Shared Directors, Shared Decisions*

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Abstract

Shared directors are a prevalent economic linkage between firms, yet causal evidence on their influence across firms remains scarce. I show that shared directors transmit corporate actions across firms, using plausibly exogeneous shocks to directorships. Firms are more likely to mirror their interlocked peers' dividend initiations, large dividend increases, new equity issuances, and forward stock splits. This mirroring behavior cannot be explained by alternative inter-firm linkages such as customer-supplier ties, common institutional ownership, shared hedge fund activism, or within-industry competition. Long-tenured, less-busy outsider directors drive this effect, suggesting that experience and reliance on external information may contribute to the observed diffusion. A long-short portfolio that buys firms whose interlocked peers undertake a given action and shorts matched controls earns abnormal returns, consistent with investor underreaction to directors' connections. These results highlight board interlocks as an important channel for both corporate decision-making and return predictability.

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1 Introduction

A large body of research shows that corporate leaders causally shape firm policies (e.g., Bertrand and Schoar (2003)). While the role of directors *within* firms is well studied, less is known about how they shape decisions *across* firms. In practice, well-qualified directors frequently serve on multiple boards and facilitate the transmission of information flow and strategic behavior. These inter-firm linkages, known as board interlocks, offer a compelling setting to study whether and how corporate decisions spread through corporate governance networks. Who are these interlocked directors? Do they bring ideas from one boardroom to another, and if so, why? These questions remain open. Historically, policymakers and economists have recognized the importance of board interlocks for over a century (Pam (1913); Dixon (1914); Dooley (1969)), and the Clayton Antitrust Act of 1914 explicitly prohibited interlocking directorates among directly competing firms. Nonetheless, board interlocks are pervasive in US corporate governance today, linking firms not in direct competition. Between 1994 and 2023, approximately 79% of publicly traded US firms have shared at least one director with another firm at some point, and roughly one in five directors have served on multiple corporate boards.

Despite their prevalence and policy relevance, causal evidence on how interlocked directors influence corporate decisions remains limited. The main identification challenge arises because firm-director matches are endogenously determined: while shared board members can drive the diffusion of practices between firms, similar governance outcomes may instead result from firms selecting like-minded directors (Manski (1993); Bouwman (2011); Foroughi et al. (2021)). To overcome the endogeneity issues, this paper exploits plausibly exogenous variation based on mandatory board retirement ages, and examines how board interlocks affect corporate actions that have direct implications for shareholder value. Three research questions are studied. First, do board interlocks increase the likelihood that two firms mirror each other by undertaking the same corporate actions? Second, what drives interlocked directors to transmit these corporate actions across firms, and which director and firm characteristics are associated with such propagation? Third, from an asset-pricing perspective, can a trading strategy that exploits interlock-driven corporate actions generate abnormal returns?

Anecdotal evidence illustrates how interlocked directors could act as potential conduits for transmitting corporate actions across firms. Bill Campbell, a prominent Silicon Valley executive and longtime board member of both Intuit and Apple[1], offers an example (Schmidt et al. (2019)). Intuit[2] initiated its first cash dividend in late 2011, and a few quarters later Apple reintroduced dividends after a 17-year hiatus. A similar pattern appears with former Alaska Governor Byron Mallott, who served on the boards of Alaska Communications Systems and Alaska Air Group.

[1]Bill Campbell was known as "Coach" for mentoring tech leaders and served as a close advisor to both Steve Jobs and Tim Cook.

[2]Intuit is a financial technology firm behind TurboTax, QuickBooks, and Credit Karma.

During his overlapping tenure, both firms made seasoned equity offerings in 2005, suggesting that interlocks may also influence capital-raising decisions.

Under the null hypothesis, board interlocks should not causally affect firm behavior. A Modigliani-Miller-type argument suggests that if firms make decisions independently and rely solely on publicly available information about other firms, then one firm's corporate action should not affect another simply because they share a director. However, departure from this benchmark may arise through several channels, such as information transmission, individual influence, or behavioral biases. Shared directors may transmit information and facilitate learning across firms, especially with information that cannot be publicly disclosed. Directors' personal preferences or behavioral biases such as herding might also push firms to act similarly.

As a first step towards empirically examining whether board interlocks increase the likelihood that two firms mirror each other's corporate actions, I implement an event study design using a BoardEx-Compustat linked dataset. The event is defined as one firm in an interlocked firm pair initiating a corporate action, and the outcome is whether its peer subsequently undertakes the same action. Eight types of corporate actions are studied, including four dividend events (initiations, terminations, and large increases or decreases of 20% or more), two equity events (share repurchase announcements and seasoned equity offerings), and two stock split events (forward and reverse splits). Treated firms are matched to control firms based on industry, time, pre-event action history and lagged market capitalization. Following a peer's initial corporate action, an interlocked firm is, on average, 0.22% more likely to undertake the same action compared to control firms. When examined by action type, the estimated effects are 0.13% for dividend initiations, 0.43% for large dividend increases, and 0.27% for forward stock splits. Although these results suggest that directors transmit corporate actions between firms, they could be driven by confounders such as endogeneous director-firm matching or latent firm characteristics.

To more cleanly identify the causal effect of interlocks, I employ an instrumental variable based on mandatory board retirement policies, which are widespread among US public firms[3]. In practice, retirement thresholds are typically set at ages 70, 72, or 75, with rare deviations. This identification strategy exploits the plausibly exogenous breaking of interlocks to assess whether firms are less likely to mirror one another's corporate actions afterwards. This paper focuses on firm pairs that share exactly one board member during any given quarter after interlock formation, which ensures a clean identification of the timing of interlock dissolution. These single-director interlocked firm-pairs represent more than 92% of all interlocked firm-pairs. To mitigate concerns that firms may endogenously adjust retirement thresholds over time to retain particular directors, the identification strategy relies on commonly used retirement age thresholds instead of firm-specific ones. The baseline specification uses a mandatory retirement age of 72 as the instrument,

[3] According to the Spencer Stuart Board Index Report of 2023, 69% of S&P 500 firms and 53% of mid-cap boards have a mandatory retirement age for the directors.

which has a first-stage F-statistic of 386.67. Results show that board interlocks increase the likelihood of mirroring a dividend initiation by 0.27%, a large dividend increase by 1.01%, a seasoned equity offering by 0.64%, and a forward stock split by 1.07%. These statistically significant corporate actions largely align with those from the event study, though the estimated mirroring effects are larger due to the correction of negative selection bias. For the remaining corporate actions, the 2SLS coefficients remain positive but statistically insignificant.

Because interlock dissolution always involves both the loss of the shared board link and the loss of the director, one concern is that the exclusion restriction might be violated if the instrument affects firm outcomes through changes in board composition caused by the directors' departure, rather than exclusively through the dissolution of the interlock connection. To address this concern, I conduct a placebo test using a subsample of periods in which the interlock has already been terminated, and find that the age-based instrument has no significant effect on mirroring outcomes in these placebo periods, supporting the validity of the exclusion restriction.

Next, I examine and rule out alternative economic connections between firms that could otherwise account for the observed mirroring behavior. These connections include client-supplier relationships (Cohen and Frazzini (2008)), common exposure to hedge fund activism (Brav et al. (2008); Brav et al. (2015)), and common ownership by institutional investors (Appel et al. (2016); Azar et al. (2018)). Including these measures in the 2SLS regressions does not attenuate the estimated effects of board interlocks on mirroring. Additionally, all regressions include firm-pair and industry-pair-by-quarter fixed effects to control for time-invariant characteristics of each firm pair and for time-varying industry-level shocks, thereby ruling out within- and cross-industry dynamics, such as competition or correlated industry trends, as alternative explanations for the mirroring behavior. These results suggest that board interlocks constitute an important channel of corporate decision-making, distinct from other common inter-firm economic linkages.

