. As previously highlighted by Smart and Zutter (2003), not all firms with a dual class structure have one class with superior voting rights. As shown in Panel C of Figure 7, across the 442 IPO firms in our sample with multiple share classes, the greatest portion, 46%, of the non-IPO class has 10 votes per share. However, there are a nontrivial number in which the non-IPO shares do not have superior voting rights: in 13% of cases, the non-IPO shares have exactly one vote per share, and in 11% of cases, the non-IPO shares have less than one vote per share.

Panel D shows the total voting power of the non-public share class. This figure highlights the extent of power that is consolidated in the non-IPO class, which tends to be held by firm insiders. In more than 40% of dual class IPOs, the non-IPO shares control more than 90% of the voting power, and in 76% of cases the non-IPO shares control more than 50%.

Based on both the underlying economics and this prior work by Smart and Zutter (2003) and Gompers, Ishii, and Metrick (2010), we conjecture that hedge funds will be substantially more averse to investing in dual class firms, on average. In the event that management is not maximizing firm value, there is essentially no potential for change. An investor with activist intentions is powerless, and a passive investor does not have the option to become an effective activist.

[7] For example, McData Corp, which went public on 8/9/2000, issued 12,500,000 shares of "Class B Common Stock" to the public. The Class B Common Stock (issued at the IPO) was entitled to 1/10 vote per share, while the closely-held Class A stock (not issued at the IPO) was entitled to one vote per share. For our purposes we consider the IPO class of McData Corp to have one vote per share and its non-IPO class to have 10 votes per share.

Consistent with these arguments, we find that hedge funds are significantly less likely to take positions in newly public firms that have a dual class structure. Specifically, we employ propensity score analysis to examine the likelihood of a hedge fund taking a blockholder position in a dual class firm. First, across all IPOs in our sample, we regress the dual class dummy on a set of firm-specific characteristics. For each dual class firm, we determine the fitted value from this regression, and we select the single class firm with the closest fitted value, where the matched single class firms are chosen with replacement. The final sample consists of 446 dual class firms plus the 446 matched single class firms. Panel A of Table 7 compares the characteristics of the dual class firms with the matched single class firms. While the propensity score match controls for many differences between the two groups, there are some remaining significant differences. For example, the dual class firms have significantly higher EBITDA/assets and significantly lower R&D/assets. They also have significantly higher shares offered as a percent of shares outstanding and significantly higher underwriter rank (though the difference in rank is small in economic terms).

Using this sample of 954 firms, Panel B shows a series of regressions where the dependent variable equals one if a hedge fund takes a block position within the first three years after the IPO. The block position is defined as having less than 1% ownership in the prior quarter and then obtaining a position of 5% or greater. The independent variable of interest equals the dual class dummy, and other control variables are included as well. As shown in Model 1, results indicate that hedge funds are 10% less likely to take a position in a dual class firm, compared to a matched control firm.

Results across subsequent columns provide added evidence on the extent to which the dual class structure lessens the extent to which the market for corporate control is an effective mechanism for these firms. Results indicate that dual class firms are significantly less likely to

be the target of a takeover attempt. For robustness, Models 3 and 4 show similar results using logit regressions. Logit regressions have the disadvantage of not supporting fixed effects, meaning that these specifications do not include year dummies.

7.2 State of Incorporation

As noted above, state of incorporation is an additional governance-related choice that firms make. 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. For example, judges are appointed rather than elected, trials are not by jury, and the small size and continuity of Delaware's Chancery Court makes Delaware decisions more predictable than those of other states. Moreover, 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 changes in IPO firms' choices of classified boards have been increasingly motivated over time by increased concerns about uncertainty, for example due to firm type and/or changes in market dynamics, we would predict an increasing percent of IPO firms to also incorporate in Delaware. Consistent with this prediction, Figure 8 shows that IPO firms have become substantially more likely to incorporate within the state of Delaware. As shown in the top panel, the percentage of IPO firms incorporating in Delaware has increased from approximately 60% in the early years of our sample to 88% in 2014. 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. As of 2014, only 5% of IPO firms were incorporated in the same state as their headquarters, compared to 29% of mature S&P 1500 firms.

8. Conclusion

IPO firms have become substantially more likely to have a classified board when they access public equity markets for the first time. In comparison, mature firms have been declassifying their boards over the past 15 years.

Our body of evidence supports the conjecture that both of these trends represent a tendency of firms to evolve toward their value-maximizing structure. Changes in the types of firms going public and in the extent to which different groups of shareholders pressure firms have had the joint effect of making classified boards increasingly attractive for newly public firms. The economics behind these trends are largely driven by the high information asymmetry of newly public firms: at any point in time, there is a substantial probability that the market value deviates from true firm value by a nontrivial amount. Management cannot credibly convey true value to investors, in particular because much of the value derives from projects that are long-term in nature, for example, related to large R&D programs. Proxy advisory firms and investors that do not recognize the unique characteristics of newly public firms may pressure for change, even when it is not in the long-term best interest of the firm. Classified boards protect firms from these influences, as directors are up for election only once every three years, and thus, having a classified board may be a useful way to minimize the influence of those prefer a one-size-fits-all approach to governance.

In contrast, mature firms are substantially different in terms of the nature of their projects and their informational asymmetries. As a result, classified boards provide less value for them, and there is a greater probability that the negatives related to entrenchment outweigh the positives related to a greater ability of management to focus on long-term value. Our findings that the increasing trend of mature firms to have annual boards is concentrated among firm types with lower information asymmetry provides support.

In sum, our findings provide strong evidence against any one-size-fits all approach toward governance. In this vein, our paper relates to work by Ahn and Shrestha (2013), Duru Wang and Zhao (2012), Bhojraj, Sengupta, and Zhang (2014), and Daines, Li, and Wang (2016). 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 very 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.[8]

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

References

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

Ali, C., Norton, E.C., 2003. Interaction terms in logit and probit models. *Economic Letters* 80, 123-129.

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.

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., Cohen, A., 2005. The costs of entrenched boars. *Journal of Financial Economics* 78, 409 – 433.

Bebchuk, L., Hirst, S., Rhee, J., 2014. Toward board declassification in 100 S&P 500 and Fortune 500 Companies: report of the SRP for the 2012 and 2013 proxy seasons. Report for the Shareholder Rights Project, Harvard Law School.

Becht, M., Franks, J., Mayer, C., Rossi, S., 2008. Returns to shareholder activism: evidence from a clinical study of the Hermes UK Focus Fund. Review of Financial Studies 22, 3093 – 3129.

