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September 2022

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Keywords: Dual Class, One-Share One-Vote, Rule 19c-4, Regulation, Innovation

JEL Classifications: G14, G18, G32, G34, K22

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Abstract

In the 1980s, stock exchanges and eventually the SEC took actions that affected the eligibility of listed firms to adopt dual-class shares with differential voting rights. In contrast to previous work, we use methodology relying on market-wide reactions to multiple regulatory events to show that risk-adjusted stock returns increase (decrease) in reaction to events that decrease (increase) the probability of firms' ability to adopt dual-class shares. This short-run reaction varies systematically across firms, suggesting that investors view dual-class shares positively in research-intensive and well-governed firms. In the long run, banning dual-class shares leads to lower research output, firm value, and profitability. Overall, our results suggest that dual-class shares increase valuations and facilitate innovation.

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1. Introduction

Multiple classes of shares with unequal voting rights represent one of the most controversial corporate governance mechanisms, generating numerous regulatory and firm governance conflicts over the years. From the first debate on the mechanism in the 1920s, to the use of dual-class voting structures in the hostile takeover market in the 1980s, investors, academics, and regulators offered perspectives on whether dual-class voting limits shareholders' ability to control management. Recently, firms going public with more than one class of shares have become increasingly common, especially in the innovative e-commerce and technology industries.[1] Furthermore, the recent popularity of these issues has led several stock exchanges to allow companies to go public with dual-class shares, and the S&P and MSCI to restrict their inclusion in indices.[2] In light of these events, this study re-evaluates the economic consequences of dual-class shares on firms in a novel setting that affects the eligibility of all exchange-listed firms to adopt dual-class shares with differential voting rights.

Our study aims to contribute to the large literature analyzing the impact of dual-class share structures. Most importantly, our methodology looks at the reaction of *all* listed firms to regulatory events that affect the probability of dual-class shares being accepted by regulators.[3] Previous research on the adoption of dual-class share structures has mainly focused on firms that adopt or go public with dual-classes of shares. Such unique samples are subject to two levels of selection: first, they consider only the firms that choose to adopt dual-class shares, and second, the collection of a sample of dual-class firms is necessarily subject to data screens when merging databases and by research design. Both effects may

[1] From 2017 through 2020, 113 of 517 initial public offerings (IPOs) were characterized by dual-class shares, with notable issuers including Airbnb, Snap, and Zoom Video Communications. Figure 1 attests to this uptick in the number of dual-class IPOs in recent years, especially among technology firms.

[2] See, Economist, "Hong Kong and Singapore succumb to the lure of dual class shares," March 1, 2018 and Financial Times, "The EU has a new weapon in the stock market battle," December 8, 2021.

[3] See, Schwert (1981) and Binder (1985) for classic works on using stock prices to measure the effects of regulation.

result in a potentially unrepresentative and smaller sample of firms, as have been shown in other contexts such as M&A, corporate lending, and regulatory enforcement.[4] In contrast, our focus on the effect of market-wide events enables study of the broadest possible sample of firms, which generates representative inferences into the implications of dual-class share structures.

Specifically, we examine both the market-wide reaction and cross-sectional differences over events affecting the probability of the adoption of the Securities and Exchange Commission's (SEC) Rule 19c-4. The events leading up to and including the passage and subsequent repealing of Rule 19c-4 impacted all U.S. listed firms whether or not they choose multiple voting rights. Each event affects the probability that regulators banned dual-class, including the rule itself that takes away the option for every firm. Note that while we test hypotheses with respect to the market reaction to changes in the probability of the adoption of Rule 19c-4, we offer no conclusions on optimal governance structures since we believe this is best determined by the market for corporate governance.

It is straightforward to explain why dual-class share structures are controversial and subject to regulatory scrutiny. On the one hand, they are an effective anti-takeover and anti-activist governance tool. As Bebchuk and Kastiel (2017) note, the combination of entrenchment via concentrated voting control and diffuse equity holdings can result in a failure by the market for corporate control to discipline management. On the other hand, the same management control can provide insiders with benefits that ensure that the firm undertakes value-increasing risky projects and that managers invest substantial human capital in the firm. Thus, there are trade-offs and cross-sectional differences in the benefits and costs of creating dual-class structures.

[4]See, Netter, Stegemoller, and Wintoki (2011) for a related example of the large effect of data screening on the conclusions of M&A research, Dichev and Skinner (2002) for large sample evidence on corporate lending, and Donelson, Kartapanis, McInnis, and Yust (2021) for the biases from screening out private regulatory enforcement actions.

Consequently, it is not surprising that the extensive set of theoretical and empirical studies on the causes and effects of dual-class share structures remains divided on its merits.[5] Theoretically, single-class structures can improve firm value in the presence of significant private benefits of control (Grossman and Hart, 1988), while dual-class structures can incentivize managers to take on risky positive net present value (NPV) projects and to form stronger stakeholder relationships, lower the degree of managerial short-termism, and reduce underinvestment (e.g., Laffont and Tirole, 1988; Stein, 1988; Chemmanur and Jiao, 2012; and Banerjee and Masulis, 2018). Empirically, several studies show that dual-class shares are beneficial to shareholders when firms are young or growing fast (e.g., Cremers, Lauterbach, and Pajuste, 2018; Bauguess, Slovin, and Sushka, 2007; and Lehn, Netter and Poulsen, 1990). Other studies establish that dual-class shares are associated with lower valuations and higher managerial agency problems (e.g., Gompers, Ishii, and Metrick, 2010; Masulis, Wang, and Xie, 2009; and Jarrell and Poulsen, 1988). Recently, Aggarwal, Eldar, Hochberg, and Litov (2022) examine the types of controlling owners, and find that dual-class structures are increasingly common in founder-controlled firms that benefit from increased access to external capital. Field and Lowry (2022) report that while the number of dual-class firms has declined by 40% since 1990, the number of IPOs with dual-class shares has doubled through 2017.

Though these studies provide important insights into whether dual-class structures are beneficial, they rely on subsets of firms that have already chosen to have multiple classes of stock. In contrast, we examine the impact of the changing regulatory view of dual-class shares on firms' overall market value and investment policies. Notably, to address the renewed debate on the merits of dual-class shares, we analyze a series of 13 actions taken by major stock exchanges, the SEC, Congress, and eventually the courts that affected the

[5]See Adams and Ferreira (2008) and Burkart and Lee (2008) for an overview of the empirical and theoretical literature on dual-class shares, respectively.

ability of public firms to adopt dual-class shares.

These actions provide a unique opportunity to examine the economic implications of an important corporate governance mechanism – dual-class shares – in several ways. First, our setup allows us to form a plausible counterfactual, as the actions affected the status quo policy of stock exchanges differently. The New York Stock Exchange (NYSE), which had the most stringent rules about denying dual-class adoptions, took action to allow them. On the other hand, the National Association of Securities Dealers (NASD) and the American Stock Exchange (AMEX), which had allowed dual-class structures, imposed limits on firms' ability to adopt them and eventually banned them. In a similar way, SEC Rule 19c-4, also known as the shareholder disenfranchisement rule, mandated that all firms listed on US exchanges to adopt a one-share one-vote rule, which the US Court of Appeals for the DC Circuit later struck down.[6] These events together enable us to examine the directional valuation effects of allowing and banning dual-class shares separately, and to use the non-affected exchanges as a control group. Second, the actions help with endogeneity concerns in the relationship between firm valuation and share class structures as well as alleviate selection bias as we investigate firms did not self-select themselves into the adoption of dual-class shares. Finally, in our setup, we can draw inferences based on an economy-wide cross-section of public firms given that the actions influence all firms listed on three major exchanges.

We start by comprehensively investigating the risk-adjusted market reaction to these 13 important events. We document a statistically and economically significant positive stock market reaction to the events that increase the probability of a one-share one-vote policy for firms listed on the NASD and AMEX (3.903% on average, significant at the one-percent level), and similar, though negative, results for events that increase the probability of allowing dual-class structures on firms listed on the NYSE (-0.801% on average, significant at the

[6]Following the court ruling, the stock exchanges adopted provisions with similar restrictions for trading on their platforms. See Federal Register, Volume 59, Number 247 (December 27, 1994) FR Doc No: 94-31728 for complete information on the rules that the exchanges eventually adopted.

one-percent level). The stock market reaction to 11 of 13 events is consistent with the view that single-class share structures are valuable, with five of them being statistically significant. These results are consistent with several prior studies and suggest that capital markets regard one-share one-vote structures as shareholder-friendly.

Next, given the debate on whether a dual-class structure is optimal for some firms, we investigate the reasons behind the market reaction. Following the prior literature, we explore the relevancy of (1) the managerial flexibility hypothesis as the major benefit of dual-class shares – where differential voting rights grant greater freedom to managers and allow them to undertake long-term positive NPV projects as well as invest in firm-specific human capital – versus (2) the entrenchment hypothesis as the major cost of dual-class shares – where managers use dual-class share mechanisms to evade market discipline and extract private benefits at the expense of minority shareholders.

In the cross-sectional analysis of the average market reactions obtained in the initial univariate analysis, we find support for both hypotheses. The market reaction to an increased likelihood of a mandated one-share one-vote policy is significantly less valuable when managers require greater flexibility in making business decisions. Firms with greater research intensity and investment opportunities measured by R&D expenditures, patent activity, technology industry membership, and asset growth experience negative and statistically significant market reaction to the events that mandate single-class shares. For example, a one-standard deviation increase in R&D expenditures is associated with a 0.040% reduction in abnormal returns, which is a one-quarter reduction in the 0.152% positive reaction among firms without R&D expenditures to events associated with Rule 19c-4. Further, technology firms are penalized by a 0.114% reduction in daily abnormal returns compared to non-technology firms. Lastly, given the recent studies on the life cycle effects of dual-class shares (e.g., Cremers et al., 2018 and Kim and Michaely, 2019), we also use firm age as another proxy for growth prospects, and find that the increased probability of single-class shares is

only value-increasing in older firms while the costs and benefits of adopting dual-class shares are roughly the same in IPO firms that tend to have strong growth prospects.

In contrast, one-share one-vote policies are more valuable when managers are entrenched to a greater extent. For example, a one-standard deviation increase in total institutional ownership is associated with a reduction of 0.063% in daily abnormal returns, which is a one-third reduction in the baseline positive market reaction of 0.189% among firms without institutional ownership to events associated with Rule 19c-4. Similarly, firms with an independent chair exhibit 0.167% lower abnormal returns than those with a dual-role CEO. Comparing the role of each hypothesis in explaining the stock market reaction to the increased likelihood of a mandatory one-share one-vote policy, we find that while both explanations are important, the effect of the flexibility hypothesis is about 31% larger in absolute magnitude than that of the entrenchment hypothesis, and this difference is statistically significant. Thus, the flexibility hypothesis dominates the stock price effects of Rule 19c-4 events.

Given the heterogeneous market reaction supporting either hypothesis, how then do firms listed on the NASD and AMEX fare over time after losing the ability to adopt dual-class shares? In a difference-in-difference (DiD) analysis using the unaffected NYSE-listed firms as the control group, we compare the outcomes based on research activity, governance, and valuations for the two groups of firms. As firm characteristics can vary by exchange and over time due to numerous factors, we create a homogeneous comparison group in the three years before the regulatory events by matching these two groups based on market capitalization and growth prospects, and further implement a stringent fixed effect approach that includes industry-year, state-year, and firm fixed effects in all estimations to control for time-varying industry and state characteristics such as growth opportunities and regulations. We then set the post-period as starting in 1984 when the first event related to dual-class share adoption occurred in our sample, and ending in 1990 with the repeal of Rule 19c-4.

Over time, we document stark differences in firms' research outputs and valuations.