Having shown that directors matter for transmitting corporate actions, the paper next examines how such mirroring behavior varies by director and firm characteristics. Mirroring is weaker when interlocks involve busy directors, consistent with limited attention reducing their effectiveness (Fich and Shivdasani (2006); Falato et al. (2014); Chen et al. (2023)). In contrast, long-tenured directors amplify mirroring across several actions, suggesting that experience enhances their influence (Adams et al. (2010); Kaplan and Reishus (1990)). Interlocks involving C-suite directors show weaker mirroring, possibly because insiders process extensive firm-specific information and hence rely less on external channels such as interlocks to make decisions (Hermalin and Weisbach (1998); Raheja (2005); Adams and Ferreira (2007)). Finance committee membership has little effect, implying that policy diffusion occurs mainly through full board interactions rather than committee deliberations (Klein (1998)). Turning to firm-level heterogeneity, results show that outsider-dominated boards exhibit stronger mirroring across several actions, suggesting that directors with less access to insider information of the firm rely more on external information

transmitted through interlocks. Meanwhile, measures of firm quality, such as lagged ROA, Tobin's Q and past stock returns, have little effect on interlock-driven policy diffusion. These results reinforce the view that boards composed primarily of outside directors place less weight on firm-specific fundamentals – since firm quality measures have little effect on mirroring actions – and instead rely more on external information conveyed through shared board connections, consistent with predictions from the literature on board structure (Raheja (2005); Adams et al. (2010)), herd behavior (Banerjee (1992)) and peer effects (Manski (1993)). Overall, long-tenured and non-busy outsider directors drive the mirroring of corporate actions. Theories suggest that while their experience gives them sway on boards, their lack of firm-specific insider knowledge leads them to rely more heavily on external sources of information, such as the interlock channels.

Finally, do board interlocks carry asset pricing implications? If investors face attention constraints and overlook these inter-firm relationships that drive mirroring corporate actions, then a trading strategy that buys stocks whose interlocked peers undertake a corporate action and short sells comparable firms may generate abnormal returns (Cohen and Frazzini (2008); Hong and Kacperczyk (2009)). To test this hypothesis, I build monthly portfolios for interlock-treated firms and their matched controls from the previous event study. Value-weighted Carhart four-factor regressions show that the long-short trading strategy earns abnormal monthly returns for dividend initiations (-15 bps), dividend terminations (-18 bps), large dividend increases (12 bps), seasoned equity offerings (11 bps), and forward splits (-29 bps). Four of these correspond to the corporate actions that are statistically significant in the IV results. Conditioning on the initiating firm's announcement day return, which reflects the market's assessment of the action's value implications, this paper shows that interlocked firms generally earn positive abnormal returns when they mirror actions initially rewarded by the market, and negative returns when imitating actions viewed unfavorably. These findings suggest that investor inattention to board interlocks could lead to return predictability.

Contribution to the Literature. This paper proposes a novel instrumental variable based on board-mandated retirement age policies to identify the causal effect of director interlocks, addressing the identification challenge posed by the endogenous formation of director networks (Manski (1993); Carrell et al. (2013)). Most previous studies on board interlocks are correlational, and causal estimates remain scarce. Two studies have sought to identify causal effects of board interlocks. Foroughi et al. (2021) exploit the staggered adoption of universal demand laws across states to estimate the effects of board interlocks on governance policies, and Cheng et al. (2021) use scheduling conflicts between firms' annual shareholder meetings as an instrument for board interlocks, arguing that overlapping meeting dates make it infeasible for a director to serve on both boards. More broadly, the use of mandatory retirement age as an instrument also contributes to the corporate governance literature on board structure. Prior studies have pri-

marily relied on exogenous shocks such as sudden director deaths or health events (Nguyen and Nielsen (2010); Fee et al. (2013); Fahlenbrach et al. (2017); Bennedsen et al. (2020)), regulatory reforms (Linck et al. (2008); Duchin et al. (2010); Ahern and Dittmar (2012); Guo and Masulis (2015)), mergers (Hauser (2018)), and firm- or geography-specific events (Coles et al. (2008); Knyazeva et al. (2013); Bernile et al. (2018)). Unlike event-driven instruments based on rare or firm-specific shocks, the retirement-age instrument exploits a systematic governance policy applied broadly across firms and time.

This paper is the first to systematically examine the causal effect of board interlocks on these eight types of common corporate actions that are directly controlled by boards. Prior research has documented that board interlocks facilitate the diffusion of corporate governance practices (Bouwman (2011); Foroughi et al. (2021)) and influence a variety of corporate decisions and outcomes, including takeover defense (Davis and Greve (1997)), option backdating (Bizjak et al. (2009)), going-private transactions (Stuart and Yim (2010)), M&A activity (Cai and Sevilir (2012)), disclosure choices (Cai et al. (2013)), earnings management (Chiu et al. (2013)), tax avoidance (Brown and Drake (2014)), capital structure (Li et al. (2019)), firm value (Burt et al. (2020)), investment (Cheng et al. (2021)), risk-taking behavior (Gopalan et al. (2021)), proxy contests (Zhang (2021)), innovation (Chen et al. (2023); Cabezon and Hoberg (2025)) and labor market flows (Begley et al. (2025)). While most existing studies focus on a single type of corporate decision, I contribute to this literature by analyzing a broad set of corporate actions that occur frequently in practice and directly affect shareholder value.

Moreover, this paper provides evidence that board interlocks serve as a uniquely meaningful channel for inter-firm influence of corporate decisions, and sheds light on the characteristics of the directors who facilitate such diffusion. These findings contribute to the literature on how directors' personal networks shape firm outcomes (Shue (2013); Cohen et al. (2008); Larcker et al. (2013); Fracassi (2017)), and add to a broader body of research on networks and peer effects in economics and finance, which highlights the role of peer influence across a wide range of corporate behaviors (Leary and Roberts (2014); Parsons et al. (2018); Grennan (2019); Gantchev et al. (2019); Grieser et al. (2022)).

Finally, this paper uses board interlocks as a test for investor inattention (Cohen and Frazzini (2008); Hong and Kacperczyk (2009)). The finding that return predictability exists suggests that inter-firm connections through board interlocks constitute a source of information that is not fully reflected in equity prices, potentially reflecting behavioral biases by investors. These findings contribute to the asset pricing literature on the abnormal returns associated with corporate events, including dividends (Michaely et al. (1995); Boehme and Sorescu (2002)), share repurchase (Mitchell and Stafford (2000); Allen and Michaely (2003); DeAngelo et al. (2009)), seasoned equity offering (Masulis and Korwar (1986); Eckbo et al. (2000); Brav et al. (2000); Bessembinder and Zhang (2013)), and stock splits (Lamoureux and Poon (1987); Ikenberry et al.

(1996)), and shows that director linkage between firms could explain part of the return anomalies. This paper also contributes to the broad literature of stock return predictability (Fama and MacBeth (1973); Fama and French (1993); Carhart (1997); Hou et al. (2015); McLean and Pontiff (2016); Green et al. (2017)).

2 Institutional Background

2.1 Institutional Context of Board Interlocks

Board interlock arises when an individual simultaneously serves on the boards of multiple firms, creating a direct linkage between those firms. This practice is widespread among US public companies. Using data from BoardEx matched to firms in Compustat, I identify 87,789 unique board members who served between 1994Q1 and 2023Q3. Among them, 16,156 (18.4%) have served as an interlocked director at some point. When aggregated to the firm level, the prevalence of interlock is even more pronounced. Of the 9,053 public firms in the sample, 7,151 (79.0%) have been interlocked with at least one other firm at some point between 1994Q1 and 2023Q3. Also, 57.8% of all firm-quarters are interlocked over the same period.[4]

What purpose do board interlocks serve? From the firm's perspective, board interlocks could function as conduits for information transfer and organizational resource acquisition. By sharing directors, firms gain access to capital, valuable knowledge, industry best practices, strategic insights, influential networks, and potential business opportunities that would otherwise be difficult to obtain (Dooley (1969), Lorsch and MacIver (1989), Mizruchi (1996), Bouwman (2011)). From the director's perspective, board interlocks offer opportunities for career advancement, financial compensation, prestige, and access to valuable professional contacts (Stokman et al. (1988), Zajac (1988), Mizruchi (1996)). Some scholars argue that interlocks also help reinforce elite cohesion by creating an "inner circle" where corporate leaders socialize and consolidate influence (Useem (1984)).