Bhojraj, S., Sengupta, P., Zhang, S., 2014. Takeover defenses: Entrenchment and efficiency. Working paper.

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.

Boyson, N., Ma, L., Mooradian, R., 2015. Serial activists. Working paper.

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

Brav, A., Jiang, W., Partnoy, F., Thomas, R., 2008. Hedge fund activism, corporate governance, and firm performance. *Journal of Finance* 62, 1729 – 1773.

Brav, A., Jiang, W., Kim, H., 2015. The real effects of hedge fund activism: productivity, asset allocation, and labor outcomes. *Review of Financial Studies* 28, 2723 – 2769.

Coates, J., 2001. Explaining variation in takeover defenses: Blame the lawyers. *California Law Review* 89, 1301 – 1420.

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., 2014. Staggered boards and firm value, revisited. Working paper.

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

Daines, R., Li, X., Wang, C., 2016. Can staggered boards improve value? Evidence from the Massachusetts natural experiment. Working paper.

Doidge, C., Karolyi, A., Stulz, R., 2013. The US left behind? Financial globalization and the rise of IPOs outside the US. *Journal of Financial Economics* 110, 546 – 573.

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.

Gantchev, N., Gredil, O., Jotikasthira, C., 2016. Governance under the gun : spillover effects of hedge fund activism. Working paper.

Gao, X., Ritter, J., Zhang, Z., 2013. Where have all the IPOs firms gone? *Journal of Financial and Quantitative Analysis* 48, 1663-1692.

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.

Greenwood, R., Schor, M., 2009. Investor activism and takeovers. *Journal of Financial Economics* 92, 362 – 375.

Harford, J., 2005. What drives merger waves? *Journal of Financial Economics* 77, 529-560.

Iliev, P., Lowry, M., 2014. Are mutual funds active voters? *Review of Financial Studies* 28, 446-485.

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., 2016. The lifecycle effects of firm takeover defenses. Working paper.

Larcker, D., A. McCall, and G. Ormazabal. 2014. Outsourcing shareholder voting to proxy advisory firms. *Journal of Law and Economics* 58, 173 - 204.

Larcker D., Tayan, B., 2015. Seven myths of boards of directors. Stanford Closer Look Series, Stanford University.

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

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

Rhodes-Kropf, M., Viswanathan, S., 2004. Market valuation and merger waves. *The Journal of Finance* 59, 2685-2718.

Romano, R., 1985. Law as a product: s ome 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.

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.

Figure 1: Percent firms with Classified Boards

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5. The mature firm sample consists of S&P1500 firms that have been public for at least five years, as listed on IRRC.

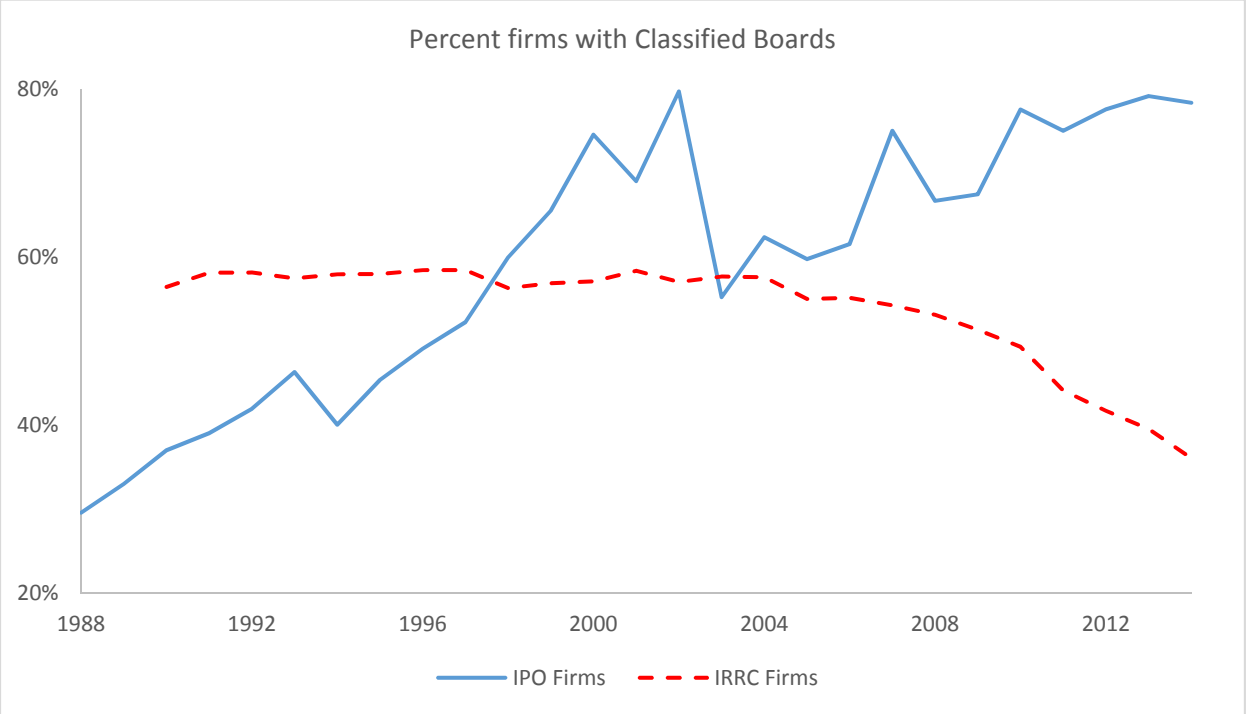


Figure 2: Time series of number of companies going public, proceeds raised

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5.