NASD and AMEX listed firms reduce their research expenses and patent activity, and shrink in market capitalization. For example, the R&D expenditures decrease by 0.005 percentage points, or by 12.5% for an average firm, significant at the 1% level. The drop in asset growth is even larger, at about 0.161 percentage points, or by 52% for an average firm. Further, the overall change in firm value and profitability between the two groups of firms is substantial. NASD and AMEX listed firms experience a 0.033-point reduction in profitability and a 0.184-point reduction in the market-to-book ratio. These results suggest that mandating a one-share one-vote policy for firms leads to declines in research activity, growth rates, profitability and valuation over the sample period.

The results from these short-run event study and long-run DiD tests are robust to several alternative estimation procedures including an alternative treatment scheme, dropping firms with existing dual-class share mechanisms, and alternative CAR measures. For example, we examine the market reaction separately for the subsets of firms that are the most and least likely to adopt dual-class shares in the future. What we find is a highly economically and statistically significant market reaction for the former group of firms whereas there is no statistically significant market reaction for the latter group of firms. Furthermore, after dropping dual-class firms, we find a nearly identical adjusted market reaction of 0.831% for NYSE firms and 3.888% for NASD and AMEX firms, whereas alternatively considering the events related to the SEC's actions as economy-wide events results in a total adjusted market reaction of 3.748%. In both cases, we find qualitatively similar support for both hypotheses in the cross section.

Overall, our study's main contribution is its implications for the current empirical and theoretical debate on the economic impact of dual-class shares. By examining a rare and broad shock to the ability of all firms to adopt dual-class shares, we provide new evidence on how investors value such shares without focusing on firms that endogenously select dual-class shares. Our results show a major benefit of dual-class shares in the long-run: facilitating

innovation and improving valuations. In this capacity, the results support dual-class share usage among research-intensive firms, such as technology firms, as long as they have strong governance mechanisms in place. This is consistent with an increasing number of dual-class IPOs in recent years, as Figure 1 shows.

Our evidence also complements previous research on dual-class shares, which generally focus on individual firms' decisions to change their dual-class status. Sample selection and endogeneity issues are well known in this setting (Adams and Ferreira, 2008). In this study, we are able to control for any confounding effect of contemporaneous unobserved firm shocks in our cross-sectional tests, as firms on exchanges not subject to the rule changes constitute a plausible counterfactual. Our tests also benefit from the fact that the sample includes events that affect the same set of companies but in opposite directions, which enables us to investigate the valuation effects of banning and allowing dual-class share structures. Finally, our cross-sectional results point to a substitution effect between single-class shares and other governance mechanisms. In these ways, this study extends our understanding of the valuation effects of dual-class shares and firm characteristics associated with their costs and benefits, and thereby provides important insights for market participants and regulators.

Finally, our findings significantly add to the literature on one-size-fits-all regulation.[7] Our results suggest that, in aggregate, regulations allowing dual classes of shares reduce shareholder wealth on average and regulatory prohibitions increase average shareholder wealth. However, these market returns reflect the overall reaction to one-size-fits-all regulation. Our results using the market-wide valuation effects show that there are both benefits and costs to dual classes of stock and that firm and market characteristics will guide governance decisions such as the adoption of dual classes of shares.

A caveat with our analysis is whether the findings are applicable to the current debate

[7]See, e.g., Rose (2007) and Linck, Netter and Yang (2009) for discussions and tests of the effects of one-size-fits-all corporate governance regulations.

on dual-class shares, as it is based on data from the 1980s. We believe that it is so in light of current events. The recent decisions of stock exchanges in Hong Kong, Singapore, and the United Kingdom to allow the listings of IPOs with dual-class shares due to competitive pressures echo the competition felt among US exchanges in the 1980s that led to the NYSE to allow dual-class structures. In addition, existing empirical evidence shows that the valuation effects associated with dual-class shares continues to exist (e.g., Gompers et al., 2010) as it existed in the 1980s (e.g., Jarrell and Poulsen, 1988), pointing to the importance of our analysis.

The remainder of this paper proceeds as follows. Section 2 presents the data and methodology. Section 3 reports on the baseline results. Section 4 provides the hypotheses and tests we apply in our analysis of the costs and benefits of dual-class shares. Section 5 investigates the long-run outcomes and Section 6 includes further robustness tests. We conclude the paper in Section 7.

2. Data and Methodology

We collect information about important exchange or regulatory events related to the eventual implementation of Rule 19c-4 via an exhaustive news search. To key in on critical events, we cross-reference a Factiva keyword search of all major news sources with law and finance articles that examine the timeline of Rule 19c-4. As supplementary sources, we use Seligman (1986), Bainbridge (1991), Howell (2017), and the American Bar Association's annual Significant Regulatory and Legislative Developments review. With these articles as a guide, we use Factiva keyword searches to find the first relevant reporting date of the event to prevent pre-event leakage. Overall, we identify 15 significant exchange-level or regulatory events during the development of the Rule 19c-4 policy that have an unambiguous directional effect on the ability or future probability of firms being mandated to have a single-class share

structure. Appendix A briefly describes each event. We drop two of these events because they coincide with other major confounding regulations that could move the markets.[8] For every event date, we ensure that there are relevant news articles (typically the Wall Street Journal or the Dow Jones Newswire) combined with a mention of the event in the law and finance literature, in SEC or Exchange press releases, or court records. The first three columns of Table 1 provide a chronological list of these events, a short description, and their dates.

These events can be grouped into three periods. First, two events occur during 1984 and 1985, in which the NYSE weakened its strict one-share one-vote policy by imposing an informal moratorium on delisting companies with dual-class shares and then began to discuss the relaxation of its one-share one-vote policy (events #1 and #2). The following period through 1987 includes five events in which the major exchanges (the NYSE, AMEX, and NASD) debated and voted on one-share one-vote restrictions (events #3 through #8). During this second period, the exchanges, regulators, and even legislators undertook efforts to create a uniform standard of shareholder voting rights. While the NYSE and AMEX supported fewer restrictions on dual classes of shares, the NASD voted to enforce the one-share one-vote policy. Amidst the debate on disparate voting rights, regulators signaled a willingness to let market forces determine policy. The third period, comprising five events (events #9 through #13), began as it became clear that these discussions among the exchanges failed to reach a uniform voting standard agreement. Congress declined to legislate on a one-share one-vote policy and the exchanges looked to the SEC for guidance. During this period, a vigorous debate arose on whether the SEC had the legal authority to pass the rule in the first place. Nevertheless, the SEC proposed Rule 19c-4 on June 12, 1987, which it subsequently adopted

[8]In particular, on July 11, 1984, President Ronald Reagan signed a major bankruptcy reform law and around September 2, 1988, the US Federal Home Loan Board announced a bailout of a group of savings and loan associations. Our univariate and cross-sectional results are robust to the inclusion of these two confounding events.

on July 7, 1988.[9] In response to a Business Roundtable lawsuit, the US Court of Appeals for the DC Circuit struck down the rule on June 12, 1990, with the basis for the decision being that it infringed on the right of state governments to regulate corporate governance. For additional context, Appendix B provides a brief review of the history of dual-class share usage with special emphasis on the period around the introduction of Rule 19c-4.

For each event, we record two pieces of information. First, we evaluate the direction of the likelihood that the event shifted the probability of an exchange-level or regulatory implementation of a one-share one-vote policy. We encode a more affirmative shift toward a one-share one-vote policy as "+" and a shift toward the allowance of dual-class shares as a "−". This predicted sign is reported under column "Direction" of Table 1 for each event. Second, we determine which firms the event is likely affect, which we define as a shift away from the status quo policy at the respective exchange. As a baseline, we assume that exchange-level policies affect only firms listed on that exchange; for example, we code a shift away from the NYSE ban on dual-class shares as a "−" only for NYSE firms. For legislative or regulatory events that are potentially economy-wide, we ensure that there is an actual change at the exchange level. For example, the passage of Rule 19c-4, which bans dual-class shares, should only affect the NASD and AMEX because these exchanges either allowed dual-class shares or granted significant exceptions to limits on dual-class shares. Therefore, a ban on such shares ex-ante would not affect NYSE firms, as it was already the NYSE status quo. The column "Affected firms (N)" of Table 1 reports the number of affected firms for each event.

Given these dates, we conduct our event study of the market reaction to Rule 19c-4 events using an event parameter approach (Malatesta, 1986). That is, we regress a panel of abnormal stock returns on an indicator for the 3-day window around each event date.

[9]Note that we use July 8th, 1998 as the event date for Rule 19c-4 because this date is when news articles appeared in the press on the passage of the law. Our use of the $[-1, +1]$ trading day window in our event study still covers the adoption date for Rule 19c-4.

Specifically, we compute the panel of abnormal returns (AR_{it}) under the Carhart (1997) four-factor model:

$$AR_{it} = r_{it} - \widehat{\alpha}_i - \widehat{\beta}_{i,\text{MKT}}\text{MKT}_t - \widehat{\beta}_{i,\text{SMB}}\text{SMB}_t - \widehat{\beta}_{i,\text{HML}}\text{HML}_t - \widehat{\beta}_{i,\text{UMD}}\text{UMD}_t, \tag{1}$$

where r_{it} is the delisting-adjusted return for firm i on day t. For each firm, we estimate the parameters of the Carhart (1997) four-factor model ex-ante by using the 1-year pre-event window ending 180 days before the first event. The resulting event parameter model that we estimate is

$$AR_{it} = \gamma_0 + \sum_{n=1}^{13} \gamma_n D_n + \epsilon_{it}, \tag{2}$$

where D_n is an event indicator equal to 1 within the $[-1, +1]$ window and $\widehat{\gamma}_n$ is the event parameter estimate of the market reaction to each of the 13 Rule 19c-4 events. We estimate equation (2) using ordinary least squares, and for inference, we use robust standard errors clustered by day to handle the unknown correlation across firms. This approach allows for inference on the estimate of the average risk-adjusted market reaction in the event window while 1) taking into account any cross-sectional dependence across firms and 2) maintaining critical tail information in the distribution of market reactions. In comparison, a portfolio approach to handling cross-sectional dependence may lead to a loss of information (Ang, Liu, and Schwarz, 2020). Our approach is also flexible, as a similar event parameter model enables cross-sectional comparisons across firms, which we use to examine the heterogeneous benefits and costs of dual-class shares in Section 4.

In terms of standard data sources, we collect stock price and returns from the Center for Research in Security Prices (CRSP). Based on the CRSP information, our sample includes all NYSE, NASD, and AMEX firms (i.e., exchange codes 1, 2, and 3) with at least 50% valid

return availability across a firm's life from half a year before the first event to 10 days after the final event. For the subsequent cross-sectional and DiD tests, we collect accounting data from Compustat and ownership data from Thomson Reuters 13F. We also thank Kogan, Papanikolaou, Seru, and Stoffman (2017), Yermack (1996), and Peters and Taylor (2017) for providing data on patents, the board of directors, and total Tobin's Q (adjusted for intangible capital), respectively.

3. Market Reactions to Events Related to Rule 19c-4

We report the results from our baseline event study in the last two columns of Panel A of Table 1. These columns present the average cumulative abnormal returns (CAR) over a 3-day window for each of the 13 non-confounding events leading up to and including the implementation (and repeal) of Rule 19c-4. All three events associated with the NYSE that considered allowing dual-class share structures (events #1, #2, and #5) have negative CARs, with two of them being statistically significant. In particular, capital markets perceive the NYSE committee's exploration of permitting multiple-class shares (event #2: -0.341%, $t = -3.083$) and the NYSE board's approval of the panel's decision (event #5: -0.394%, $t = -1.927$) as shareholder unfriendly. These results suggest that market participants view the increased probability that NYSE firms would be allowed to adopt dual-class shares negatively.