While interlocks may promote efficiency and oversight, they also raise concerns about conflicts of interest and reduced market competition. As a result, government regulations restrict interlocks that may raise antitrust concerns. Section 8 of the Clayton Act, enacted in 1914, prohibits an individual from simultaneously serving as an officer or director of two corporations if certain conditions are met.[5] The primary objective of Section 8 is to prevent the coordination of

[4] Appendix Figure B1 presents the quarterly time series of board interlock dynamics in the sample. On average, 12.8% of all board members are interlocked each quarter, and the trend of board interlock is that the share of board members who are interlocked gradually increased from 10% to 15% per quarter over the sample period. The total number of board members increased steadily from 1994, reaching a peak around 2009, and declined after the financial crisis. There is also a brief increase in the number of board members in 2021, which quickly reversed.

[5] Source: 15 U.S.C. § 19(a)(1)(B). The three conditions are: (1) Both companies involved have total capital, surplus and undivided profits exceeding a certain threshold, which is set at $4,855,900 as of 2024 and is adjusted upward annually; (2) both are engaged, at least in part, in commercial activities; and (3) the companies are competitors based

competitive strategies or the exchange of commercially sensitive information between rival firms, and violations are typically resolved by removing the interlocked directorship. As a result, the board interlocks examined in this study are limited to those between firms that do not directly compete with each other.

2.2 Mandatory Retirement Age of Boards

This subsection outlines the institutional background of mandatory retirement policies, which serve as the instrumental variable in Section 5. Mandatory retirement policies have long been a common feature of US corporate governance. In 2001, 58% of S&P 500 firms maintained such a policy, and in 2023 this share was 69%.[6] Larger firms are more likely to adopt mandatory retirement age policies than smaller firms. In 2023, 69% of large-cap boards had such a policy, compared to only 53% of mid-cap boards.[7] At the broader market level, Tonello (2023) reports that 63% of Russell 3000 companies did not maintain any age-based retirement policy in 2023.

Ages 70, 72, and 75 are the most common thresholds for mandatory board retirement. Figure 1 demonstrates the prevalence of these thresholds by illustrating the distribution of mandatory retirement age thresholds among S&P 500 firms between 2004 and 2023.[8] 70 (or younger) and 72 were the most prevalent retirement cut-offs in the early sample period, while a retirement age of 75 or older became more common over time. Meanwhile, the share of firms with no mandatory retirement age has remained relatively stable, fluctuating between 25% and 30% throughout the period.

Although some firms strictly enforce retirement age limits, others allow for exceptions. For this reason, I use standard age thresholds (such as 70, 72 and 75) rather than firm-specific ones as the instrumental variable. According to Tonello (2023), among the S&P 500 firms with a mandatory retirement age policy in 2023, approximately half of them have a mandatory retirement policy without exceptions while the other half allow exceptions at the discretion of the board or the governance committee. For instance, amid the ongoing fallout from the 737 Max crisis in 2021, Boeing raised its mandatory retirement age from 65 to 70 to retain CEO Dave Calhoun, who had just turned 64.[9] Similarly, in 1997, General Motors supported the re-election of John Smale to its board despite his having reached the company's retirement age of 70.[10]

For firms that do not adopt an age-based retirement policy, this choice may reflect skepticism

on the nature and location of their operations, such that any agreement between them to limit competition would violate antitrust laws. The law includes exemptions for situations where any competitive overlap is deemed too minor to pose antitrust risks. The Federal Trade Commission (FTC) and the US Department of Justice (DOJ) jointly enforce the regulation.

[6] Source: Spencer Stuart U.S. 2011 Board Index Report

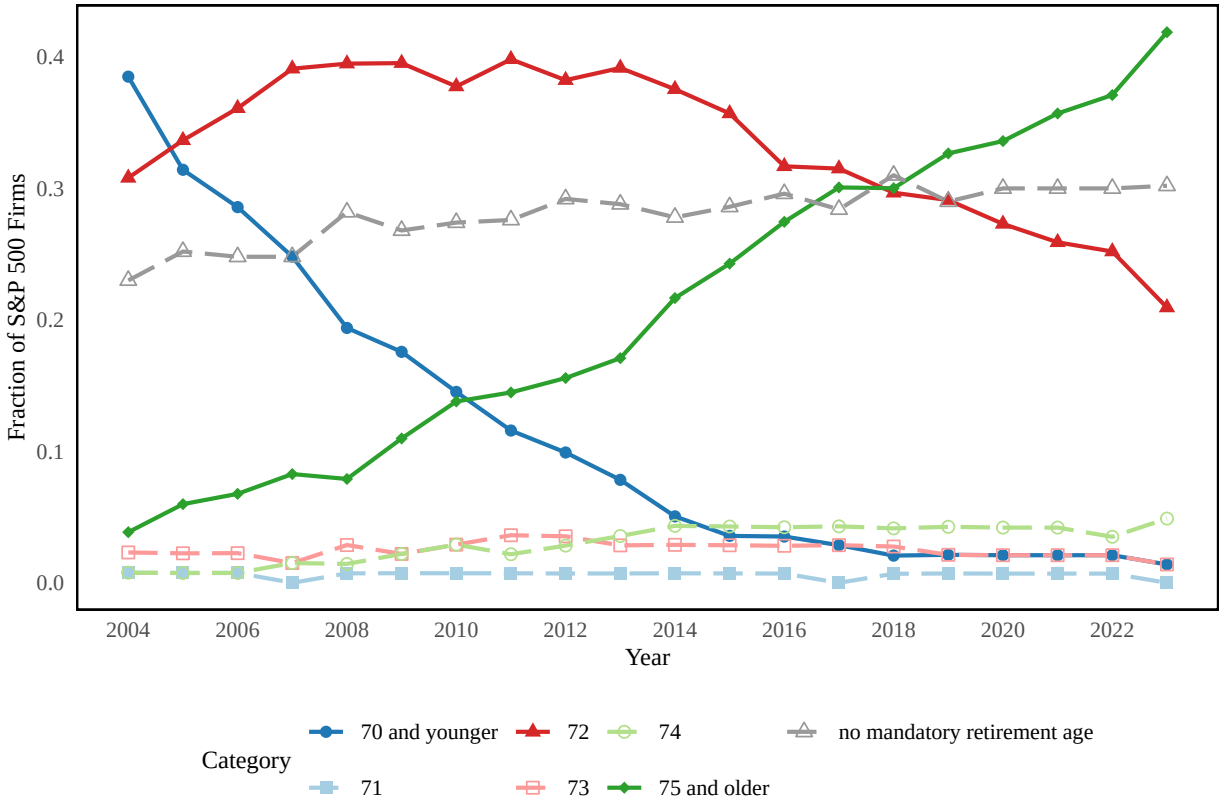
[7] Source: 2023 Spencer Stuart S&P MidCap 400 Board Index.

[8] The figure draws on data from a leadership consulting firm Spencer Stuart, with the sample starting in 2004 due to limited historical coverage before that year.