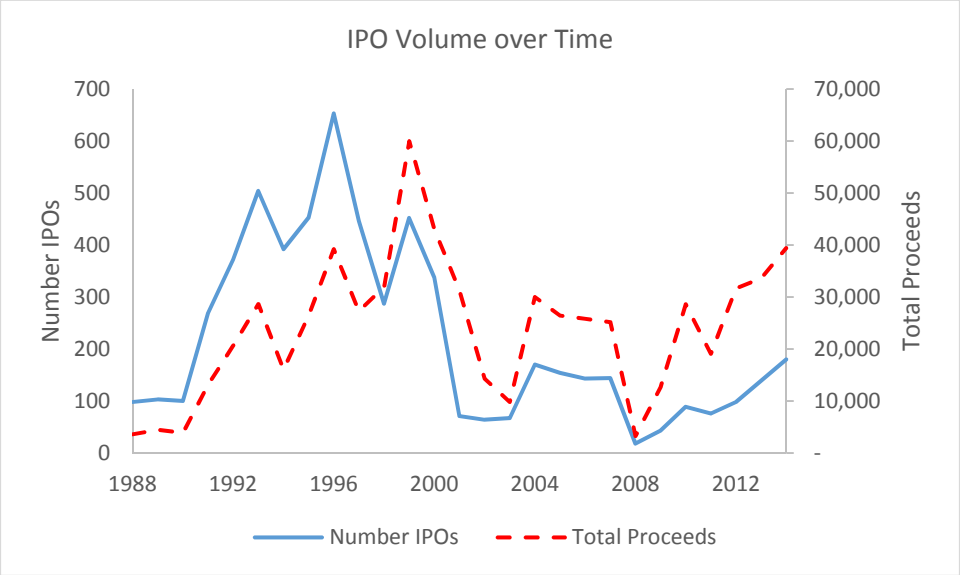


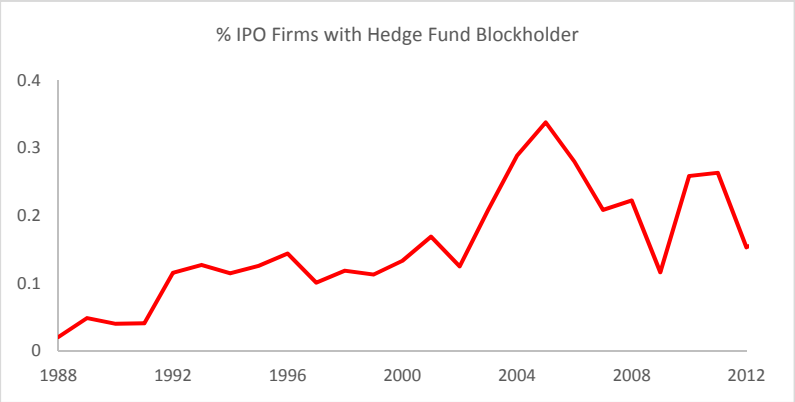
Figure 3: Variation in type of firm going public

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5.

Figure 4: Trends in Activism

In Panel A, a hedge fund blockholder is defined as a hedge fund that owned less than 1% of shares in the prior quarter and at least 5% of shares in the current quarter. A firm is considered to have a new hedge fund blockholder if there is at least one hedge fund that meets these criteria during the calendar year. In Panel B, a firm is defined as being acquired according to Thomson Financial's Mergers and Acquisitions database.

Panel A: % firms with a new hedge fund blockholder, within 3 years of IPO



Panel B: % firms acquired within 3 years of IPO

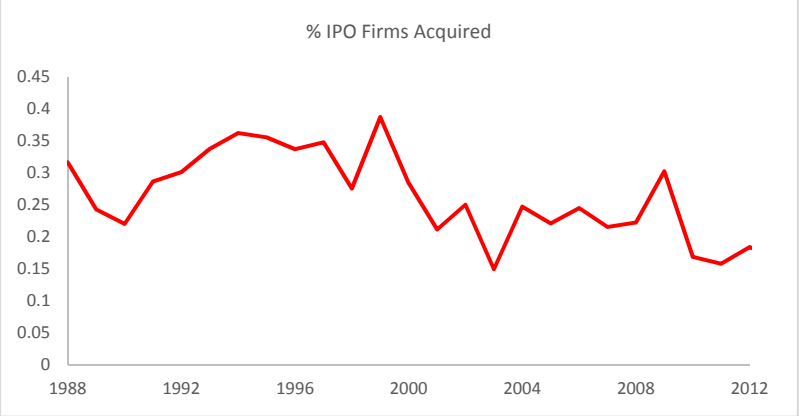
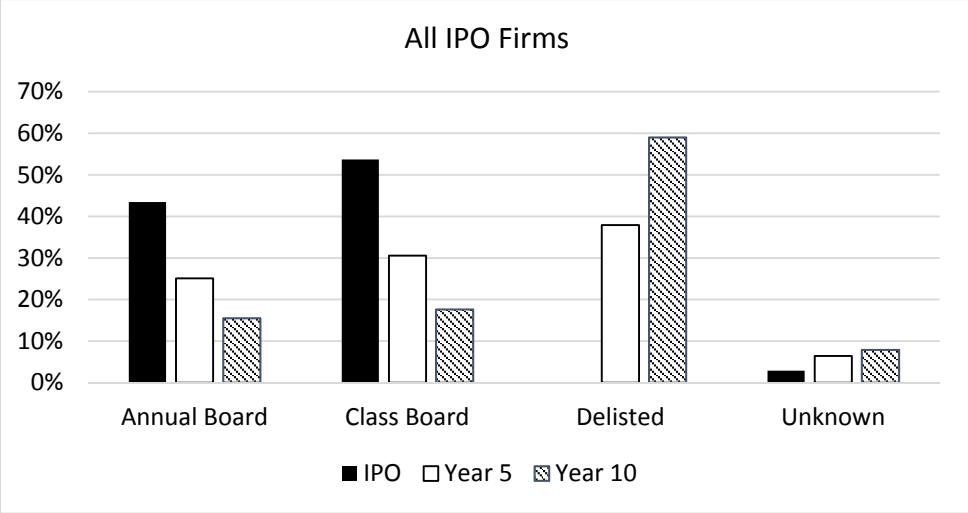


Figure 5: Distribution of firms' boards at IPO, year 5, year 10

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5. We collect board structure at the time of the IPO, during the fifth year after the IPO, and during the tenth year after the IPO.