Four events are specific to AMEX and NASD firms, and thus we only include these firms when analyzing the market reaction to actions taken by these exchanges (events #4, #6, #7, and #8). Paralleling the findings for NYSE firms, all three events associated with the NASD banning dual-class share structures have positive and statistically significant CARs. The NASD's consideration of revisiting its rules on dual-class structures (event #4: 1.118%, $t = 5.653$), its proposal to adopt a rule enforcing a single-class share structure (event #7:

0.513%, $t = 3.079$), and its adoption (event #8: 1.051%, $t = 4.956$) are viewed by investors as value-increasing for shareholders. On the other hand, the AMEX decision to allow for listings with any type of class structure has no statistically significant effect on firms' risk-adjusted share prices (event #6: -0.368%, $t = -0.536$). Given that both the NASD and AMEX allowed dual-class firms on their exchanges prior to the events taking place, these results suggest that the increased probability of the ban on dual-class shares is welcomed by investors.

The remaining six events are related to regulatory and legislative responses to the exchanges' initiatives on differential share-class structures. Our analysis focuses on NASD and AMEX firms as the NYSE already had a one-share one-vote policy.[10] The events related to the SEC's proposal of Rule 19c-4 (event #9) and its passage (event #12) are both viewed as shareholder friendly but their effect on stock prices is statistically insignificant. The events related to the legislation and lawsuit against the SEC and the eventual overturning of Rule 19c-4 (events #10, #11, and #13) have mixed and statistically insignificant market reactions.[11] Finally, two events related to the legislation of dual-class structures (events #3 and #10) have a statistically insignificant market reaction.

Panel B summarizes the overall market reaction to events related to firms' ability to adopt dual-class shares. For ease of interpretation, we impose a joint linear null hypothesis on the individual reactions so that the adjusted total market reaction represents the reaction to an increased likelihood of a one-share one-vote policy.[12] Panel B shows that NYSE firms experience a decline of 0.801% in risk-adjusted returns across the three events that increase

[10] In our robustness tests in Section 6, we relax this constraint and consider the impact of these events on all firms and find similar results.

[11] We can rationalize the lack of a market reaction to these events as after the repeal of Rule 19c-4, the exchanges all adopted a one-share one-vote policy. As we discuss in Appendix B, while the SEC was limited in its legal authority to mandate this policy uniformly, they were still able to pressure the exchanges to adopt the rule themselves. Therefore, the lack of a market reaction may reflect the fact that such information was already expected and therefore priced by investors.

[12] This is achieved by multiplying the event abnormal market reactions by the column "Direction" from Panel A of Table 1. See equation (4) below for details.

the probability that listed firms can adopt dual-class structures, and the joint test statistic indicates significance at the one-percent level. On the other side of the spectrum, NASD and AMEX firms experience a positive and statistically significant stock market reaction of 3.903% to events that increase the probability of a one-share one-vote policy.

In summary, Table 1 demonstrates a statistically and economically significant stock market reaction to important events related to the implementation of the SEC's Rule 19c-4. Events that increase the probability of a one-share one-vote policy are associated with significant increases in risk-adjusted stock returns. Conversely, events that increase the probability of allowing dual-class shares are associated with a significant decline in risk-adjusted stock returns. These results imply that, on average, capital markets view one-share one-vote structures as shareholder-friendly. This result is consistent with studies that document the undesirability of dual-class shares for minority shareholders, as they can increase the voting power of corporate insiders (e.g., Gompers et al., 2010). It is important to note that though many firms on these exchanges did not have dual class structures ex-ante, the changing business conditions could make it optimal for them to adopt dual-class shares in the future. The large market reaction to the set of regulatory developments we examine can partially be explained by the fact that these events take away the option to adopt dual-class shares.

While Table 1 documents that one-share one-vote structures are favorable to shareholders on average, banning dual-class structures may be harmful to some firms for which dual-class shares are optimal. Consequently, such firms (e.g., high-growth firms) may experience negative market reactions. To better disentangle the heterogeneous benefits and costs of multiple share classes with differential voting rights, we formally analyze the reasons behind the market reaction in the next section. Before doing so, we briefly review the literature on the flexibility and entrenchment hypotheses to explain the value impact of dual-class share structures.

4. Cross-sectional Analysis

4.1. Cost and Benefits of Dual-class Shares

Prior studies propose two competing channels through which dual-class share structures can influence firm valuation, which we call the managerial flexibility and entrenchment hypotheses. Following the prior literature, we explore the relevance of each hypothesis in explaining the cross-sectional variation in the stock market reaction to our events.

According to the flexibility hypothesis, dual-class structures are optimal for some firms, and thus, are associated with higher valuations in those firms. This process may involve several factors. For example, dual-class mechanisms can motivate managerial investment in firm-specific human capital (DeAngelo and DeAngelo, 1985) and potentially increase takeover premiums (e.g., Smart and Zutter, 2003). Insulation from takeover markets can also improve stakeholder relationships and firm valuations (Johnson, Karpoff, and Yi, 2015), encourage innovation (Humphery-Jenner, 2014), and mitigate underinvestment and managerial myopia problems (Banerjee and Masulis, 2018; Stein, 1988). In addition, empowering highly skilled managers with the substantial control dual-class structures provide can also encourage them to take risky and positive long-term NPV projects that they might otherwise avoid due to risks such as job termination (e.g., Chemmanur and Jiao, 2012).

Alternatively, the entrenchment hypothesis states that dual-class structures entrench managers by concentrating voting power within their hands. This concentration can insulate managers from disciplinary takeovers and other forms of shareholder activism and allow them to extract greater private benefits (Bebchuk and Weisbach, 2010). Grossman and Hart (1988) point out the optimality of single-class structures in the presence of significant private benefits of control, and Adams and Ferreira (2008) argue that deviations from single-class structures can create inefficiencies that lead to capital misallocation.

4.2. Empirical Setup

To examine the relevance of both hypotheses, we regress individual abnormal returns on managerial flexibility and entrenchment measures. Specifically, we modify event parameter equation (2) as follows:

$$\begin{aligned} AR_{it} = \gamma_0 + \gamma_1 \text{Var}_{i,t-1} \times \text{Single-class Dummy}_t + \gamma_2 \text{Var}_{i,t-1} \\ + \gamma_3 \text{Single-class Dummy}_t + \text{Controls}_{i,t-1} + \epsilon_{it} \end{aligned} \tag{3}$$

where γ_1 is the coefficient of interest and Single-class Dummy$\equiv \sum_{n=1}^{13} \text{Direction}_n D_n$. For each event n, Direction$_n$ is an indicator variable equal to 1 (-1) if the column "Direction" in Table 1 is coded as "+" ("−") and 0 otherwise. Hence, Direction$_n$ imposes a linear joint null hypothesis that adjusts the event-level market reaction for if an event is expected to increase (decrease) the likelihood of the implementation of a one-share one-vote policy. Under this adjustment, the estimate of γ_n measures the average abnormal market reaction associated with the variable of interest across all event days for an increase in the probability of a one-share one-vote policy versus the status quo. In equation (3), we also control for firm fixed effects to account for unobserved firm heterogeneity, year fixed effects to account for time trends, industry-year fixed effects to account for industry-specific time-varying factors such as industry growth opportunities, and an assortment of time-varying firm characteristics: market capitalization, leverage, and sales growth.[13] Similar to the prior analysis, for inference, we estimate robust standard errors clustered by trading day to account for the potential cross-correlation of returns across firms at a point in time.

Drawing on the prior studies, we use five variables as proxies for the managerial need

[13] All variables of interest and time-varying firm characteristics are merged to abnormal returns ex-ante following the timing convention set by Fama and French (1993).

for flexibility. R&D expenditures (e.g., Meulbroek, Mitchell, Mulherin, Netter, and Poulsen, 1990), the number of patents and whether the firm has ever produced a patent (e.g., He and Tian, 2013), if the firm belongs to the tech industry (Coad and Rao, 2008), and asset growth (e.g., Cooper, Gulen, and Schill, 2008). Similarly, we use five variables as proxies for managerial entrenchment. These variables are related to total institutional ownership (e.g., Shleifer and Vishny, 1986; Hartzell and Starks, 2003), the number of institutional block-owners (e.g., Parrino, Sias, and Starks, 2003), media industry membership (e.g., Gompers et al., 2010; Smart and Zutter, 2003) and whether the chair of the board of directors is independent. Appendix B provides the descriptions for these and all subsequent variables.

We report the summary statistics in Table 2. In terms of innovation activities, the average firm has an R&D expenditure ratio of 4.4% before the event days. About 23.0% of firms have at least one patent, with an average of 2.053 patents held. Along industry lines, technology firms, which tend to have higher growth opportunities than other firms, make up about 7.7% of the sample, and media firms for which control offers private benefits through newspaper or television influence represent about 2.3% of firms in our sample. In terms of ownership and governance, institutional investors represent 17.5% of shares with the presence of 0.671 institutional blockholders per firm. For a restricted sample, the chair of the board is not the CEO about 20% of the time.[14] Finally, the average firm has about $150 million in market capitalization, with a market-to-book ratio of around 1.717 and a leverage ratio of 32.1%.

4.3. Cross-sectional Results

Table 3 reports results from estimating equation (3) with respect to the managerial flexibility hypothesis. Under this hypothesis, we expect an increased probability of mandatory one-share one-vote regimes should be less valuable when managers require greater flexibility

[14] As a caveat, the sample size for this variable is small because data on chair independence status during the sample period were unavailable.

in making decisions to maximize shareholder wealth. As aforementioned, we use five variables to proxy for the situations when such a flexibility could be more beneficial to shareholders.

Table 3 shows that the coefficient estimates on the interaction terms for all five variables are negative and statistically significant. Firms that have higher R&D expenditures are relatively negatively affected by the events that increase the probability of a one-share one-vote policy, as the coefficient estimate on the interaction term between R&D expenditures and the dummy variable is negative and statistically significant (-0.445, $t = -2.284$). Similarly, the market reaction on event days is negative for firms with at least one patent (-0.101, $t = -3.115$), more incremental patents (-0.050, $t = -3.268$), higher asset growth (-0.042, $t = -1.854$), and for firms in the technology industry (-0.114, t = -2.485). In terms of economic magnitude, a one-standard deviation increase in R&D expenditures is associated with a reduction in abnormal returns by 0.040%, which is a one-quarter reduction in the 0.152% positive reaction to events associated with Rule 19c-4 among firms without R&D expenditures.

Collectively, our results in Table 3 suggest that dual-class shares are more beneficial for firms with high innovation activity and growth opportunities, which is in line with the flexibility hypothesis and the previous studies that suggest dual-class shares can enhance firm value for certain firms (e.g., Lehn et al., 1990; Dimitrov and Jain, 2006; Bauguess et al., 2007; Jordan, Kim, and Liu, 2016). These results are also consistent with the preference among technology IPOs towards dual-class shares. Figure 1 shows that both the number of IPOs with dual-class shares (blue bars) and the portion of IPOs with dual-class shares (black line) start to increase in the mid-90s with the rapid rise of computing technologies, which is in turn relevant to the later and stronger rise of internet- and cloud-companies in the mid-2010s. The dotted line, denoting the percentage of technology firms with dual-class shares, indicates that dual-class share structures have been particularly dominant since the mid-2010s.