[9] https://www.cnn.com/2021/04/20/business/boeing-ceo-calhoun-staying

[10] https://www.wsj.com/articles/SB882745433270347500

Figure 1: Mandatory Retirement Age Policies for S&P 500 Boards, 2004–2023



toward the notion that older directors are necessarily less productive or effective. For instance, United Health Group – the largest US health insurer by market capitalization in 2023 – explicitly states in its Principles of Governance that "the Board believes that age does not limit meaningful director contributions, which leads the Board to conclude that a mandatory director retirement age is not desirable."[11]

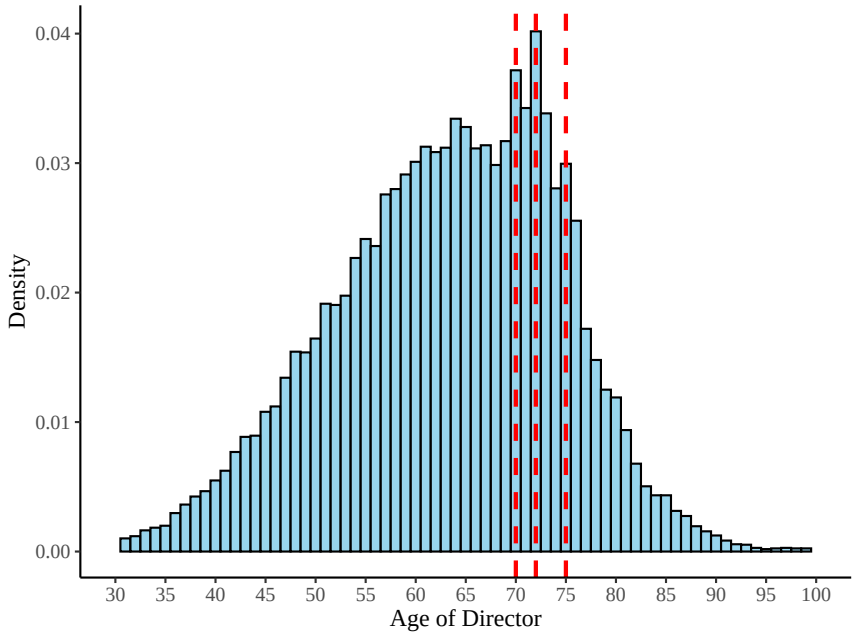
Next, I examine whether the retirement age patterns observed in the S&P 500 generalize to publicly listed firms using the Compustat-BoardEx linked sample, which covers 1994Q1 to 2023Q3. Although firm-specific retirement age policies are unavailable, I proxy for retirement age policy using each director's maximum observed age. Since directors who leave their positions are no longer tracked in BoardEx, and deaths in office are excluded, this measure reasonably approximates voluntary or policy-driven retirement. Figure 2 shows the distribution of directors' maximum observed ages from 1994Q1 to 2023Q3, excluding directors who were still on the job in 2023Q3. Distinct spikes at ages 70, 72, and 75 – marked by red dashed lines – suggest these are common retirement ages for directors, with 72 standing out as the modal exit age.

Section 5 discusses the instrumental variable in greater detail. Case-by-case exceptions and sometimes lax enforcement of mandatory retirement policies highlight a potential endogeneity concern in using firm-specific mandatory retirement policies as instruments. Therefore, this paper

[11] https://www.unitedhealthgroup.com/content/dam/UHG/PDF/About/UNH-Principles-of-Governance.pdf

uses standard retirement age thresholds such as 70, 72 and 75 instead of firm-specific ones.

Figure 2: Distribution of Directors' Exit Ages in US Public Firms, 1994–2023



3 Data

3.1 Board Interlocks of Public Firms

Board interlocks are identified using BoardEx, which provides detailed personal and position information for board members of public firms.[12] BoardEx includes the start and end dates of each board position, and only records with non-missing start dates are retained. A firm pair is defined as interlocked in a given calendar quarter if the two firms share at least one director during that quarter.

The board interlock dataset is then merged with quarterly firm-level information from the Center for Research in Security Prices (CRSP) and Compustat, which cover all public US firms listed on the NYSE, AMEX, and NASDAQ from 1994Q1 to 2023Q3. The sample begins in 1994, the earliest date for which reliable data on hedge fund activism and share repurchase announcements are available. I exclude firm-quarters with negative total assets or missing four-digit SIC codes. Firms are assigned to industries based on the Fama-French 12-industry classification. Consistent with standard practice, firms in the financial (SIC 6000–6999) and utilities (SIC 4900–4949) sectors are excluded from the analysis (e.g. Fama and French (2001); Allen and Michaely (2003)).

[12]BoardEx began collecting data on top managers and directors in 1999. Historical information of board positions was backfilled for earlier years (Foroughi et al. (2021)).

3.2 Corporate Action Measures

This subsection details the construction of corporate action measures, including dividend initiations and terminations, large dividend increases and decreases, share repurchase announcements, seasoned equity offerings (SEOs), and forward and reverse stock splits.

The definitions of dividend initiations and terminations follow standard approaches in the literature (Fama and French (2001); Chetty and Saez (2005)). These events are based on regular dividends, excluding special dividends, and are defined as monthly, quarterly, semiannual, or annual taxable dividends reported in the CRSP database. A firm is classified as initiating regular dividend payments in quarter t if it pays a regular dividend after not doing so in any of the previous four quarters.[13] A firm is classified as terminating regular dividend payments in quarter t if it ceases paying dividends from that point onward for at least one full year.[14]

Following Chetty and Saez (2005), a firm is classified as having a large dividend increase (or decrease) on the intensive margin in quarter t if (1) it is not initiating (or terminating) dividends, and (2) the dividend in t exceeds (or falls below) all dividends in the previous four quarters ($t-1$ to $t-4$) by at least 20%. Firms are assigned a value of zero for both variables during their first four quarters in the sample or if they do not pay dividends in quarter t.

Share repurchase announcements are obtained from the Securities Data Company (SDC) Platinum database maintained by LSEG (formerly known as Thomson Refinitiv), which provides complete coverage beginning in 1994 (Lee et al. (2020)). Only open market repurchases by US firms are included, which represent the most common form of share repurchase globally (Manconi et al. (2019)). Deals flagged for purposes such as offset dilution effects, stock option plans, employee benefit plans, or acquisition purposes are excluded, as these repurchases are not primarily intended to enhance shareholder value. The repurchase event is dated to the quarter of the initial board authorization.

For SEOs, I use deal data from SDC Platinum and retain only follow-on offerings of common stock or ordinary shares, excluding pure secondary offerings, rights offerings, and unit offerings (Dittmar et al. (2020)). Deals with missing offer prices or quantities, or with an issue size below $1 million, are excluded. If a deal includes multiple issue dates, the earliest is used to assign the event quarter.

Forward and reverse stock splits are identified from CRSP[15]. The declaration date is used to

[13] A special adjustment is made for annual payers' dividend initiation actions. If a firm pays annual dividends in quarter t, it must also have paid no dividends in t–5 and t–6 to be classified as initiating. This adjustment, from Chetty and Saez (2005), accounts for cases where firms shift the timing of annual payments, creating five or six consecutive quarters without dividends despite no actual change in policy. This approach ensures that infrequent payers (e.g., annual or semiannual) are not misclassified.

[14] Since it is not possible to observe whether firms stop paying dividends for a full year near the end of the sample, Chetty and Saez (2005) propose extrapolation methods to impute terminations. To avoid relying on such extrapolations, I restrict my analysis to events through 2023Q3, even though dividend data extend through the end of 2024.

[15] Stock splits have distribution code 5523 in CRSP.

determine the event quarter. If the declaration date is missing, the payment date or ex-distribution date are used to identify the event quarter.

Appendix Figure B2 presents the time series of each individual corporate action's occurrences by quarter.[16]

3.3 Descriptive Statistics of Board Interlocks

Panel A of Table 1 reports firm-quarter-level characteristics from the full BoardEx-Compustat linked dataset, which includes both interlocked and non-interlocked firms. The median board consists of seven directors, one of whom is interlocked with another firm, underscoring the prevalence of such board connections in the sample.

Panel B examines only firm-pairs that have ever been interlocked. On average, an interlock lasts about 14.7 quarters, with a median of 10 quarters. The average director is 58.5 years old when the interlock begins and 61.9 when it ends. Roughly 34% of all interlocked firm-pairs have the same Fama-French 12 industry classification, and about 11% share the same 4-digit SIC code. These overlaps are possible because the Clayton Act prohibits interlocks only between direct competitors, rather than all firms in the same sector. Geographic proximity of interlocked firms exists to a certain degree: 5% of interlocked firm-pairs are headquartered in the same city, and 21% in the same state. When the interlock is formed, the connecting director typically holds around three board seats, including the two associated with the interlocked firm pair.