Panel A: Firms still trading at Year 5 and Year 10 post-IPO by board structure at IPO



Panel B: Percentage of IPO firms that change board structure by Year 5 and Year 10 post-IPO

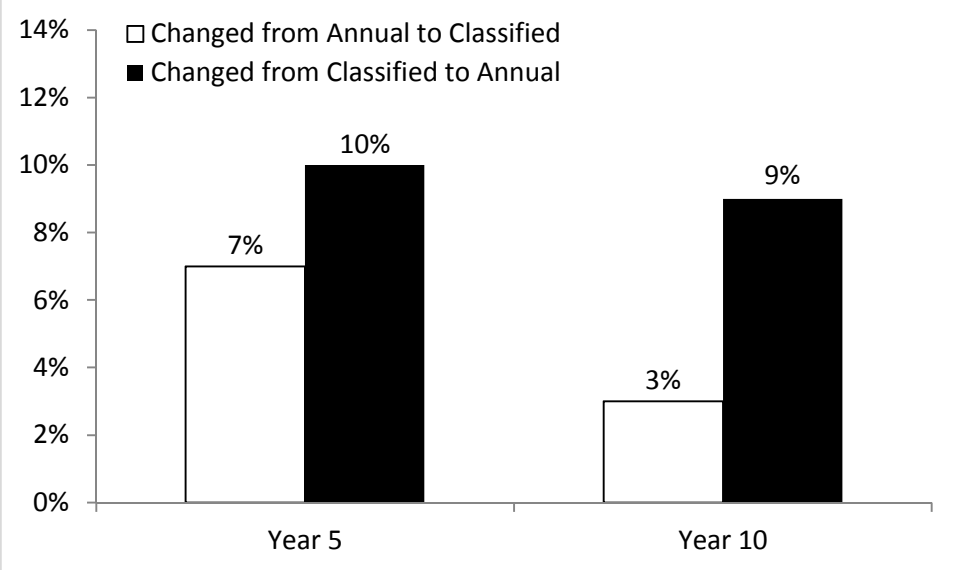
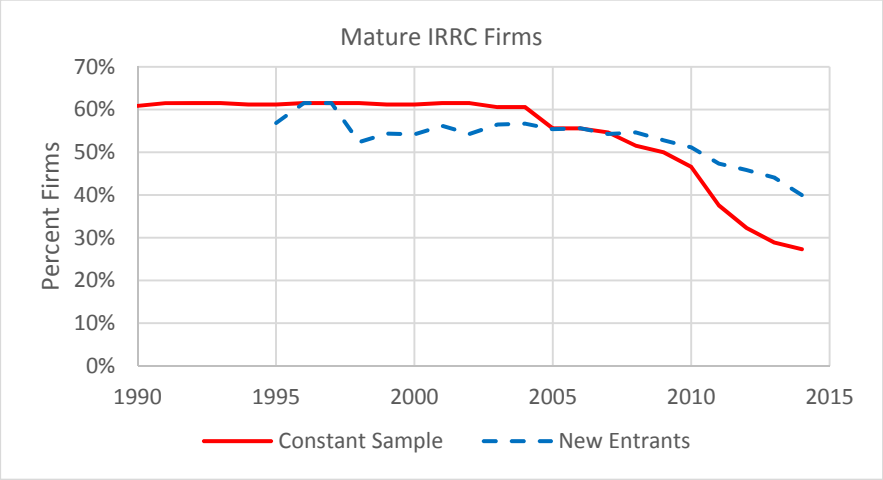
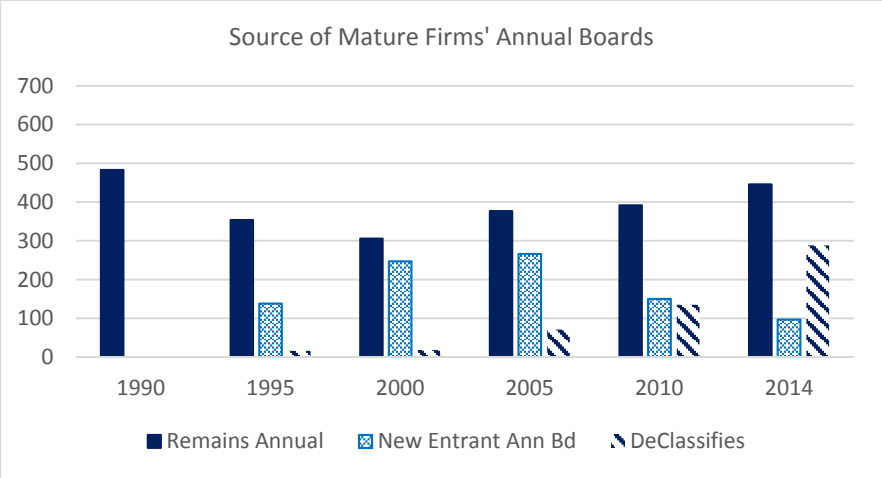


Figure 6: Sources of board structure among IRRC firms

In the top panel, the constant sample is defined as the subset of 332 firms that belong to IRRC throughout the 1990 – 2015 period. New entrants consist of firms that join IRRC in any year after 1990. In the middle panel, for each year (1990, 1995, 2000, 2005, 2010, and 2014) we tabulate the number of firms that have an annual board in the designated year and were also in IRRC with an annual board five years earlier (solid bar), the number of firms that entered into IRRC within the previous five years with an annual board (dotted bar), and the number of firms that have been in IRRC for at least the past five years or more but have switched to an annual board within that period. The bottom panel shows analogous statistics for classified boards.





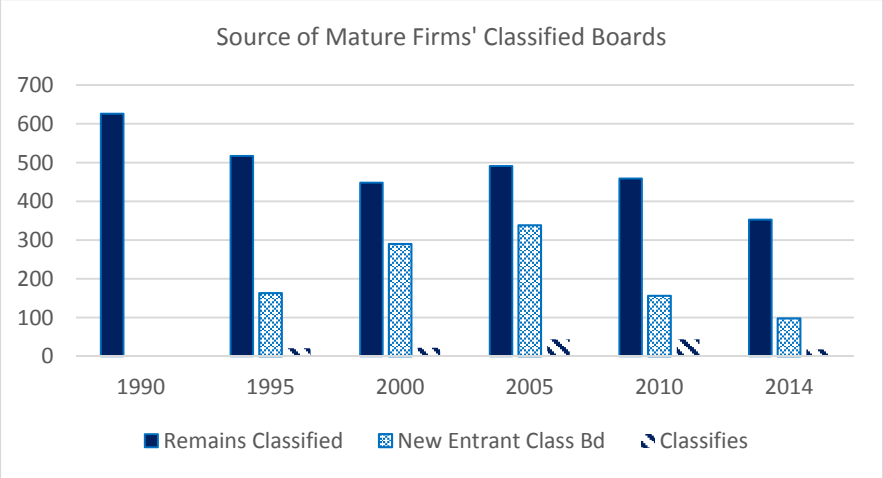
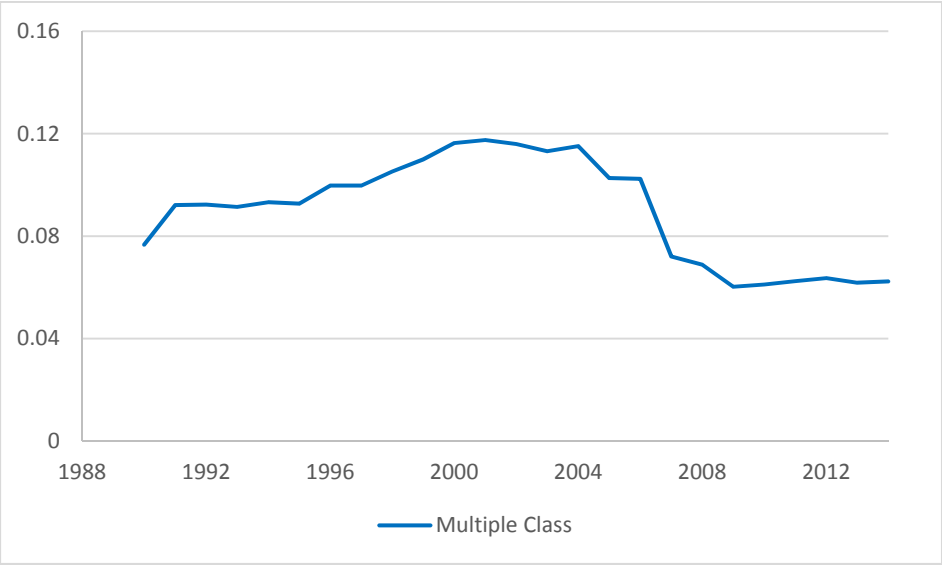