Table 4 reports the results from estimating equation (3) for the managerial entrenchment hypothesis, which conjectures that one-share one-vote policy regimes are more valuable when managers are entrenched to a greater extent. Columns (1) through (3) consider the holdings of institutional investors as a measure of managerial entrenchment. Higher values of these variables represent a less severe degree of managerial entrenchment. We observe that the coefficient estimates on the interaction terms between these variables and the event dummy are all negative and statistically significant. The interaction term associated with total institutional ownership is -0.372 ($t = -3.413$), the one associated with the institutional blockholders is -0.061 ($t = -2.395$), and the one with the number of institutional blockholders is -0.026 ($t = -1.995$). Firms with an independent chair are also subject to less severe managerial entrenchment concerns, as the coefficient estimate on the interaction term for this variable is negative and statistically significant (-0.167, $t = -2.610$). These findings mostly suggest that investors view single-class shares as shareholder friendly for entrenched firms, and also point to a substitution effect between single-class shares and other governance mechanisms. They are consistent with several prior empirical studies that show dual-class firms have lower valuations and higher managerial agency problems (e.g., Gompers et al., 2010; Masulis et al., 2009; Smart, Thirumalai, and Zutter, 2008).

Overall, the results reported in Tables 3 and 4 are supportive of both managerial flexibility and entrenchment hypotheses. The positive stock market reaction in Table 1 appears to concentrate on firms in less need of managerial flexibility and those with potentially higher levels of entrenchment. Thus, the greater likelihood of the implementation of a one-share one-vote policy during the sample period increases firm value the least among research-intensive and well-governed firms. To understand which of these effects dominate economically, we compare the role of each hypothesis in explaining the stock market reaction to events related to Rule 19c-4. Specifically, in the spirit of Stambaugh and Yuan (2017), we compute an average standardized score based on the available proxies under each hypothesis. We require

at least two of R&D expense, the number of patents, and asset growth under the flexibility hypothesis and institutional ownership, the number of institutional blockholders, and the independent lead director indicator under the entrenchment hypothesis. Then, each month, we compute the demeaned cross-sectional percentile rank of each variable excluding the independent lead director indicator which is simply rescaled to be between -0.5 and 0.5. The final flexibility and entrenchment scores are the averages across the available proxies under each hypothesis. We multiply the final entrenchment score by -1 so that higher entrenchment score represents more severe managerial agency problems.

Table 5 reports on estimates of equation (3) that focuses on the interaction term between either the flexibility or entrenchment score and the single-class dummy as the variable of interest. Column (1) reports a coefficient estimate of -0.252 ($t = -2.159$) on the flexibility score on event days. Considered alone, a firm is associated with a 0.126% additional reduction in abnormal returns, which drives negative the 0.101% positive abnormal return associated with firms at the 0^{th} percentile of the flexibility score (i.e., a score of -0.5). In contrast, the entrenchment score on event days has a coefficient estimate of 0.185 ($t = 2.558$) as seen in column (2). Therefore, a firm with a median entrenchment score is associated with a 0.093% additional increase in abnormal returns, which almost doubles the 0.098% positive abnormal return associated with firms at the 0^{th} percentile of the entrenchment score. These results validate our construction of the score variables, as both hypotheses continue to affect abnormal returns significantly and in the theoretically correct opposite directions. In the final column, we consider the two scores simultaneously. It shows that while both score variables are statistically significant, the coefficient on the flexibility score is about 31% larger in absolute terms than that on the entrenchment score. More formally, an F-test against the null that the coefficients on the two hypothesis scores on event days are equal has an F-statistic of 6.845, which is significant at the 5% level. Thus, the flexibility hypothesis is the more economically important one, as it explains a greater portion of the share price impact

of Rule 19c-4 events than the entrenchment hypothesis.

The final cross-sectional analysis we consider is the impact of the firm life cycle on the market reaction to an increased likelihood of the implementation of a one-share one-vote policy. The reason for this analysis is that firm age tends to proxy for growth opportunities as new business tends to disrupt old business via "creative destruction" as stated by Joseph Schumpeter in 1911. Further, Bebchuk and Kastiel (2017) conjecture that dual-class structures can be beneficial for young firms but costly to mature firms. Table 6 shows the magnitude and statistical significance of the market reaction to events about the adoption of one-share one-vote policies vary with firm age, where we create five groups based on the age of the firm. For young firms, the market reaction is statistically indistinguishable from zero (0.077, $t = 1.359$). This suggests that dual-class structures are not negatively perceived within the first year of the IPO. For mature firms across the four older age groups, the effect is positive and statistically significant. These results are consistent with the recent evidence that benefits from and costs of dual structures vary over time: for mature firms, the costs of dual-class shares outweigh the benefits (Cremers et al., 2018; Kim and Michaely, 2019).

4.4. Quasi-adopting Firms

Thus far, we have analyzed these regulatory events as having a market-wide impact, with effects on firms that vary cross-sectionally based on the costs and benefits of dual-class structures. However, the market for corporate governance balances cost and benefits to determine the optimal governance structure and the likelihood of dual-class adoption. Consequently, these regulatory events are more likely to affect the subset of firms that are more likely to adopt dual-class shares.

To this end, we identify an alternative treatment group with a greater likelihood of dual-class adoption, and then compare the average market reaction between this subset of firms and other firms. To establish which firms are likely to be impacted by the rule changes

ex-ante, we model the probability of dual class in a logit model based on our flexibility and entrenchment proxies using data from 1980 to 1990. We then rank all firm-day observations based on their predicted probability of dual-class adoption, and classify firms in the top 5% of the sample as quasi-adopters. We choose this cut-off point because Gompers et al. (2010) find that around 6% of firms in their sample have dual-class structures.[15]

Table 7 reports results where we examine how the overall market reaction varies among sub-samples of firms created from these predicted probabilities. We report results separately for the quasi-adopters, firms in the bottom 5% and those in the bottom 95% of the sample in terms of their predicted probabilities. The first column shows that the quasi-adopters experience a statistically significant positive market reaction of 0.166 ($t = 2.825$), as the coefficient estimate on the single-class dummy indicates. The firms that our prediction model indicates as the least likely to adopt dual-class shares also have a positive coefficient estimate but it is statistically indistinguishable from zero (0.090, $t = 0.946$), as reported in Column (2). When we examine the average market reaction in Column (3) of firms in the bottom 95% of the sample, we observe a significant and positive coefficient estimate (0.114, $t = 3.267$) but this effect is lower than that for the quasi-adopters in Column (1). As a whole, our findings in Table 7 suggest that the stock market reaction is highest among quasi-adopters. All other firms also experience a positive market reaction, though it is smaller in magnitude than that for quasi-adopters, and there is an insignificant market reaction for firms that are the least likely to adopt dual-class shares.

[15]We obtain statistically and economically similar results if we use 6% and 10% cutoff points. We also obtain similar results if we use a logit specification based on the variables from the flexibility hypothesis or the entrenchment hypothesis to predict the likelihood of dual-class adoption.

5. Long-run Changes

Having documented a change in short-term stock returns around the events that affect the likelihood of mandated one-share one-vote policies, we turn our focus to analyzing changes in firm policies and long-run valuations. Similar to the earlier analysis on the managerial flexibility and entrenchment hypotheses, we examine changes in research activity, growth rates, corporate governance environment, and valuation in a difference-in-difference (DiD) design.

We conduct our DiD analysis in two stages. Recognizing that firms listed on different exchanges may be observably different, we first create a matched sample for the treated firms listed on the NASD and AMEX exchanges. Our control sample is selected from the pool of firms listed on the NYSE as an adoption of one-share one-vote policy does not shift away from status quo NYSE policy. To do so, we implement a nearest neighbor matching by selecting a control firm in the same Fama and French 48 industry with the smallest Mahalanobis distance based on firm size (i.e., the log of the market capitalization) and growth prospects (i.e., the market-to-book ratio) in the three-year period prior to the first event in 1984. To help validate the parallel trends assumption central to a DiD design, Table 8 reports on the success of the matching procedure by checking in a regression for if NASD/AMEX (i.e., treated) firms differ from NYSE (i.e., control) firms in the matched sample based on various firm outcomes in the pre-event period from 1981 to 1983. We find after matching that indeed, treated firms do not differ in terms of log market capitalization, market to book, return on assets, R&D expenses, or the log of the number of patents.

Using the matched sample, we conduct our DiD analysis according to the following equation for firm i in year t belonging to industry j and state k,

$$y_{it} = \alpha + \beta_1 \text{Treat}_{it} \times \text{Post}_t + \text{Firm}_i + \text{Industry} \times \text{Year}_{jt} + \text{State} \times \text{Year}_{jt} + \epsilon_{it} \qquad (4)$$

where y_{it} denotes our various proxies for flexibility, entrenchment or valuation outcomes, Treat_{it} is an indicator equal to 1 if the firm is listed under the NASD or AMEX exchanges and 0 otherwise, and Post_t is an indicator equal to 1 if the year is from 1984 to 1990 and 0 from 1981 to 1983. Thus, the post period starts in 1984 when the first event related to dual-class share adoption occurs in our sample and ends in 1990 with the repeal of Rule 19c-4. Estimating our coefficient of interest, β_1, is therefore equivalent to a DiD estimate of how NASD and AMEX firms fared compared to control NYSE firms in terms of our various outcome measures (i.e., the first difference) during the 1984 to 1990 period in which one-share one-vote policy was eventually implemented and the pre-event period (i.e., the second difference). We include separate Firm, Industry × Year, State × Year fixed effects to absorb unobserved heterogeneity and also account for the group level differences that are separately related to Treat_{it} and Post_t. These fixed effects are crucial because firm characteristics that can vary over time due to numerous factors such as state antitakeover laws and industry growth opportunities can bias the β_1 estimate.

The DiD results from estimating equation (4) for various outcome variables are reported in Table 9. Panel A shows changes in research intensity and growth rates for firms listed on NASD and AMEX compared to NYSE between the pre-event period of 1981-1983 and the post-event period of 1984-1990. We find a considerable decline in research intensity for the former group of firms relative to NYSE firms. These firms cut down on research expenses by 0.005 percentage points, or by 12.5% for an average firm, and this change is significant at the 1% level. We also observe declines in research output measured in patents. For example, the number of patents decreases by 2.7% ($t = -1.885$). NASD and AMEX firms also shrink in size: asset growth rate decreases by about 0.161 percentage points, or by approximately 52% for an average firm. At the same time, we find some evidence that firms improve their governance environment but the findings are not robust across different proxies. Panel B of Table 9 shows two out of the four measures of managerial entrenchment, the number and

presence of institutional blockholders, improve significantly.

Finally, we examine the change in financial performance following the events related to Rule 19c-4. Panel C of Table 9 reports that there is a substantial change in firm value and profitability between the two groups of firms. Firms listed on NASD and AMEX experience a 0.033 point reduction in profitability, which is statistically significant at the 1% level. There is also a decline in the stock valuation measures. The market-to-book ratio decreases by 0.184 points. The reductions in total Tobin's Q (which includes adjustments for intangible capital) and the natural logarithm of the firm's market capitalization are also substantial (-0.594 and -0.224, respectively) and statistically significant at the 1% level. Overall, Table 9 suggests that after losing the ability to adopt dual-class shares, firms listed on NASD and AMEX experience robust declines in research activity, growth rates, profitability, and valuation over the sample period.

6. Robustness Checks

In this section, we report results from additional tests to gauge the sensitivity of our results. We report summaries of our univariate and multivariate analyses for the stock market reaction to Rule 19c-4 related events in each robustness test. We also report robustness tests for our DiD analysis when applicable.

First, we repeat our event study and DiD analysis after dropping firms with dual-class shares prior to the sample time period. Because the various exchange initiatives and Rule 19c-4 grandfathered in dual-class firms, we should expect our results to be unaffected by the exclusion of these firms. We identify dual-class firms by merging together, first, firms on CRSP that have two traded share classes for each firm identifier and, second, firms that conducted an initial public offering before 1990 with dual-class shares as compiled by Jay

Ritter. Together, we find that 4.7% of firms in our sample possessed dual-class shares. This estimate compares favorably to the 6% estimate of dual-class firms among Compustat firms by Gompers et al. (2010) and the 5% estimate of dual-class firms by internal NASD research in 1987.