Panel C reports interlocked firm and board member characteristics at the director-firm-quarter level, using the same set of interlocked firm-pairs studied in Panel B. Interlocked directors have an average tenure of 5.9 years in their current position, with a median of 4.25 years. About 8% of them hold C-suite roles, and 14% serve on their firm's finance committee, which is typically responsible for overseeing decisions related to corporate actions. For the median interlocked firm, 14.3% of the board members are insiders, indicating that most directors in interlocked positions are outside, non-executive board members rather than firm executives. The median interlocked firm has total assets of $2.1 billion, a market capitalization of $1.4 billion, a Tobin's Q of 1.65, a market-to-book ratio of 1.18, and a book leverage ratio of 15.5%. The median return on assets

[16]Dividend events are procyclical, since initiations and large increases are common during economic expansions, while terminations and large decreases occur in recessions. One notable pattern is the sharp spike in regular dividend increases in 2012Q4, followed by a corresponding surge in regular dividend decreases in 2013Q1. This reflects firms' responses to the anticipated increase in dividend tax rates as part of the 2012 "fiscal cliff"(Consistent with the evidence documented in Hanlon and Hoopes (2014), many firms accelerated regular dividend payments that would ordinarily have been made in January 2013 into December 2012, in order for shareholders to benefit from lower 2012 tax rates. This shifting of regular payouts explains both the surge in increases at the end of 2012 and the subsequent decline in early 2013, providing evidence that managers adjust the timing of dividend policy in response to investor-level tax considerations). For equity-related events, both repurchase announcements and SEOs are common throughout the sample period, with repurchases spiking in the late 1990s and mid-2000s, and SEOs surging in 2020–2021. Forward splits are common in the 1990s but their frequency declines sharply after the early 2000s, whereas reverse splits remain generally infrequent yet show notable surges during 2020–2021 and after 2022Q3.

(ROA) is 0.8%, and the median one-year stock return is 3.8%. These values indicate that the typical interlocked firm is a mid-sized company with moderate growth characteristics, as reflected in its Tobin's Q and market-to-book ratio. The firm maintains a relatively conservative capital structure with limited reliance on debt, and exhibits modest but stable profitability and stock performance.

Table 1: Summary Statistics of Firm and Director Characteristics, 1994–2023

	N	Mean	SD	p10	p25	Median	p75	p90
Panel A: All Firms, Firm-Quarter Level								
Board Size	401,890	6.99	3.10	3	5	7	9	11
Number of Interlocked Directors	401,890	2.08	2.37	0	0	1	3	6
Fraction of Interlocked Directors	401,890	0.36	0.58	0	0	0.22	0.50	0.80
Fraction of Female Directors	401,890	0.10	0.14	0	0	0	0.17	0.25
Fraction of C-Suite Directors	401,890	0.16	0.13	0	0.10	0.14	0.20	0.33
Fraction of Directors with MBAs	401,890	0.29	0.23	0	0.11	0.27	0.43	0.60
Fraction of Directors with Doctorates	401,890	0.21	0.20	0	0	0.17	0.33	0.50
Panel B: Characteristics of Board Interlocks, Firm-Pair Level								
Duration of Interlocks (Quarters)	39,951	14.743	13.542	2	5	10	20	33
Director Age When Interlock Formed	39,951	58.456	8.124	47.5	53.5	59	64	68
Director Age When Interlock Dissolved	39,951	61.919	8.780	50	56.25	62.5	68.25	72.5
Indicator: Both Firms Located in Same City	39,951	0.048	0.214	0	0	0	0	0
Indicator: Both Firms Located in Same State	39,951	0.210	0.408	0	0	0	0	1
Indicator: Same Fama-French 12 Industry	39,951	0.343	0.475	0	0	0	1	1
Indicator: Same SIC-4 Industry	39,951	0.115	0.319	0	0	0	0	1
Director's Board Seats When Interlock Formed	39,951	3.241	1.366	2	2	3	4	5
Panel C: Interlocked Board Member Features, Director-Firm-Quarter Level								
Tenure in Current Position (Years)	824,924	5.852	5.574	0.750	1.750	4.250	8.250	13.250
Indicator: C-Suite Membership	824,924	0.084	0.277	0	0	0	0	0
Indicator: Finance Committee Member	824,924	0.144	0.351	0	0	0	0	1
Insider Fraction of the Board	1,004,932	0.174	0.101	0.083	0.100	0.143	0.222	0.333
Total Assets ($ billion)	1,005,139	23.992	127.813	0.108	0.431	2.084	9.136	37.003
Return on Assets (ROA)	1,004,401	-0.009	0.084	-0.069	-0.006	0.008	0.020	0.034
Tobin's Q	1,002,093	2.084	1.198	1.043	1.224	1.656	2.502	3.958
Book Leverage Ratio	1,005,128	0.188	0.178	0	0.044	0.155	0.275	0.414
Market Capitalization ($ billion)	1,003,493	11.578	50.877	0.081	0.314	1.393	5.906	22.457
Market-to-Book Ratio	1,003,491	1.581	1.209	0.464	0.736	1.179	2.037	3.488
Stock Return (Past 1 Year)	979,138	0.098	0.481	-0.449	-0.203	0.038	0.305	0.734

Notes: Firm location is based on the headquarter location reported in Compustat. The detailed definitions of the accounting variables are reported in the Appendix. ROA is top- and bottom-coded at -1 and 1, respectively. The book leverage ratio is likewise constrained to be within the interval $[0, 1]$. Tobin's Q, the market-to-book ratio, and stock returns are winsorized at 95% level.

4 Event Study Approach

4.1 Event Study Design

As an initial step towards estimating the effect of board interlocks on inter-firm mirroring actions, I employ an event-study framework covering the period from 1994Q1 to 2023Q3. The analysis is conducted at the firm-quarter level and, for each treated firm, spans eight quarters before and

sixteen quarters after the event.

For each corporate action, the treated group consists of firms whose interlocked peer initiated that action. Specifically, if Firm i and Firm j share board members and Firm j undertook a corporate action, I define Firm j's action as the event and examine whether Firm i subsequently performs the same action. The event quarter (quarter 0) serves as the baseline period of the event study. Because corporate actions are relatively infrequent, a firm that has recently undertaken a similar action is unlikely to respond again to its interlocked peer's event. I therefore exclude treated firms that engaged in the same corporate action within the eight quarters prior to the events. To ensure that the interlocked director can exert meaningful influence on the decision-making process, the sample requires that the shared board member remain on the treated firm's board for at least sixteen quarters following the event.

To construct the control group, each treated firm is matched to a never treated control firm based on three criteria: (1) the same event calendar quarter, (2) the same Fama-French 12 industry classification, and (3) similar lagged market capitalization over the past eight quarters. The sample is restricted to balanced panels for treated and matched control firms to ensure comparability. Additionally, control firms are restricted to those that have not undertaken the same corporate action in the prior eight quarters. This restriction ensures that both treated and control firms were similarly "at risk" of taking the action during the event window, addressing the mean-reverting nature of such decisions.[17]

In the algorithmic implementation, I first identify candidate control firms within the same quarter and Fama-French 12 industry as the treated firm, and require that they exhibit the same eight-quarter corporate action history as the treated firm. Among these candidates, one control firm is selected using nearest-neighbor matching based on lagged 8-quarter market capitalization (Parrino et al. (2003); Zhang (2021)). Treated firms without a match are dropped.[18]

For each corporate action, I estimate dynamic treatment effects using the following event study specification:

$$\text{FirmMirror}_{it} = \sum_{\substack{q=-8 \\ q\neq 0}}^{+8} \beta_q \cdot \mathbf{1}(\text{RelativeQtr}_{it} = q) + \lambda \cdot \text{Post}_t + \alpha_i + \alpha_{kt} + \upsilon_{it} \tag{1}$$

[17]For dividend-related events, I further match on pre-treatment dividend-paying status, as the likelihood of initiating or terminating dividends depends critically on prior payout behavior. For instance, a firm that has paid dividends consistently in all pre-treatment quarters is unlikely to initiate dividends, since it already does so, but may be at risk of terminating them instead.

[18]I identify 1,142 dividend initiation events involving 786 unique treated firms; 845 dividend terminations involving 616 treated firms; 3,760 large dividend increases across 1,131 firms; 1,459 large dividend decreases across 747 firms; 5,042 share repurchase announcements across 1,341 firms; 3,889 seasoned equity offerings across 1,381 firms; 2,322 forward stock splits across 1,062 firms; and 656 reverse stock splits across 535 firms. The recurrence of treated firms across different corporate action settings suggests that interlocking directorates often span firms engaging in diverse strategic decisions.

where $\mathbf{1}(\text{RelativeQtr}it = q)$ is an indicator for being q quarters away from the interlocked peer firm's corporate action, with $q = 0$ omitted as the reference period. The coefficients β_q trace out the evolution of treatment effects relative to the event quarter.