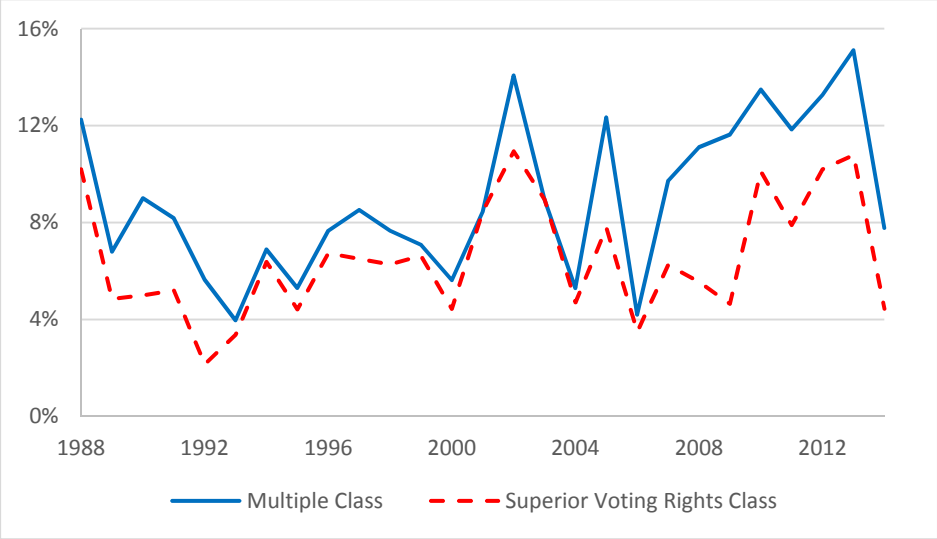
Figure 7: Dual Class Structure

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5. The mature firm sample consists of S&P1500 firms that have been public for at least five years, as listed on IRRC. Firms are classified as multiple class if they have more than one class of shares, and as superior voting rights class if the non-public class has more votes per share than the public class of shares.

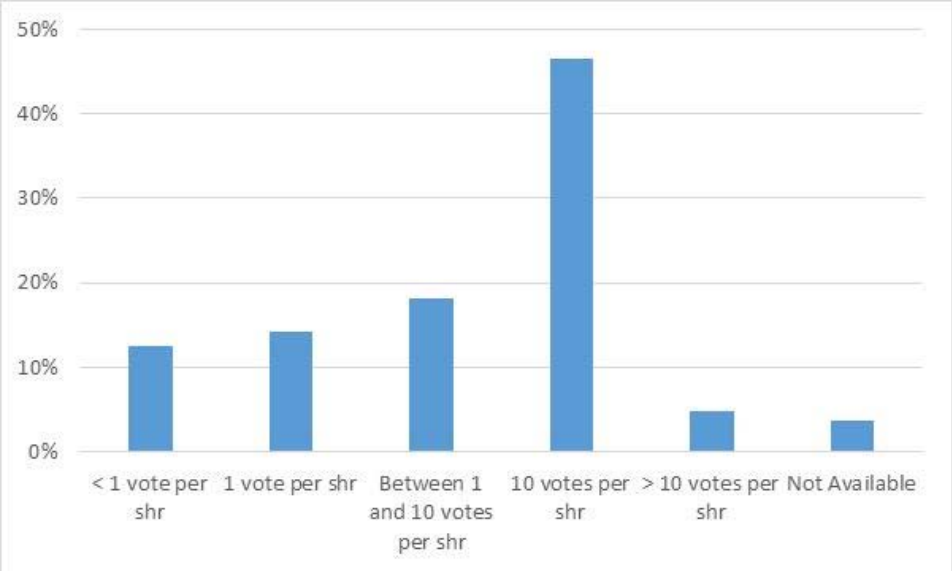
Panel A: Percent of Mature Firms with Multiple Class Share Structures