Table 10 shows that results are little changed after the exclusion of these firms from the sample. For example, the overall market reaction changes from −0.801% to −0.831% for NYSE firms, and from 3.903% to 3.888% for other exchange-listed firms. Panel B shows that the key interaction terms continue to have statistically significant coefficient estimates when we exclude dual-class firms. This robustness check also provides a useful falsification test: there should not be any significant market reaction to Rule 19c-4 related events for firms that were already grandfathered with dual-class shares. The results in Table 10 are consistent with no discernible market reaction for these firms, as their exclusion from the event study analysis does not change the magnitude or statistical significance of the market reaction to events. Finally, in Panel C, we also see that the results of our DiD analysis remains robust to dropping dual-class firms. In particular, all of the coefficient estimates remain quantitatively similar, while the significance of these estimates remain the same with the exception that the DiD estimate related to the patent dummy is now insignificant.

Next, we use an alternative treatment coding for economy-wide events. In Table 1, we assume that the economy-wide events related to the regulatory and legislative responses to exchanges' initiatives on dual-class shares (events #9 through #13) only affect NASD and AMEX listed firms. The rationale is that although Rule 19c-4 banned dual-class share adoption, at the onset of our sample of events, the NYSE actually was the only exchange already in compliance with this stringent rule. Thus, regulatory events should have the most impact on non-NYSE firms. However, as a robustness check, we assume these regulatory events apply to all firms, which means including NYSE-listed firms in the treatment group. Table 11 reports that our previously reported results are mostly robust to this alternative

treatment group. Panel A shows that the magnitude of the CARs is 2.861% for NASD and AMEX events, which is jointly highly statistically significant at the 1% level. The reduction in the CAR is related to the lower number of events among NASD and AMEX firms in this alternative design. For the economy-wide events, we find that the overall reaction is still positive at 0.086%, which is insignificant. However, in Panel B, we find that cross-sectional support for either of the entrenchment or flexibility hypotheses is robust, with only one of the previously reported coefficient estimates (asset growth) changing to being insignificant.[16]

In untabulated tests, we also examine if the previously reported results are sensitive to the event window in calculating the CARs by using the longer $[-2, +2]$ trading day event window instead. We find that the overall market reactions remain highly statistically significant, at -0.713% for NYSE firms and 4.251% for NASD and AMEX firms. The cross-sectional results are also similar to those in earlier tables with the exception that the media industry dummy becomes statistically significant whereas the natural logarithm of the total number of patents loses its significance. Finally, we replicate the main tests after including the two confounding events we excluded from the analysis as mentioned in Section 2 and Appendix A. While neither of these events has a statistically significant CAR, we nevertheless repeat the main tests and find that the overall market reaction changes to -1.059% and 3.854% for NYSE's and the other exchanges' firms, respectively. In terms of the cross-sectional analysis, the only difference from the main results is that asset growth is no longer statistically significant.

7. Conclusion

Opposition to dual-class voting structures in the 1920s led the NYSE to introduce its "one-share one-vote rule" that prohibited firms with multiple classes of shares with disparate

[16]The robustness results for our DiD tests are not feasible to be reported here because this alternative treatment coding does not change the DiD design.

voting rights from listing on the exchange. However, as part of the myriad of antitakeover strategies introduced in the 1980s, these voting strategies had a rebirth. In our analysis, we consider 13 events that were part of the development of the dual-class policies of the various exchanges, Congress, and the SEC during this period. Our events start with an NYSE panel allowing unequal voting share classes in 1984, through the revised policies of each of the exchanges, Congress' consideration of entering the debate, the passage of Rule 19c-4 by the SEC that restricted the dual-class structure, and eventually the striking down of the rule by the United States Court of Appeals for the District of Columbia Circuit in 1990, in which the Court stated that the rule exceeded the scope of the SEC's authority.

We find that stock returns react in a way that suggests a favorable view of the one-share one-vote policies by capital markets on average. Market-wide risk-adjusted stock returns increase on average following events that increase the probability of banning dual-class shares, and they decrease in reaction to events that increase the probability of allowing dual-class shares. Critically, we are not just considering the impact on firms with existing dual-class structures as previous studies have done. Rather, we show that the market as a whole, on average, perceives the increased chance for these voting mechanisms as an undesirable outcome. However, we also find that this stock positive market reaction concentrates on firms in less need of managerial flexibility and those with potentially higher levels of entrenchment. Over a longer horizon, our difference-in-difference analysis suggest that banning dual-class shares is detrimental to firms that can most benefit from them. NASD and AMEX firms that are no longer able to adopt dual-class shares experience lower research output, firm value, and profitability.

Overall, these results point to a major benefit of dual-class shares: facilitating innovation and thereby improving valuations. They support the adoption of dual-class share structures for highly innovative firms, which is consistent with the recent upward trend in the usage of dual-class shares among technology IPOs. At the same time, our results suggest that these

shares are harmful in poorly governed firms. This supports the use of dual-class shares in research intensive firms for which ample governance mechanisms are in place to monitor the management.

Appendix A - Descriptions of the Events Related to SEC Rule 19c-4

Event	Date	Description	Source
NA	1984-07-11	NYSE imposes informal moratorium on delisting companies for violations of one share one vote: Specifically, the purchase of Electronic Data Systems Corp by General Motors increased pressure on the NYSE to consider the dual-class restrictions that it has largely enforced since the 1920s. However, this event has a confounding event: "President Reagan signed into law with a major overhaul of the nation's bankruptcy system" (New York Times, 1984-07-11)	Wall Street Journal (07/11/1984) - "GM Purchase of EDS May Spur Exchange To Alter Its Rules or Delist Auto Maker"; WSJ (07/10/1984) - "Big Board Plans to Review the Restrictions It Places on Listed Companies, Sources Say"
1	1984-12-28	Leakage: NYSE panel urges relaxing conditions for existing dual-class firms: The announcement by this panel, a subcommittee of the NYSE's policy committee, largely followed moves by large NYSE firms such as General Motors, Hershey Foods, and Coastal Corp to dual list shares. The move was also seen to more favorably compete with AMEX and NASD for listing market share.	Wall Street Journal (12/28/1984) - "Big Board Panel Likely to Urge Change in Rules --- Unit Is Seen Ready to Accept Unequal Voting Powers For Listed Firms' Shares"
2	1985-05-15	NYSE committee to study changing the rules on dual-class: To study relaxing its rules on one-share one-vote, the NYSE formally asked A.A. Sommer Jr., a former SEC commissioner who co-chairs a special NYSE subcommittee on corporate governance. The subcommittee was formed in 1984 and they recommended initially to relax conditions for NYSE dual class firms. However, they could not resolve the question creating unequal shares. This event is new news for the subcommittee to formally discuss the weighted shares questions.	Financial World Partners (05/15/1985) - "The Big Board takes a new look. . . "

3	1985-06-13	One-share one-vote legislation threat: Sen. Alphonse D'Amato (R., N.Y.) and Rep. John Dingell (D., Mich.) issued the ultimatum because they considered one-share one-vote to be an objective listing standard. The senators were largely against the possibility that the NYSE, AMEX, and NASD would "race to the bottom" to lower listing standards.	SEC Release in 17 Sec. Reg. & L Rep. 1359. See also Seligman (1986) footnote 33 and 34.
4	1985-07-26	NASD considers changing rules on dual-class: The consideration came in the form of a request for comments from major stakeholders on a proposal that makes it more difficult to list dual-class shares on NASD. The request came amidst pressure from legislators and regulators to protect shareholder rights. This date is the adoption date as seen in the formal SEC release in 17 Sec. Reg. & L Rep. 1359.	SEC Release in 17 Sec. Reg. & L Rep. 1359. See also Seligman (1986) footnote 33 and 34.
5	1986-07-03	NYSE board votes to allow dual-class: John J. Phelan Jr, the chair of the NYSE, "reluctantly" announced the amendment to NYSE rules to permit dual-class listings. The vote was motivated by comments from NYSE firms and by concerns that the NYSE was losing listing market share. The voted-on proposal was also sent to the SEC, which prompted further reevaluations of listing standards for NASD and AMEX.	Dow Jones Newswire (07/03/1986) - "NYSE Board votes to allow dual classes of Common Stock". See also Seligman (1986) footnote 6.
6	1986-12-22	AMEX votes to end all restrictions on stock classes: AMEX voted after the regulators received the NYSE proposal to allow dual class. The pressure to do so came because regulators were considering the possibility of a uniform listing standard, but wanted the market place to resolve the issue.	Bainbridge (1991) footnote 59.

7	1987-03-17	NASD board proposes one-share one-vote idea with exceptions: The NASD proposal was similarly resulted from the pressure by regulators to adopt a uniform standard after the NYSE first proposed to allow dual-class. However, the NASD move toward one-share one-vote came after its own study conducted by Daniel Fischer of the University of Chicago. They found that vast majority of NASD firms (95%) voluntarily adopted one-share one-vote despite the possibility of dual-class.	Dow Jones Newswire (03/17/1987) - "NASD - One-share, One-vote"
8	1987-05-18	NASD governors vote to adopt a one-share one-vote rule: This formal move and its announcement of specifics, including a grandfather clause for existing dual-class firms, by the NASD governors came after the initial proposal two months earlier.	Wall Street Journal (05/18/1987) - NASD Governors clear voting rule for shareholders". See also Bainbridge (1991) footnote 48.
9	1987-06-12	Proposal of SEC Rule 19c-4: This move came after negotiations between the three major exchanges on a uniform standard collapsed. Before the SEC showed a willingness for the market place to adopt a uniform standard because there were questions about whether the SEC had the federal authority to regulate a typically state-regulated area: corporate governance. After deciding that they had the statutory authority, the SEC commissioners voted 4-1 in favor of the rule.	Dow Jones Newswire (06/11/1987) - "SEC to start rule-marking proceedings for 1 share, 1 vote"; See also The Orange County Register (06/12/1987) - "SEC OKs rule to ensure shareholder rights".

10	1987-10-01	Senate committee rejects one-share one-vote legislation: The specific amendment rejecting one-share one-vote came amidst multiple other corporate governance amendments relating to takeovers. The rejection largely came from legislators attempting to balance with the right of states to regulate corporate governance.	Wall Street Journal (10/01/1987) - "Senate Committee Approves Revision of Takeover Rules"
11	1988-04-11	State attorneys generals join lawsuit: The states largely felt threatened by Congress and SEC attempting to impinge on state lawmaking powers. Lawmakers were concerned about the inconsistencies across state law regimes, while states were concerned that lawmakers would not move fast enough if corporate raiders exploited loopholes in federal law.	Congressional Quarterly Weekly Report - "Takeover Debate Centers on States' Powers"
12	1988-07-08	Passage of Rule 19c-4: While the rule is formally passed on July 7th 1988, the news stories appeared the next day.	https://www.govinfo.gov/content/pkg/FR-1994-12-27/html/94-31728.htm; See also Wall Street Journal (07/08/1988) "SEC adopts Narrow rule; attempting to stay out of corporate governance, province of the states..."
NA	1988-09-02	Business Roundtable lawsuit: In response to the passage of Rule 19c-4, the spokesman for the Business roundtable believed that the federal government did not have the authority to regulate corporate governance as a States' right issue. However, this event has a confounding event: "The Federal Home Loan Bank Board today announced another giant rescue package for a group of ailing savings and loan associations in the Southwest..." (New York Times, 1988-09-02)	Washington Post (9/9/1988) - "One-Share, One-Vote' Rule Is Challenged; Executives' Group Seeks to Overrule SEC". See also Significant 1988 Regulatory and Legislative Developments.