The corresponding average treatment effect (ATE) is estimated using the following difference-in-differences specification:

$$\text{FirmMirror}_{it} = \beta \cdot \text{Treated}_i \times \text{Post}_t + \lambda \cdot \text{Post}_t + \alpha_i + \alpha_{kt} + v_{it} \tag{2}$$

The dependent variable, FirmMirror_{it}, equals one if Firm i undertakes the same type of corporate action as its interlocked peer Firm j in quarter t following Firm j's initial corporate action. The variable Treated_i indicates whether Firm i is a treated firm or a control firm. Post_t is an indicator equal to 1 for all quarters after the date of Firm j's action. The specification includes firm fixed effects (α_i) to control for time-invariant firm characteristics and industry-by-quarter fixed effects (α_{kt}) to account for shocks common to all firms in the same industry and quarter. Industry is defined using the Fama-French 12 industry classification. Standard errors are clustered at the firm level.[19]

Since the matching algorithm explicitly selected control firms that did not undertake the same action in the pre-treatment period, the outcome variable is mechanically equal to zero for all pre-treatment quarters in the control group and the treated group. As a result, the standard parallel trends assumption cannot be empirically tested in this setting, as there is no variation in the outcome during the pre-treatment period for either group. Instead, identification relies on comparing the post-treatment means of the treated and control groups, under the assumption that in the absence of treatment, the treated firms would have followed a similar post-treatment trajectory as the control firms.

Figure 3 displays the average probability of undertaking the same corporate action for treated and control firms across relative quarters. Following the event quarter, treated firms exhibit a higher likelihood of undertaking the corresponding action compared to their matched controls for a range of corporate actions. This pattern suggests potential post-treatment responses attributable to board interlock exposure. Importantly, while the levels differ, the temporal trends are generally similar between treated and control groups for many event types, lending support to the parallel trends assumption even though it cannot be directly tested in this setting.

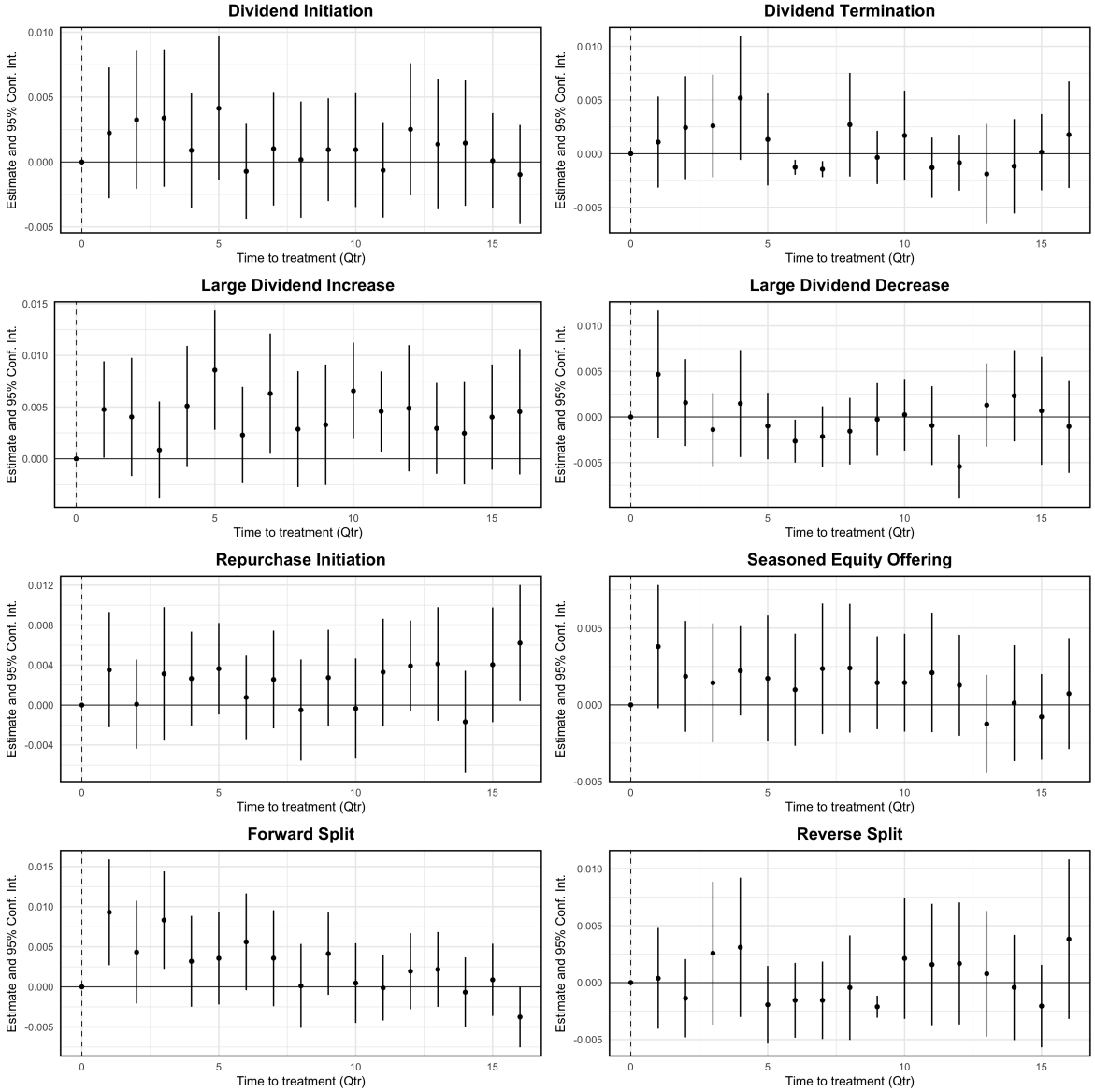
[19] Given the potential presence of heterogeneous treatment effects and staggered treatment timing in the corporate action events, coefficients from standard two-way fixed effects models may be biased (Goodman-Bacon (2021); Roth et al. (2023)). To address these issues, I employ the two-stage estimation procedure developed by Gardner (2022), which provides unbiased ATT estimates under parallel trends by avoiding problematic weighting. In practice, the results are nearly identical to those from standard TWFE specifications, suggesting that weighting issues are minimal in this setting.

Figure 3: Mean Plots of Corporate Actions for Treated and Control Firms

4.2 Event Study Results

For each corporate action, I estimate Equation 1 and present the corresponding event study plots in Figure 4. For the majority of outcomes, including dividend initiation, dividend termination, large dividend increase, large dividend decrease, repurchase announcements, and forward stock splits, the estimated treatment effects after the event quarter exhibit a two-phase dynamic. Specifically, there is typically an initial spike in mirroring behavior during quarters $t{+}1$ to $t{+}2$ following the interlocked peer's action, followed by a second wave of elevated effects around quarters $t{+}4$ to $t{+}5$. This temporal pattern is consistent with the cadence of annual board meetings, during which firms revisit strategic decisions related to payout policy and capital structure. The delayed response likely reflects the time required for interlocked directors to communicate and institutionalize similar decisions at the focal firm. In general, the event study plots indicate that firms tend to replicate the corporate actions of their interlocked peers within a relatively short time horizon.

Figure 4: Event Study Estimates of Mirroring Corporate Actions



Next, I estimate the average treatment effect using Equation 2 and report the results in Table 2. Following a corporate action by Firm j, the probability that Firm i undertakes the same action within the subsequent sixteen quarters increases by 0.13% for dividend initiations, 0.43% for large dividend increases, and 0.27% for forward stock splits, relative to matched control firms. Although these absolute magnitudes appear modest, the implied economic effects are substantial when benchmarked against the sample means of each outcome variable. For instance, the 0.13% increase in the likelihood of mirroring a peer firm's dividend initiation corresponds to a 40% increase relative to the unconditional probability of a dividend initiation in the sample. Similarly, the effects for large dividend increases and forward stock splits represent relative increases of 44% and 36%, respectively.