Panel B: Percent of IPO Firms with Multiple Class Share Structures



Panel C: Votes per share of non-public class, among multiple class IPO firms



Panel D: Voting power of non-public class, among multiple class IPO firms

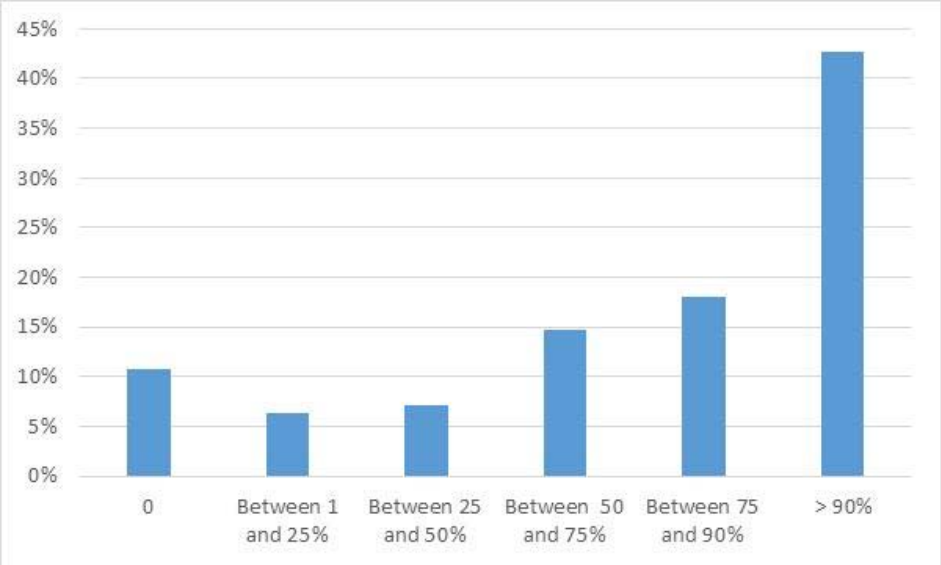
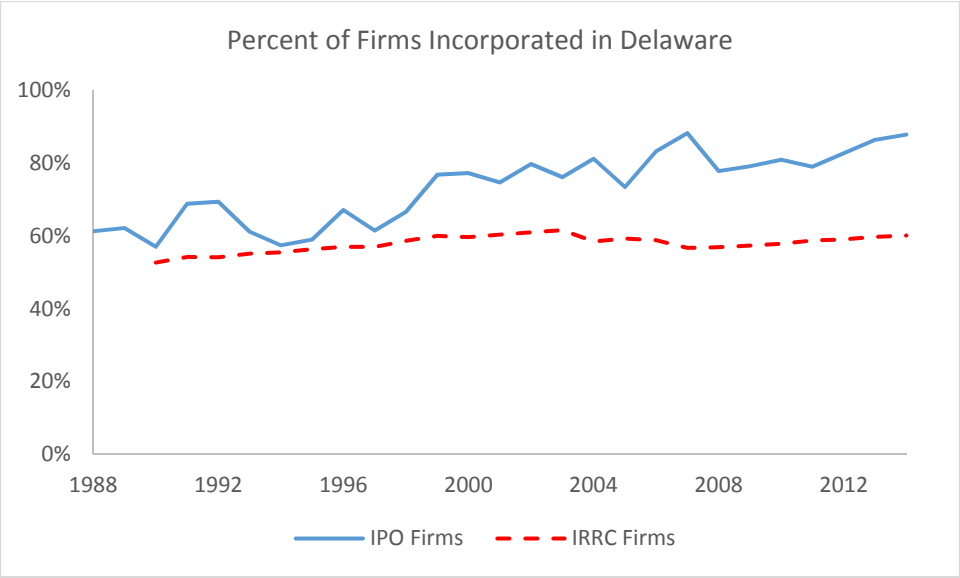


Figure 8: State of Incorporation

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5. The mature firm sample consists of S&P1500 firms that have been public for at least five years, as listed on IRRC.



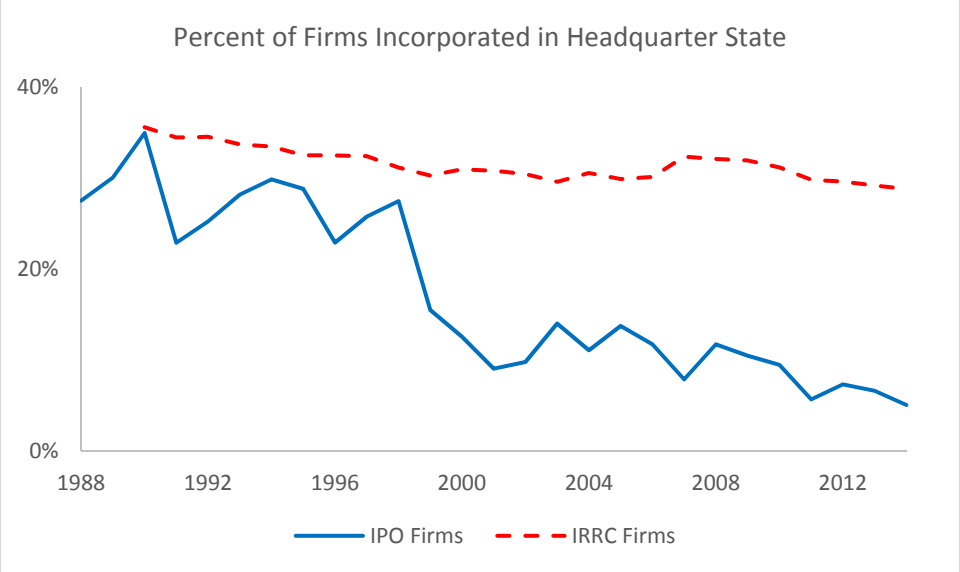


Table 1: Classified Boards in IPO firms vs. mature firms over time, by industry

The IPO firm sample consists of firms going public between 1988 and 2014, excluding units, ADRs, REITs, closed-end funds, foreign private issuers, and companies with an offer price less than $5.

Panel A: % of IPO firms with Classified Board, by industry and time period

	Fama-French Industry Group										
	Consumer Nondurable	Consumer Durable	Manu-facturing	Energy	Chemicals	Business Eqpt	Telecom	Shops	Health-care	Finance	Other
1988 – 1992	38%	44%	36%	52%	40%	39%	50%	41%	32%	46%	35%
1993 – 1995	32%	54%	45%	48%	30%	38%	50%	47%	47%	55%	44%
1996 – 2000	42%	26%	52%	43%	42%	63%	52%	60%	58%	62%	57%
2001 – 2005	56%	50%	67%	50%	88%	66%	79%	58%	78%	56%	57%
2006 – 2010	55%	57%	70%	70%	70%	74%	57%	59%	80%	68%	61%
2011 - 2015	80%	100%	75%	67%	83%	86%	100%	77%	84%	60%	73%

Panel B: % of Mature S&P1500 firms with Classified Board, by industry and time period

	Fama-French Industry Group										
	Consumer Nondurable	Consumer Durable	Manu-facturing	Energy	Chemicals	Business Eqpt	Telecom	Shops	Health-care	Finance	Other
1988 – 1992	53%	56%	69%	54%	63%	44%	61%	55%	57%	56%	62%
1993 – 1995	53%	58%	69%	55%	63%	45%	60%	55%	51%	58%	62%
1996 – 2000	53%	57%	67%	53%	65%	44%	66%	60%	56%	59%	57%
2001 – 2005	49%	62%	68%	52%	68%	48%	49%	58%	55%	60%	57%
2006 – 2010	53%	64%	66%	53%	64%	46%	26%	50%	53%	53%	50%
2011 – 2015	36%	41%	56%	37%	54%	40%	17%	37%	44%	34%	41%

Table 2: Relation between changes in IPO firm type and classified boards, over time

The sample consists for 5,923 IPOs between 1988 and 2014 in columns 1 - 3, and S&P 1500 firms over 1990 – 2014 as listed on IRRC and have been public for at least five years in columns 4 - 6. Column 6 consists of the subset of 332 firms that belonged to IRRC throughout the 1990 – 2014 period The dependent variable equals classified board, and independent variables include a time trend (ranging from one for companies going public in 1988 to 27 for companies going public in 2014), firm characteristics, and the time trend interacted with firm characteristics. Positive R&D equals one if the firm had positive R&D expenditures in the year of the IPO, zero otherwise. Market capitalization equals price at the first fiscal year end after the IPO, times shares outstanding at this point. EBITDA / assets equals EBITDA divided by total assets, in the year of the IPO. VC dummy equals one if the IPO firm was VC-backed, zero otherwise. Standard errors are shown in parentheses.