13	1990-06-12	Rule 19c-4 struck down in court: The rule was largely struck down in US District Courts because the courts ruled that the SEC was not the correct regulatory body to address unequal voting rights.	https://law.justia.com/cases/federal/appellate-courts/F2/905/406/177087/#fn4

Appendix B - A Brief History of Dual-class Voting Structures

Concerns about the shares of companies with no or disparate voting rights became common in the 1920s as firms began to successfully use such plans to raise funds. At the time, the well-known political economist William Ripley led the public debate on the harm inflicted by disenfranchising shareholders, arguing that managers of firms were raising substantial capital without giving up voting control of the firms. For example, Bainbridge (1991) argues that the 1925 decision by the NYSE to allow Dodge Brothers Inc. to list $130 million in non-voting securities while allowing an investment banking firm to control the company with only a $2.25 million investment in voting shares led to enough public outcry that the NYSE adopted a one-share one-vote rule in 1926. With a few exceptions (notably, Ford Motor Company in 1956), the NYSE maintained this rule into the 1980s.[17]

The 1980s were a period of intense pressure on corporate managers from the threat of takeovers by "corporate raiders." In looking for ways to protect their firms (and themselves) from becoming the target of a takeover attempt, managers exploited a myriad of antitakeover tools, including items such as staggered boards, poison pills, and greenmail. One of these developments included the recapitalization of firms on the NASD and AMEX with dual classes of shares with disparate voting rights. Complicating the picture further, the NYSE faced increasing competitive pressure from these alternative listing sites as firms explored the option of listing with dual classes elsewhere. The issue culminated in 1984 when NYSE-listed General Motors Corp. announced that it would issue a second class of shares to facilitate the acquisition of Electronic Data System. Fearing the loss of such an important firm listed on their exchange, the NYSE announced a moratorium on the enforcement of its voting requirements and after further analysis, requested SEC approval of a rule allowing the NYSE to list dual-class stock if approved by directors and shareholders of the firm.

[17] See Lowenstein (1989) and Bainbridge (1991) for more extensive reviews of the history and development of the use of dual classes of shares.

In response to this request, the SEC began a discussion of optimal voting strategies and ownership structures, inviting comments from public corporations, the exchanges, shareholders and other interested parties. In July 1988, the SEC adopted Rule 19c-4, which applied to the NYSE, AMEX, and NASD and supported the importance of the one-share one-vote premise. The rule prohibited corporate actions that reduced the per share voting rights of existing common stock shareholders and provided specific examples of prohibited transactions, including issuing higher vote stocks and capping voting rights. However, the rule allowed transactions such as dual-class IPOs and issuance of lower-vote shares. The premise of these exceptions was that IPO listings or listings of lower-vote shares did not take voting power away from existing shareholders. While some SEC Commissioners debated whether shareholders should be able to decide whether to take actions that reduce their own voting power, the SEC inserted these provisions in Rule 19c-4 to protect against problems with collective action in voting. They suggested that those with a minority position could adversely affect the majority due to the majority not exercising their voting rights or due to restrictions on the high-vote shares that reduced their desirability, such as restricted transferability or lower dividends.

Despite the SEC's argument that their legal mandate to prevent shareholder disenfranchisement allowed Rule 19c-4, in 1990, the US Court of Appeals for the DC Circuit struck down the rule and restored the status quo with respect to one-share one-vote restrictions. The Court decision "clearly holds that the Commission may not use its section 19(c) powers to federalize corporate governance regulation generally." (Bainbridge, 1991).

Afterwards, the SEC encouraged the NYSE, AMEX, and NASD to adopt a uniform policy at the exchange level and the three obliged by adopting policies that closely followed the provisions of Rule 19c-4 (Federal Register, 1994). The basic principle of the new policies was that companies could not take actions that would reduce the voting rights of existing shareholders (Howell, 2017). The exchanges noted that their policies were basically the same

as Rule 19c-4 with the additional discretion of the exchange being able to make exceptions for specific circumstances, recognizing that both the capital markets and the circumstances and needs of listed companies could change over time. More recently, several commentators argue that dual-class provisions could be made more consistent with the benefits of managerial flexibility while controlling the costs of managerial entrenchment through other means such as the use of time-based or ownership-based sunset provisions, limiting the high/low vote ratio, or imposing other limitations on managerial decision-making (Bebchuk and Kastiel, 2017).

Appendix C - Variable Definitions

Variable Name	Variable Definition
	Flexibility Hypothesis
R&D Expense	R&D Expense is Compustat research and development expenses (xrd) divided by the prior year's total assets (at). Missing xrd is filled with zero when there is available total assets. The variable is winsorized at the 1% tails by year.
Patents Dummy	Patents Dummy is an indicator equal to 1 (and 0 otherwise) if the number of patents owned by a firm is greater than 0 according to the patent data from Kogan, Papanikolaou, Seru, and Stoffman (2017).
# Patents	# Patents is the number of patents owned by a firm according to the patent data from Kogan, Papanikolaou, Seru, and Stoffman (2017).
Asset Growth	Asset Growth is Compustat total assets (at) divided by the prior year's total assets (at). The variable is winsorized at the 1% tails by year.
Tech Industry	Following Loughran and Ritter (2004), Tech Industry is an indicator equal 1 (and 0 otherwise) for if a firm's four digit SIC code belongs to the following: 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3674, 3812, 3823, 3825, 3826, 3827, 3829, 4812, 4813, 4899, 7370, 7371, 7372, 7373, 7374, 7375, 7378, and 7379.
	Entrenchment Hypothesis
Inst. Ownership	Inst. Ownership is the percentage institutional ownership from Thomson Reuters 13F data.
Inst. Blockholder Dummy	Inst. Blockholder Dummy is an indicator equal to 1 (and 0 otherwise) for if there is greater than 0 institutional blockholders from Thomson Reuters 13F data.
# Inst. Blockholders	# Inst. Blockholders is the number of institutional blockholders from Thomson Reuters 13F data.
Independent Chair	Independent Chair is the CHM variable, defined as "A dummy variable set equal to one if some director other than the CEO holds the office of Chairman of the Board" as provided by Yermack (1996).

Media Industry	Following Gompers, Ishii, and Metrick (2010), Media Industry is an indicator equal 1 (and 0 otherwise) for if a firm's four digit SIC code belongs to the following: 2710, 2711, 2720, 2721, 2730:2731, 4830, 4832, 4833, 4840, 4841, 7810, 7812, and 7820.
Firm Characteristics	
ROA	ROA is Compustat operating income before depreciation and amortization (oibdp) divided by the prior year's total assets (at). The variable is winsorized at the 1% tails by year.
Market to Book	Market to Book uses Compustat data and is defined as market value of equity (prcc_f times cshpri) plus short-term debt (dlc), long-term debt (dltt), preferred stock (pstkl filled in first by pstkrv and then upstk), minus (txditc), and all divided by total assets (at).
Total Tobin's Q	Total Tobin's Q is the Tobin's Q measure that adjusts for intangible capital and is provided on WRDS by Peters and Taylor (2017).
Mkt. Cap.	Mkt. Cap. is the market capitalization (abs(prcc_f) times csho) from Compustat.
Leverage	Leverage uses Compustat data and is defined as the sum of short-term debt (dlc) and long-term debt (dltt) divided by the previous year's total assets (at).
Sales Growth	Sales Growth is Compustat sales (revt) divided by the previous year's sales minus one.

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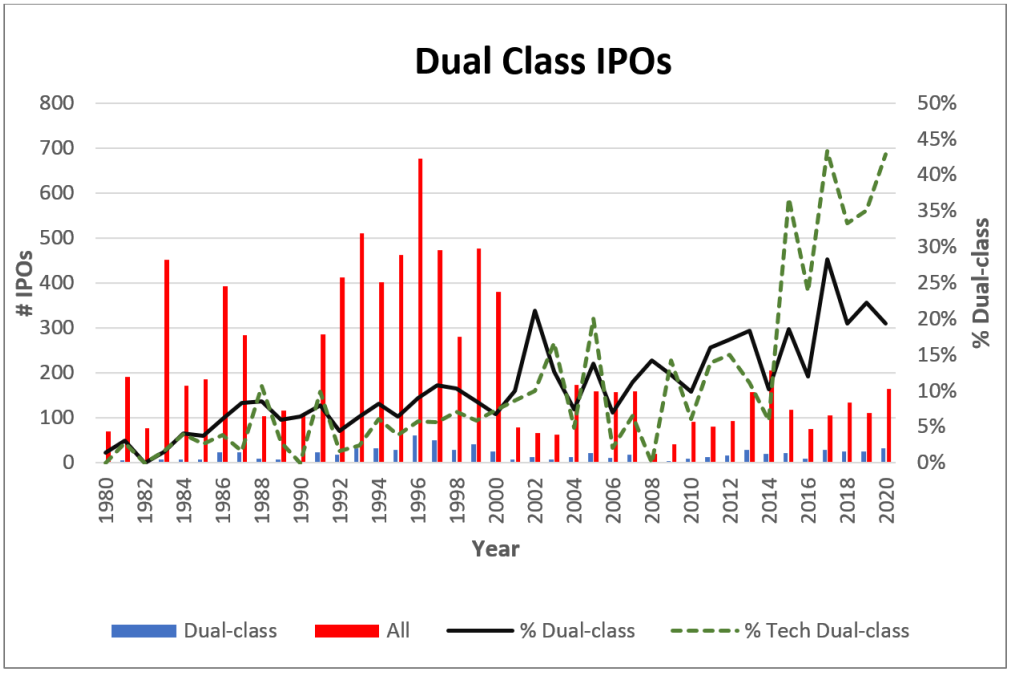

Figure 1: Dual-class IPOs
This figure plots the number of IPOs with dual-class shares over time. Red and blue bars refer to all IPOs and IPOs with dual-class structures, respectively. The percentage of dual-class share adoption is represented for all IPOs (the black solid line) and for technology firms (dashed green line) separately. The sample excludes ADRs, unit offers, closed-end funds, REITs, natural resource limited partnerships, small best efforts offers, banks and S&Ls, and stocks not listed on CRSP (CRSP includes AMEX, NYSE, and NASDAQ stocks). The data are obtained from the following website maintained by Jay Ritter. https://site.warrington.ufl.edu/ritter/ipo-data.