Table 2: Average Treatment Effects of Mirroring Corporate Actions

	Mirroring Action in:								
	Dividend Events				Equity Events		Stock Splits		All Actions
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announcement	Seasoned Equity Offering	Forward Split	Reverse Split	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treated × Post	0.0013*	0.0007	0.0043***	-0.0003	0.0024	0.0014	0.0027**	0.0003	0.0022***
	(0.0007)	(0.0007)	(0.0014)	(0.0012)	(0.0018)	(0.0009)	(0.0013)	(0.0009)	(0.0006)
Observations	57,100	42,250	188,000	72,950	252,100	194,550	116,100	32,800	955,850
Sample Mean	0.0032	0.0017	0.0098	0.0046	0.0158	0.0054	0.0075	0.0021	0.0088
No. Treated Firms	786	616	1,131	747	1,341	1,381	1,062	535	2,399
No. Control Firms	678	568	1,078	687	1,124	1,072	917	523	2,830

Notes: This table reports estimates from the event study examining the effect of board interlock exposure on the likelihood that a firm mirrors a peer's corporate action. Columns (1) to (8) report firm responses to individual corporate actions, and column (9) reports responses to all types of corporate actions. Regressions in columns (1) to (8) include firm and industry-by-quarter fixed effects, where industry is defined based on the Fama-French 12 industry classification. Column (9) uses firm by corporate action fixed effects and industry-by-quarter by action fixed effects. Standard errors are clustered at the firm level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The last column of Table 2 reports estimates that combine all corporate actions. Instead of firm and industry-by-quarter fixed effects, this specification includes firm-by-action and industry-quarter-by-action fixed effects, capturing the overall tendency of firms to mirror any corporate action studied. The results indicate that a firm's likelihood of mirroring an interlocked peer increases by 0.22%, or approximately 25% relative to the sample mean. Taken together, these findings suggest that firms are significantly more likely to adopt a given corporate action when an interlocked peer has recently undertaken the same action.

5 Instrumental Variable Strategy

While the event study estimates firms' responses to interlocked peers' actions, endogeneity concerns remain. Interlocked firms may face unobserved but correlated shocks or share governance characteristics that independently lead them to undertake similar actions. In addition, directors may self-select into firms with comparable strategic orientations, and firms may hire particular directors precisely because they intend to adopt strategies observed elsewhere. To address these concerns, this paper employs an instrumental variable strategy that leverages variation from mandatory retirement age policies of corporate boards. The main idea is to exploit plausibly exogenous interlock dissolutions that occur when directors reach mandatory retirement age thresholds to examine whether the mirroring of corporate actions becomes less likely.

5.1 Dataset and 2SLS Specification

The main dataset for the analysis is at the firm-pair-quarter level and includes only firm-pairs that share exactly one board member during a given quarter. This restriction facilitates a clean identification of the timing of interlock formation and dissolution, as well as more precise measurement of director-level characteristics. The sample is limited to quarters following the formation of board interlocks, as pre-interlock periods are not informative for assessing the transmission of corporate actions through the shared director. The final dataset contains 1,174,243 firm-pair-quarter observations across 39,951 unique firm-pairs between 1994Q1 and 2023Q3.[20] Appendix Table A1 provides summary statistics of the analysis sample. About half of all firm-pair-quarters are interlocked.

The outcome variable of interest, *mirroring action*, is defined separately for each type of corporate action as follows. If Firm A initiates a corporate action in quarter t, and Firm B undertakes the same corporate action within the subsequent k quarters, then the variable *mirroring action* is set to 1 in the quarter when Firm B acts, and 0 for the quarters before.[21] The baseline analysis sets k = 16 quarters to allow sufficient time for the influence of a board interlock to manifest. A smaller k may miss genuine influence due to implementation lags, as corporate actions tend to require many quarters of deliberation and execution, while a very large k risks attenuating the causal effect. Given that the mean and median durations of board interlocks in the sample are 14.7 and 10 quarters, respectively, k = 16 quarters is chosen as a reasonable benchmark. Estimates from a range of k values are reported (4, 8, 12, 16, 20, and 24 quarters), and the 2SLS coefficients are similar across k = 12, 16 and 20 quarters for all types of corporate actions.

Section 2 shows that many public firms require directors to retire upon reaching a specific age, most commonly 70, 72, or 75, thus exogenously terminating board interlocks between firms. The identifying assumption is that the timing of a director reaching one of these age thresholds is plausibly unrelated to firm-specific corporate policies, except through its impact on the severance of a board interlock. Conditional on controls, a director's birthday that triggers a mandatory retirement age serves as a source of exogenous variation in interlock status. Because firms may not strictly enforce retirement ages and may endogenously adjust these policies to retain specific directors, this paper does not rely on firm-specific cutoffs. Instead, it uses historically common retirement thresholds to construct three binary instruments indicating whether the shared director is aged 70 or older, 72 or older, and 75 or older.

[20] Approximately 3,100 firm-pairs are excluded because they share more than one board member concurrently; however, many of these cases involve interlocks between parent companies and their subsidiaries, where the transmission of independent board member influence is less clearly defined.

[21] If Firm A subsequently repeats the same action within the window $[t + k, t + 2k]$, then that later quarter is also coded as a mirroring action, while all in-between quarters are coded as 0.

The baseline 2SLS regression model is specified as follows:

$$\text{Interlock}_{it} = \alpha_0 + \alpha_1 \cdot \mathbf{1}\{\text{Age}_{it} \geq X\} + \delta_i + \lambda_{g(i)t} + \nu_{it} \tag{3}$$

$$\text{Mirroring Action}_{it} = \beta_0 + \beta_1 \cdot \widehat{\text{Interlock}}_{it} + \delta_i + \lambda_{g(i)t} + \epsilon_{it} \tag{4}$$

Interlock_{it} is an indicator for whether firm pair i has an active board interlock in quarter t. The dependent variable, $\text{Mirroring Action}_{it}$, is defined above. The main instrumental variable is $\mathbf{1}\{\text{Age}_{it} \geq X\}$, which equals one if the shared director in firm pair i is aged X (X = 70, 72 or 75) or older in quarter t, and zero otherwise. The fitted value from the first-stage regression, $\widehat{\text{Interlock}}_{it}$, captures the predicted likelihood of an active interlock based on this instrument. The regressions are separately estimated for each corporate action, including dividend initiations and terminations, large dividend increases and decreases, share repurchase announcements, seasoned equity offerings (SEOs), and forward and reverse stock splits.