	IPO Firms			Mature Firms		
	(1)	(2)	(3)	(4)	(5)	Constant Sample (6)
Time Trend	0.019***	0.014***	0.010***	-0.007***	-0.004***	-0.002
	(0.001)	(0.002)	(0.002)	(0.000)	(0.001)	(0.002)
Time × Positive R&D		0.012***	0.010***		0.005***	0.003**
		(0.002)	(0.002)		(0.001)	(0.002)
Time × Large MktCap		-0.007**	-0.009**		-0.006***	-0.008***
		(0.003)	(0.003)		(0.001)	(0.002)
Time × High EBITDA		-0.006***	-0.006***		-0.002***	-0.005***
		(0.002)	(0.002)		(0.001)	(0.002)
Time x VC			0.006***			
			(0.002)			
Positive R&D		-0.112***	-0.119***		-0.079***	-0.026
		(0.026)	(0.028)		(0.014)	(0.026)
Large MktCap		0.184***	0.204***		0.063***	-0.036
		(0.058)	(0.058)		(0.014)	(0.028)
High EBITDA		0.057**	0.061**		0.048***	0.116***
		(0.026)	(0.026)		(0.014)	(0.027)
VC Dummy			0.015			
			(0.028)			
Constant	0.340***	0.369***	0.380***	0.647***	0.617***	0.668***
	(0.013)	(0.023)	(0.026)	(0.007)	(0.012)	(0.028)
Observations	5,753	5,753	5,753	33,163	33,163	8,050
Adjusted R^2	0.059	0.071	0.078	0.010	0.014	0.047

Table 3: Frequency of ISS Against Recommendations

The IPO sample consists of firms that have gone public between 2003 and 2014, and for which data are available on ISS. The mature firm sample consists of S&P1500 firms that have been public for at least five years, over the same 2003 – 2014 period.

Panel A: Percent of firms in which ISS recommends against at least one proposal, during first three years after IPO

	% firms in which ISS recommends Against on	
Year after IPO	At least one Proposal	At least one director
1	53.2%	37.1%
2	39.6%	27.5%
3	41.3%	29.4%

Panel B: Percent of newly public vs. mature firms in which ISS recommends against at least one proposal

	ISS Recommends Against at Least One Proposal		ISS Recommends Against at Least One Director	
Year	Newly Public Firms	Mature Firms	Newly Public Firms	Mature Firms
2004	45.1%	38.2%	28.1%	17.7%
2005	44.9%	39.3%	43.6%	25.6%
2006	45.4%	35.9%	37.6%	20.0%
2007	39.7%	35.5%	32.2%	18.8%
2008	37.7%	35.2%	24.4%	18.9%
2009	47.3%	43.4%	38.5%	27.3%
2010	43.6%	39.3%	34.8%	21.3%
2011	69.2%	57.0%	21.1%	12.3%
2012	43.1%	35.3%	24.7%	11.8%
2013	43.4%	31.7%	26.8%	12.2%
2014	35.9%	30.2%	19.4%	10.5%

Table 4: Voting Patterns of Different Types of Shareholders, Director Votes

The IPO sample consists of 543 firms that have gone public between 2003 and 2014, and for which data are available on ISS. Votes on IPO firms include votes on all directors within the first three years after the IPO. The mature firm sample consists of S&P1500 firms that have been public for at least five years, over the same 2003 – 2014 period, a total of 14,668 firm-years. Large mutual funds are defined as the funds from the five mutual fund families that voted on the greatest number of proposals over the 2003 – 2014 period. In Panel C, firms are split into subsamples based on whether they are VC backed or not, whether they have positive or zero R&D, whether they have above or below-median EBITDA/assets, and whether they have a classified or annual board.

Panel A:

	% Directors that ISS recommends Against
IPO Firms *(16,053 dirs across 453 firms)*	15.7%
Mature Firms *(127,945 dirs across 14,668 firm-yrs)*	9.3%

Panel B:

	DirectorVotes: % Funds Following ISS Recommendation			
	All Funds	Small Funds	Large Funds	Difference: Small − Large
ISS For				
IPO Firms *(10,889 dirs across 517 firms)*	95.5%	96.1%	94.1%	2.0%
Mature Firms *(103,607 dirs across 14,561 firm-yrs)*	94.5%	94.5%	94.4%	0.1%
ISS Against				
IPO Firms *(2,045 dirs across 339 firms)*	51.1%	53.7%	46.1%	7.6%
Mature Firms *(11,150 dirs across 5,559 firm-yrs)*	52.3%	53.4%	48.9%	4.5%

Panel C:

	Director Votes: % Funds Following ISS Recommendation			
	All Funds	Small Funds	Large Funds	Difference: Small − Large
IPO Firms, in which ISS recommends Against				
VC-backed (1,501 dirs across 433 firms)	51.3%	54.6%	44.9%	9.6%
Not VC-backed (544 dirs across 109 firms)	50.3%	51.5%	49.5%	2.0%
Positive R&D (680 dirs across 280 firms)	48.3%	52.2%	41.6%	10.6%
Zero R&D (1,365 dirs across 263 firms.)	52.4%	54.5%	48.4%	6.1%
Low EBITDA/assets (837 dirs across 313 firms)	50.4%	54.3%	43.1%	11.2%
High EBITDA/assets (1,188 dirs across 225 firms	51.4%	53.2%	48.3%	4.8%
Classified Board *(729* dirs across 386 firms*)*	50.9%	54.7%	42.8%	12.0%
Annual Board *(1,316* dirs across 157 firms*)*	51.2%	53.2%	48.0%	5.2%

Table 5: Percent of IPO firms with a Shareholder Proposal

The IPO sample consists of firms that have gone public between 2003 and 2014, and for which data are available on ISS. The mature firm sample consists of S&P1500 firms that have been public for at least five years, over the same 2003 – 2014 period.