Table 1: The Market Reaction to Rule 19c-4 Events

This table reports the stock market reaction to important events related to the implementation of the US Securities Exchange Commission's Rule 19c-4. In Panel A, for each event, the average cumulative abnormal return (CAR) over a 3-day window are estimated using the event parameter approach, in which daily abnormal stock returns are regressed on event indicators (D_n) that equal one within the $[-1, +1]$ window for each of the 13 Rule 19c-4 events. Column "Direction" is the expected direction of the change in the probability of a one-share one-vote policy associated with each event. See Appendix A for event descriptions. In Panel B, we conduct a joint linear hypothesis F-test for whether the sum of the event market reactions are zero. The event abnormal market reactions (γ_n) are multiplied by Column "Direction" from Panel A to interpret the market reaction as the wealth effect associated with an increase in the probability of an one-share one-vote policy. To account for cross-correlation of returns across firms at a point in time, t-statistics and F-statistics are computed using the robust variance-covariance matrix clustered by trading day. The sample period is from July 1983 to June 1990. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A - Market Reactions to Each Event

Event	Description	Date	Direction	Affected Firms (N)	Mkt. Reaction (%)	t-stat
1	Leakage: NYSE panel urges relaxing conditions for existing dual-class firms	1984-12-28	-	1,054	-0.065	-0.640
2	NYSE committee to study changing the rules on dual-class	1985-05-15	-	1,043	-0.341^{***}	-3.083
3	One-share one-vote legislation threat	1985-06-13	+	3,273	-0.188	-0.971
4	NASD considers changing rules on dual-class	1985-07-26	+	3,289	1.118^{***}	5.653
5	NYSE board votes to allow dual-class	1986-07-03	-	1,006	-0.394^{*}	-1.927
6	AMEX votes to end all restrictions on stock classes	1986-12-22	-	3,605	-0.368	-0.536
7	NASD board proposes one-share one-vote idea with exceptions	1987-03-17	+	3,642	0.513^{***}	3.079
8	NASD governors vote to adopt a one-share one-vote rule	1987-05-18	+	3,667	1.051^{***}	4.956
9	Proposal of SEC Rule 19c-4	1987-06-12	+	3,701	0.113	1.432
10	Senate committee rejects one-share one-vote legislation	1987-10-01	-	3,809	-0.512	-1.472
11	State attorneys general join lawsuit	1988-04-11	-	3,674	-0.246	-0.479
12	Passage of Rule 19c-4	1988-07-08	+	3,660	0.205	1.057
13	Rule 19c-4 struck down in court	1990-06-12	-	3,097	0.034	0.330

Panel B - Exchange-specific Market Reaction and Joint Tests

Treated Firms (3 Events): NYSE Firms

Regression: $AR_{it} = \alpha_i + \sum_{n\in\{1,2,5\}} \gamma_n \times \text{Direction}_n \times D_n + \epsilon_{it}$

$H_0 : \sum_{n\in\{1,2,5\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{1,2,5\}} \gamma_n = 0.801\%^{***}$

Joint Hypothesis F-test: $F = 9.946$

Treated Firms (10 Events): NASD and AMEX Firms

Regression: $AR_{it} = \alpha_i + \sum_{n\in\{3,4,6,7,\ldots,13\}} \gamma_n \times \text{Direction}_n \times D_n + \epsilon_{it}$

$H_0 : \sum_{n\in\{3,4,6,7,\ldots,13\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{3,4,6,7,\ldots,13\}} \gamma_n = 3.903\%^{***}$

Joint Hypothesis F-test: $F = 14.407$

Table 2: Summary Statistics

This table reports summary statistics for variables related to the Flexibility and Entrenchment hypotheses and for the control variables. Column "N Observations" presents the total number of available firm-day observations on event days. See Appendix B for variable definitions.

	N Observations	Mean	SD	Median	25^{th} Perc.	75^{th} Perc.
			Flexibility Variables			
R&D Expense	87,486	0.044	0.089	0.000	0.000	0.050
Patents Dummy	69,276	0.230	0.421	0.000	0.000	0.000
# Patents	69,276	2.053	17.869	0.000	0.000	0.000
Asset Growth	87,486	0.312	0.842	0.097	-0.033	0.318
Tech Industry	112,395	0.077	0.267	0.000	0.000	0.000
			Entrenchment Variables			
Inst. Ownership	89,781	0.175	0.172	0.121	0.036	0.267
Inst. Blockholder Dummy	89,781	0.441	0.497	0.000	0.000	1.000
# Inst. Blockholders	89,781	0.671	0.935	0.000	0.000	1.000
Independent Chair	3,492	0.203	0.402	0.000	0.000	0.000
Media Industry	112,395	0.023	0.151	0.000	0.000	0.000
			Firm Characteristics			
ROA	86,943	0.076	0.293	0.116	0.004	0.210
Market to Book	88.143	1.717	1.886	1.104	0.776	1.805
Total Tobin's Q	64,233	1.755	5.001	0.5715	0.146	1.331
Mkt. Cap. (Bil)	111,657	0.150	0.989	0.023	0.008	0.073
Leverage	87,180	0.321	0.365	0.239	0.074	0.437
Sales Growth	85,857	0.341	1.031	0.118	-0.025	0.342

Table 3: Cross-sectional Tests of Flexibility Hypothesis

This table reports on the results of cross-sectional tests of the Flexibility hypothesis using a firm-day panel of abnormal returns relative to the 4-factor Carhart (1997) model. The variable of interest in each column is the interaction with "Single-class Dummy", which is an event indicator that equals the expected direction of the change in the probability of single class (i.e., see Column "Direction" from Table 1) if the date is within the $[-1, +1]$ trading day window for any of the 13 Rule 19c-4 events. "Event Observations" is the number of firm-day observations with "Single-class Dummy" not equal to zero. To account for cross-correlation of returns across firms at a point in time, t-statistics in the parentheses are computed using robust standard errors clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Dep Var: Abnormal Returns				
	(1)	(2)	(3)	(4)	(5)
R&D Expense × Single-class Dummy	-0.445^{**}				
	(-2.284)				
Patents Dummy × Single-class Dummy		-0.101^{***}			
		(-3.115)			
Log Patents × Single-class Dummy			-0.050^{***}		
			(-3.268)		
Asset Growth × Single-class Dummy				-0.042^{*}	
				(-1.854)	
Tech Industry × Single-class Dummy					-0.114^{**}
					(-2.485)
Single-class Dummy	0.152^{***}	0.160^{***}	0.153^{***}	0.146^{***}	0.141^{***}
	(4.296)	(4.297)	(4.063)	(3.583)	(3.676)
R&D Expense	-0.059				
	(-0.760)				
Patents Dummy		0.028^{**}			
		(2.457)			
Log Patents			0.009		
			(1.228)		
Asset Growth				0.005	
				(1.103)	
Tech Industry					-0.029
					(-1.474)
Log Mkt. Cap.	-0.278^{***}	-0.276^{***}	-0.276^{***}	-0.279^{***}	
	(-28.374)	(-25.382)	(-25.368)	(-28.279)	
Leverage	-0.029^{***}	-0.026^{**}	-0.026^{**}	-0.038^{***}	
	(-2.772)	(-2.049)	(-2.027)	(-2.936)	
Sales Growth	-0.002	0.002	0.002	-0.003	
	(-0.582)	(0.392)	(0.397)	(-0.822)	
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	No	No	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	No
Cluster by Date	Yes	Yes	Yes	Yes	Yes
Event Observations	88,399	62,259	62,259	88,399	115,352
Adjusted R^2	0.003	0.003	0.003	0.003	0.002

Table 4: Cross-sectional Tests of Entrenchment Hypothesis

This table reports on the results of cross-sectional tests of the Entrenchment hypothesis using a firm-day panel of abnormal returns relative to the 4-factor Carhart (1997) model. The variable of interest in each column is the interaction with "Single-class Dummy", which is an event indicator that equals the expected direction of the change in the probability of single class (i.e., see Column "Direction" from Table 1) if the date is within the $[-1, +1]$ trading day window for any of the 13 Rule 19c-4 events. "Event Observations" is the number of firm-day observations with "Single-class Dummy" not equal to zero. To account for cross-correlation of returns across firms at a point in time, t-statistics in the parentheses are computed using robust standard errors clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Dep Var: Abnormal Returns				
	(1)	(2)	(3)	(4)	(5)
Inst. Ownership × Single-class Dummy	-0.372^{***}				
	(-3.413)				
Inst. Blockholder Dummy × Single-class Dummy		-0.061^{**}			
		(-2.395)			
# Inst. Blockholders × Single-class Dummy			-0.026^{**}		
			(-1.995)		
Independent Chair × Single-class Dummy				-0.167^{***}	
				(-2.610)	
Media Industry × Single-class Dummy					0.071
					(0.857)
Single-class Dummy	0.189^{***}	0.145^{***}	0.135^{***}	0.007	0.130^{***}
	(3.419)	(3.346)	(3.206)	(0.162)	(3.278)
Inst. Ownership	0.099^{***}				
	(3.372)				
Inst. Blockholder Dummy		-0.011^{*}			
		(-1.950)			
# Inst. Blockholders			-0.008^{***}		
			(-2.738)		
Independent Chair				−0.014	
				(-1.076)	
Media Industry					-0.075^{**}
					(-2.024)
Log Mkt. Cap.	-0.275^{***}	-0.271^{***}	-0.271^{***}	-0.222^{***}	
	(-25.525)	(-25.629)	(-25.625)	(-10.152)	
Leverage	-0.030^{**}	-0.030^{**}	-0.030^{**}	−0.015	
	(-2.554)	(-2.562)	(-2.555)	(-0.596)	
Sales Growth	−0.001	−0.001	−0.001	−0.022	
	(-0.184)	(-0.192)	(-0.197)	(-1.295)	
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	No	No	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	No
Cluster by Date	Yes	Yes	Yes	Yes	Yes
Event Observations	76,913	76,913	76,913	3,350	115,352
Adjusted R^2	0.003	0.003	0.003	0.006	0.002

Table 5: Comparison of Flexibility and Entrenchment Hypotheses

This table compares the Flexibility and Entrenchment hypotheses. For each hypothesis, we compute a firm-day level score that is the average of the available firm-level variables. To compare economic magnitudes across hypotheses, we standardize the variables by subtracting the mean and dividing by the standard deviation. The variable of interest in each column is the interaction with "Single-class Dummy", which is an event indicator that equals the expected direction of the change in the probability of single class (i.e., see Column "Direction" from Table 1) if the date is within the $[-1, +1]$ trading day window for any of the 13 Rule 19c-4 events. "Event Observations" is the number of firm-day observations with "Single-class Dummy" not equal to zero. To account for cross-correlation of returns across firms at a point in time, t-statistics in the parentheses are computed using robust standard errors clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Dep Var: Abnormal Returns		
	(1)	(2)	(3)
Flexibility Score × Single-class Dummy	-0.252^{**}		-0.199^{*}
	(-2.159)		(-1.791)
Entrenchment Score × Single-class Dummy		0.185^{**}	0.152^{**}
		(2.558)	(2.252)
Single-class Dummy	0.101^{***}	0.098^{***}	0.096^{***}
	(3.136)	(3.154)	(3.123)
Flexibility Score	0.131^{***}		0.131^{***}
	(3.628)		(3.633)
Entrenchment Score		0.009	0.010
		(0.517)	(0.569)
Log Mkt. Cap.	-0.271^{***}	-0.267^{***}	-0.271^{***}
	(-22.483)	(-22.436)	(-22.440)
Leverage	-0.046^{***}	-0.027^{*}	-0.046^{***}
	(-3.043)	(-1.926)	(-3.045)
Sales Growth	0.003	0.005	0.003
	(0.675)	(1.063)	(0.674)
Firm FE	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes
Cluster by Date	Yes	Yes	Yes
Event Observations	54,482	54,482	54,482
Adjusted R^2	0.003	0.003	0.0003

Table 6: Market Reaction by Age

This table reports on the market reaction by the age of the firm using a firm-day panel of abnormal returns relative to the 4-factor Carhart (1997) model. We create five sub-samples based on the age of the firm. The variable of interest in each column is "Single-class Dummy", which is an event indicator that equals the expected direction of the change in the probability of single class (i.e., see Column "Direction" from Table 1) if the date is within the $[-1, +1]$ trading day window for any of the 13 Rule 19c-4 events. "Event Observations" is the number of firm-day observations with "Single-class Dummy" not equal to zero. To account for cross-correlation of returns across firms at a point in time, t-statistics in the parentheses are computed using robust standard errors clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Dep Var: Abnormal Returns				
	IPO	1-3	4-5	6-8	9+
	(1)	(2)	(3)	(4)	(5)
Single-class Dummy	0.077	0.126**	0.185***	0.174**	0.117***
	(1.359)	(2.391)	(2.707)	(2.462)	(3.865)
Firm FE	Yes	Yes	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes	Yes	Yes
Cluster by Date	Yes	Yes	Yes	Yes	Yes
Event Observations	10,954	33,518	14,933	12,236	43,711
Adjusted R^2	0.0001	0.001	0.001	0.002	0.002