Panel A: Percent of firms with shareholder proposal during first three years after IPO

Year after IPO	% Firms with Shareholder Proposal
1	0.00%
2	0.21%
3	1.06%

Panel B: Percent of newly public vs. mature firms with shareholder proposal, 2003 − 2014

	Newly Public Firms	Mature Firms		
Year	All	All	Classified Board	Annual Board
2003	0.0%	16.3%	18.4%	13.2%
2004	0.0%	15.0%	15.7%	13.9%
2005	0.0%	13.7%	14.5%	12.4%
2006	0.7%	14.1%	14.6%	13.2%
2007	0.0%	13.9%	14.2%	13.4%
2008	0.5%	13.8%	15.8%	10.9%
2009	0.0%	15.0%	15.8%	13.9%
2010	1.7%	14.3%	15.3%	12.9%
2011	0.0%	12.0%	12.6%	11.1%
2012	0.7%	13.9%	14.6%	12.8%
2013	0.0%	12.3%	13.6%	10.6%
2014	2.2%	13.8%	13.5%	14.2%

Table 6: Does a classified board deter a hedge fund from taking a block position?

The sample consists for 5923 IPOs between 1988 and 2012. The dependent variable in column 1 and 3 equals one if the IPO firm obtained a hedge block within the first three years after the IPO, defined as a hedge fund that owned less than 1% of shares in the prior quarter and at least 5% of shares in the current quarter. Column 1 shows an OLS regression. Columns 2 and 3 show the first and second stage of a 2SLS, where law firm fixed effects represent instruments. Standard errors are shown in parentheses

	OLS Hedge Fund Block (1)	First Stage Dep't = Classified Board (2)	Second Stage Dep't = Hedge Fund Block (3)
Classified Board	0.009		0.001
	(0.009)		(0.025)
R&D/Assets	0.100***	-0.027	0.099***
	(0.029)	(0.038)	(0.018)
Log(MktCap)	-0.032***	0.005	-0.035***
	(0.006)	(0.010)	(0.005)
VC-backed	0.057***	0.021	0.054***
	(0.011)	(0.018)	(0.011)
Underwriter Rank	0.008**	0.031***	0.009**
	(0.003)	(0.005)	(0.004)
EBITDA/Assets	-0.004	-0.062*	-0.013
	(0.019)	(0.034)	(0.020)
Technology Firm	0.001	-0.025	0.003
	(0.010)	(0.017)	(0.011)
Initial Return	0.000**	0.000	0.000
	(0.000)	(0.000)	(0.000)
Log(Firm Age)	0.003	0.011	0.005
	(0.005)	(0.008)	(0.005)
Shares Offered /	0.026	-0.099***	0.022
Shares Outstanding	(0.022)	(0.031)	(0.027)
Constant	0.392***		
	(0.060)		
Observations	5467	4,722	4,722
Adjusted R^2	0.050	0.184	0.021
A-P weak instrument		40.52	
A-P p-value		0	
F-stat		109.9	12.60
F p-value		0	0
HansenJ			382
HansenJ p-value			0.236

Table 7: Does a dual class structure deter a hedge fund from taking a block position?

Across the entire sample of 5923 IPOs, we regress a dummy variable equal to one if the firm is dual class, on each of the explanatory variables in this table, with industry and offer year fixed effects. For each of the 334 dual class firms, we determine the fitted value from this regression, and we select the non-dual class firm with the closest fitted value (matched firms are chosen with replacement). To assess the quality of the match, this table reports the mean of each of these explanatory variables for the sample of dual class firms and the sample of matched firms. *t*-statistics and associated *p*-values signify whether the means of the two samples are significantly different.

Panel A: Propensity Score Matching

	Dual Class Firms	Single Class Firms	*t*-Stat	*p*-Value
Log(MktCap)	12.24	12.16	–0.70	0.481
Initial Return	18.60	17.37	–0.42	0.677
EBITDA/Assets	0.06	0.01	–2.45	0.015
R&D/Assets	0.02	0.04	2.48	0.013
Shares Offered / Shares Outstanding	0.72	0.43	–13.45	-0.33
VC-backed	0.29	0.34	1.41	0.158
Underwriter Rank	8.36	8.00	–3.10	0.002
Technology Firm	0.39	0.43	1.10	0.271
Offer Year	1999.21	1998.44	–1.49	0.137
Industry 12 Grouping	7.58	7.52	–0.24	0.813
Firm Age	27.04	27.89	0.33	0.738

Table 7: (continued)

Panel B: Likelihood of a hedge fund taking a block position, Propensity Score Analysis

	Hedge Fund Block OLS (1)	Merger Attempt OLS (2)	Hedge Fund Block Logit (3)	Merger Attempt Logit (4)
Dual Class	-0.099***	-0.082***	-1.518***	-0.636**
	(0.026)	(0.032)	(0.368)	(0.280)
Log(MktCap)	-0.030***	-0.018	-0.294**	-0.246**
	(0.011)	(0.014)	(0.136)	(0.113)
R&D/Assets	-0.097	0.224	0.009	1.070
	(0.169)	(0.207)	(1.955)	(1.554)
VC-backed	0.079***	0.002	1.143***	-0.029
	(0.027)	(0.033)	(0.322)	(0.272)
Underwriter Rank	0.012	0.037***	0.113	0.418***
	(0.009)	(0.011)	(0.130)	(0.135)
Technology Firm	-0.024	-0.000	-0.133	0.120
	(0.026)	(0.032)	(0.338)	(0.274)
Initial Return	0.000	-0.000	0.003	-0.002
	(0.000)	(0.000)	(0.004)	(0.004)
Log(Firm Age)	0.018	-0.016	0.311**	-0.119
	(0.011)	(0.013)	(0.140)	(0.114)
EBIT/Assets	-0.027	0.003	-0.012	-0.015
	(0.054)	(0.066)	(0.868)	(0.546)
Shares Offered / Shares Outstanding	0.014	0.034	1.020*	0.104
	(0.045)	(0.055)	(0.566)	(0.467)
Constant	0.335***	0.107	-0.986	-1.871
	(0.123)	(0.151)	(1.424)	(1.308)
Observations	647	647	647	647
Adjusted R^2	0.092	0.023		