Table 7: Quasi-adoption of Dual-class Shares

This table reports on the market reaction for the firms that are predicted to become dual-class firms i.e., quasi-adopters. We use the 1980 to 1990 period to estimate a logit model of dual-class status based on the combined set of proxies from our Flexibility and Entrenchment hypotheses. In Columns (1), (2), and (3), we re-run our regression analysis within the sub-samples for if a firm-year is in the top 5, bottom 5, and bottom 95 percentiles of the fitted probabilities of a logit model, respectively. We exclude actual dual-class firms from the sample. The variable of interest in each column is "Single-class Dummy", which is an event indicator that equals the expected direction of the change in the probability of single class (i.e., see Column "Direction" from Table 1) if the date is within the $[-1, +1]$ trading day window for any of the 13 Rule 19c-4 events. "Event Observations" is the number of firm-day observations with "Single-class Dummy" not equal to zero. To account for cross-correlation of returns across firms at a point in time, t-statistics in the parentheses are computed using robust standard errors clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Dep Var: Abnormal Returns		
	Quasi-adopters	Bottom 5%	Bottom 95%
	(1)	(2)	(3)
Single-class Dummy	0.166***	0.090	0.114***
	(2.825)	(0.946)	(3.267)
Firm FE	Yes	Yes	Yes
Industry × Year FE	Yes	Yes	Yes
Cluster by Date	Yes	Yes	Yes
Event Observations	3,015	1,200	67,276
Adjusted R^2	0.003	0.002	0.002

Table 8: Pre-event Match Balance

This table reports on pre-event differences between treated and matched control firms during the pre-event period from 1981 to 1983. For each treated firm that trades on NASD/AMEX, we identify a matching firm from the NYSE in the same year based on a nearest neighbor algorithm with Mahalanobis distance criteria. The table then reports on the matching balance based on the estimated coefficient on matched firm indicator equal to one for a matching firm and other zero. "N" is the number of firm-year observations. t-statistics in the parentheses are computed using robust standard errors clustered by exchange. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

	Log Mkt. Cap.	Market to Book	ROA	R&D Expense	Log Patents
	(1)	(2)	(3)	(4)	(5)
Treat	−0.008	−0.038	−0.009	−0.088	−0.006
	(−0.117)	(−1.252)	(−0.614)	(−1.615)	(−0.127)
Firm FE	Yes	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes	Yes
N	6,382	6,382	6,295	6,298	5,160
Adjusted R^2	0.953	0.838	0.735	0.947	0.955

Table 9: Difference-in-Difference Analysis

This table reports on difference-in-difference (DiD) estimates of the effect of events related 19c-4 on firm outcomes related to proxies for Flexibility, Entrenchment, and Valuation in Panels A, B, and C, respectively. The pre- (post-) event period is from 1981 to 1983 (1984 to 1990). Treated (matched control) firms are those that trade on the NASD/AMEX (NYSE). After including firm and time-varying fixed effects, the DiD estimate is the coefficient on the interaction between between a post-event indicator, "Post", and a treated firm indicator, "Treat". "N" is the number of firm-year observations. t-statistics in the parentheses are computed using robust standard errors clustered by exchange. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A - Flexibility

	R&D Expense	Patents Dummy	Log Patents	Asset Growth
	(1)	(2)	(3)	(4)
Treat × Post	-0.005^{***}	-0.007^{***}	-0.027^{*}	-0.161^{***}
	(−3.933)	(−3.088)	(−1.885)	(−2.719)
Firm FE	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes
N	18,723	15,301	15,301	18,723
Adjusted R^2	0.856	0.844	0.937	0.189

Panel B - Entrenchment

	Inst. Ownership	Inst. Blockholder Dummy	# Inst. Blockholders	Independent Chair
	(1)	(2)	(3)	(4)
Treat × Post	−0.000	0.057^{*}	0.089^{**}	−0.041
	(−0.013)	(1.733)	(2.406)	(−0.738)
Firm FE	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes
N	18,440	18,440	18,440	2,326
Adjusted R^2	0.822	0.408	0.522	0.391

Panel C - Valuation

	ROA	Market to Book	Tobin's Q	Log Mkt. Cap.
	(1)	(2)	(3)	(4)
Treat × Post	-0.033^{***}	-0.184^{***}	-0.594^{**}	-0.224^{***}
	(−3.446)	(−3.642)	(−2.405)	(−36.380)
Firm FE	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes
N	18,653	18,688	18,666	18,780
Adjusted R^2	0.544	0.602	0.610	0.887

Table 10: Removing Dual-class Firms

This table reports robustness tests after removing dual class firms. In Panel A, we report the joint tests of the market reactions for each event based on repeating the tests from Panel B of Table 1. In Panel B, we report the summary cross-sectional results based on repeating the tests from Tables 3 through 6. In Panel C, we report the results of our analysis from Table 9 after drop dual class firms. We report t-statistics and F-statistics that are computed using the robust variance-covariance matrix clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A - Event Study

Treated Firms (3 Events): NYSE Firms

Regression: $r_{it} = \alpha_i + \sum_{n\in\{1,2,5\}} \gamma_n \times \text{Direction}_n \times D_n + \text{Controls} + \epsilon_{it}$

$H_0 : \sum_{n\in\{1,2,5\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{1,2,5\}} \gamma_n = 0.831\%^{***}$

Joint Hypothesis F-test: $F = 11.108$

Treated Firms (10 Events): NASD and AMEX Firms

Regression: $r_{it} = \alpha_i + \sum_{n\in\{3,4,6,7,\ldots,13\}} \gamma_n \times \text{Direction}_n \times D_n + \text{Controls} + \epsilon_{it}$

$H_0 : \sum_{n\in\{3,4,6,7,\ldots,13\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{3,4,6,7,\ldots,13\}} \gamma_n = 3.888\%^{***}$

Joint Hypothesis F-test: $F = 13.441$

Panel B - Cross-sectional Tests

Variable	Single-class Dummy × Variable	t-stat	Event Observations
	Flexibility Hypothesis		
R&D Expense	-0.423^{**}	-2.088	85,382
Patents Dummy	-0.099^{***}	-3.157	59,989
Log Patents	-0.050^{***}	-3.220	59,989
Asset Growth	-0.041^{*}	-1.784	85,382
Tech Industry	-0.112^{**}	-2.376	109,937
Discretion Score	-0.251^{**}	-2.120	52,308
	Entrenchment Hypothesis		
Inst. Ownership	-0.376^{***}	-3.400	74,071
Inst. Blockholder Dummy	-0.067^{**}	-2.438	74,071
# Inst. Blockholders	-0.029^{**}	-2.116	74,071
Independent Chair	-0.180^{***}	-2.602	3,150
Media Industry	0.067	0.752	109,937
Entrenchment Score	-0.190^{**}	-2.544	52,308
	Market Reaction by Age		
IPO	0.069	1.196	10,306
1-3 Years	0.130^{**}	2.391	31,806
4-5 Years	0.179^{**}	2.543	14,235
6-8 Years	0.186^{***}	2.595	11,685
9+ Years	0.115^{***}	3.648	41,905

Panel C - DiD Tests

	R&D Expense	Patents Dummy	Log Patents	Asset Growth
	(1)	(2)	(3)	(4)
Treat × Post	−0.005***	−0.003	−0.024*	−0.162***
	(−4.295)	(−1.283)	(−1.658)	(−2.766)
Firm FE	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes
N	17,997	14,703	14,703	17,997
Adjusted R^2	0.856	0.843	0.937	0.193

	Inst. Ownership	Inst. Blockholder Dummy	# Inst. Blockholders	Independent Chair
	(1)	(2)	(3)	(4)
Treat × Post	−0.001	0.060	0.095**	−0.038
	(−0.180)	(1.627)	(2.105)	(−0.623)
Firm FE	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes
N	17,728	17,728	17,728	2,246
Adjusted R^2	0.827	0.407	0.521	0.375

	ROA	Market to Book	Tobin's Q	Log Mkt. Cap.
	(1)	(2)	(3)	(4)
Treat × Post	−0.034***	−0.192***	−0.601**	−0.243***
	(−3.886)	(−3.694)	(−2.379)	(−20.856)
Firm FE	Yes	Yes	Yes	Yes
Industry x Year FE	Yes	Yes	Yes	Yes
State x Year FE	Yes	Yes	Yes	Yes
N	17,927	17,971	17,944	18,053
Adjusted R^2	0.545	0.602	0.609	0.887

Table 11: Alternative Treatment for Events 9 through 13

This table reports robustness tests after assuming that events 9 through 13 are economy-wide events instead of events that only affect NASD/AMEX firms. In Panel A, we report the joint tests of the market reactions for each event based on repeating the tests from Panel B of Table 1. In Panel B, we report the summary cross-sectional results based on repeating the tests from Tables 3 through 6. We report t-statistics and F-statistics that are computed using the robust variance-covariance matrix clustered by trading day. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A - Event Study

Treated Firms (3 Events): NYSE Firms

Regression: $r_{it} = \alpha_i + \sum_{n\in\{1,2,5\}} \gamma_n \times \text{Direction}_n \times D_n + \text{Controls} + \epsilon_{it}$

$H_0 : \sum_{n\in\{1,2,5\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{1,2,5\}} \gamma_n = 0.801\%^{***}$

Joint Hypothesis F-test: $F = 9.946$

Treated Firms (5 Events): NASD and AMEX Firms

Regression: $r_{it} = \alpha_i + \sum_{n\in\{3,4,6,7,8\}} \gamma_n \times \text{Direction}_n \times D_n + \text{Controls} + \epsilon_{it}$

$H_0 : \sum_{n\in\{3,4,6,7,8\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{3,4,6,7,8\}} \gamma_n = 2.861\%^{***}$

Joint Hypothesis F-test: $F = 13.208$

Treated Firms (5 Events): Economy-wide

Regression: $r_{it} = \alpha_i + \sum_{n\in\{9,10,11,12,13\}} \gamma_n \times \text{Direction}_n \times D_n + \text{Controls} + \epsilon_{it}$

$H_0 : \sum_{n\in\{9,10,11,12,13\}} \gamma_n = 0$

Total Market Reaction ($[-1,+1]$) to increase in Prob(Single Class): $3 \times \sum_{n\in\{9,10,11,12,13\}} \gamma_n = 0.086\%$

Joint Hypothesis F-test: $F = 2.481$

Panel B - Cross-sectional Tests

Variable	Single-class Dummy × Variable	t-stat	Event Observations
	Flexibility Hypothesis		
R&D Expense	-0.417^{**}	-2.111	102,284
Patents Dummy	-0.113^{***}	-3.790	74,486
Log Patents	-0.050^{***}	-4.261	74,486
Asset Growth	-0.033	-1.540	102,284
Tech Industry	-0.118^{***}	-2.626	129,961
Discretion Score	-0.246^{**}	-2.292	66,629
	Entrenchment Hypothesis		
Inst. Ownership	-0.387^{***}	-3.440	90,699
Inst. Blockholder Dummy	-0.059^{**}	-2.187	90,699
# Inst. Blockholders	-0.029^{**}	-2.017	90,699
Independent Chair	-0.179^{***}	-3.553	8,144
Media Industry	0.085	1.101	12,9961
Entrenchment Score	-0.218^{***}	-2.675	66,629
	Market Reaction by Age		
IPO	0.075	1.383	11,190
1-3 Years	0.125^{**}	2.464	34,521
4-5 Years	0.181^{***}	2.723	15,519
6-8 Years	0.170^{**}	2.531	12,786
9+ Years	0.095^{***}	3.677	55,945

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