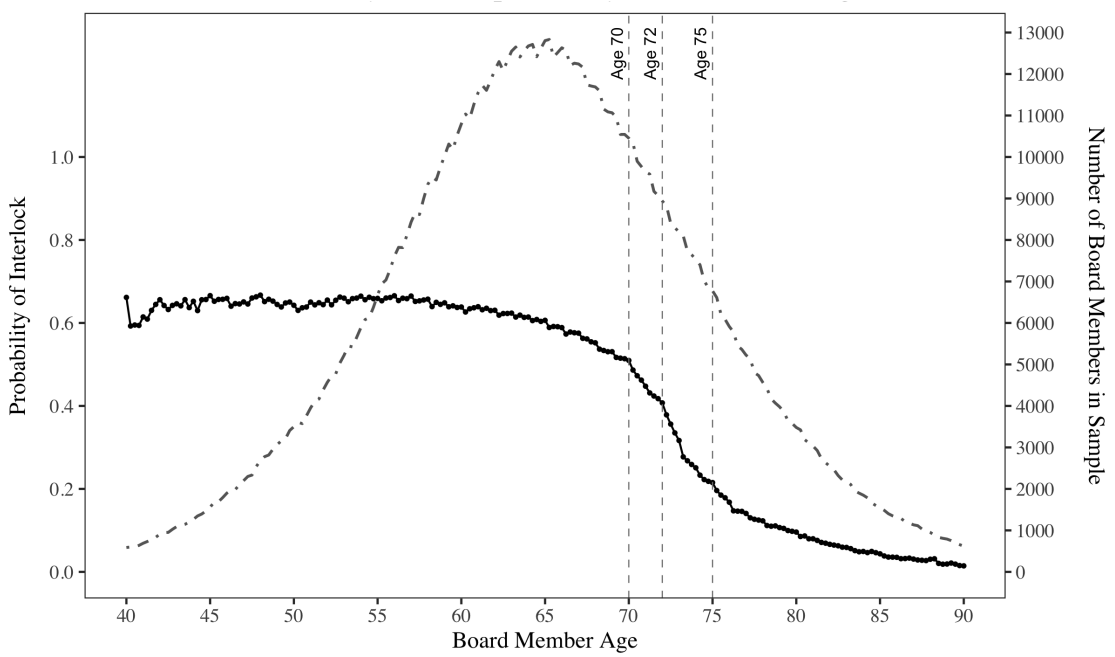
To further isolate the causal effect of interlocks, the regressions include firm-pair fixed effects, δ_i, which absorb any time-invariant pair-specific traits that might otherwise confound the link between interlock status and mirroring. In addition, industry-pair-by-quarter fixed effects are included, $\lambda_{g(i)t}$, where $g(i)$ indexes the combination of the two firms' Fama-French 12 industry classifications. These fixed effects account for time-varying, industry-specific shocks that jointly affect both firms, including peer effects arising from within- and between-industry competition, sector-wide regulation changes, or macroeconomic developments. The error terms are denoted by ν_{it} and ϵ_{it} in the first and second stage, respectively. Standard errors are clustered at the firm-pair level to account for within-pair serial correlation and heteroskedasticity.

Conceptually, this setup resembles a regression discontinuity design in which the "running variable" is the director's age and the crossing of the mandatory retirement threshold induces a change in interlock likelihood. This structure enables within-pair comparisons of firm behavior immediately before and after the dissolution of an interlock, isolating the causal impact of losing a shared director from broader time-varying or cross-sectional factors. Appendix Tables A2 and A3 show the robustness of the first stage and second stage estimates when adding additional controls for director age.

Among the three instrumental variables, the indicator for director age ≥ 72 is chosen as the main instrument for estimating the baseline results, as it exhibits the strongest first-stage relevance and corresponds to a stable retirement threshold consistently adopted by many firms throughout the sample period, as shown in Figures 1 and 2. In addition, Figure 5 illustrates the relationship between board member age and the probability of holding an interlocking directorship, where the probability is calculated as the number of interlocked board members of a given age divided by the total number of board members of that age in the main analysis sample. The solid black line shows that the probability of interlock is relatively flat between ages 45 and 65 but begins to

decline thereafter. The age 72 clearly corresponds to a turning point in the interlock probability curve, as the decline becomes steeper immediately after this age.

Figure 5: Interlock Probability and Sample Size by Board Member Age (40-90 years old)



5.2 2SLS Estimates

First Stage. Table 3 presents the first-stage results from the two-stage least squares (2SLS) estimation. Column 2 indicates that when the interlocking board member crosses the age 72 threshold, the probability of a board interlock decreases by 9.46% (with a t-statistic of 19.7). The regression estimate aligns with the evidence in Figure 5, which shows that the probability of holding an interlocking directorship declines sharply after age 72. Columns 1 and 3 show that, when used individually, the age 70 instrument is also strongly predictive of interlock dissolution, with a 7.31% reduction in the probability of board interlock. In contrast, the age 75 instrument alone is not statistically significant. Columns 4 through 7 report specifications that include multiple instruments. Crossing ages 70 and 72 remain strongly predictive of interlock dissolution.

First stage F-statistics, reported in the lower panel of Table 3, are used to assess instrument relevance. Across most specifications, the instruments are highly relevant and strongly predict interlock status. In particular, using only the indicator for whether the director has crossed the age 72 threshold yields the largest F-statistic of 386.67, which well exceeds the conventional rule-of-thumb threshold of 10, and also more stringent benchmarks proposed in the recent econometric literature – such as 23.1 (Olea and Pflueger (2013)) and 104.7 (Lee et al. (2022)). The indicator for crossing age 70 also has a large F-statistic of 285.72. Specifications that combine multiple age thresholds (Columns 4 through 7) continue to demonstrate strong instrument relevance with F-statistics above 146. These results support the use of age-based retirement thresholds as relevant

instruments in the first-stage regressions.

Table 3: First Stage Estimates and Instrument Validity Tests

	Age IV: 70	Age IV: 72	Age IV: 75	Age IV: 70 & 72	Age IV: 70 & 75	Age IV: 72 & 75	Age IV: 70, 72, 75
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\mathbf{1}\{\text{Director Age} \geq 70\}$	-0.0731***			-0.0372***	-0.0730***		-0.0337***
	(0.0043)			(0.0039)	(0.0043)		(0.0038)
$\mathbf{1}\{\text{Director Age} \geq 72\}$		-0.0946***		-0.0752***		-0.1055***	-0.0865***
		(0.0048)		(0.0045)		(0.0045)	(0.0039)
$\mathbf{1}\{\text{Director Age} \geq 75\}$			-0.0082		-0.0020	0.0332***	0.0286***
			(0.0050)		(0.0050)	(0.0047)	(0.0046)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
Adj. R^2	0.672	0.673	0.671	0.673	0.672	0.673	0.673
FE: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Industry-Pair×Quarter	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Std.Err Cluster: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Instrument Relevance Test							
F-statistic	285.72	386.67	2.66	197.38	146.09	297.24	209.05
Instrument Exogeneity Test							
J-test p-value for Mirror Action in:							
Dividend Initiation	–	–	–	0.1064	0.1587	0.2037	0.1875
Dividend Termination	–	–	–	0.4776	0.6433	0.5941	0.6220
Large Dividend Increase	–	–	–	0.0399	0.2336	0.2801	0.1153
Large Dividend Decrease	–	–	–	0.0186	0.3918	0.5056	0.0628
Repurchase Announcement	–	–	–	0.9652	0.0895	0.0777	0.1710
Seasoned Equity Offering	–	–	–	0.0420	0.0247	0.0330	0.0361
Forward Split	–	–	–	0.2745	0.0000	0.0000	0.0000
Reverse Split	–	–	–	0.7125	0.8471	0.8135	0.8907

Notes: This table presents the results of first-stage regressions. The reported F-statistics test the relevance of the instrument set in each specification. For specifications with multiple instruments (i.e., overidentified models), the Sargan-Hansen J-test p-values assess the exogeneity of the instruments by testing the validity of the overidentifying restrictions. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Since there is only one endogenous variable, i.e. board interlock, but multiple potential instruments, the overidentification of the model allows for formal tests of instrument exogeneity when more than one age threshold is used. Following the literature, I implement the Sargan–Hansen J-test and report the results in the bottom panel of Table 3 (Sargan (1958); Hansen (1982)).[22] Appendix Section C discusses the results.

Second Stage. Panel B of Table 4 presents the estimation results of Equation 4, using the Age $\geq$ 72 indicator as an instrument. In terms of dividend-related corporate actions, column 1 of Panel B shows that the presence of a board interlock causally increases the likelihood of mirroring a dividend initiation by 0.27 percentage points, a statistically significant effect at the 1% level. Although modest in absolute terms, this represents a 540% increase relative to the sample mean

[22]To compute the J-test, I first estimate the two-stage least squares regression of the mirroring action indicator (defined using a 16-quarter window in Section 3) on the endogenous interlock variable, instrumented by the specified age-based thresholds. I then regress the resulting residuals on the full set of instruments, including the same fixed effects as in the main regression. The null hypothesis is that the instruments are uncorrelated with the structural error term.

of 0.05%. Column 3 reports a statistically significant effect at the 10% level for large dividend increases: board interlocks increase the probability of mirroring such actions by 1.01 percentage points, or approximately 168% relative to the sample mean of 0.6%. For dividend terminations and large dividend decreases (Columns 2 and 4), the 2SLS estimates are positive but not statistically significant. Nonetheless, the point estimate for large dividend decreases is economically meaningful, and the associated t-statistic of 1.6 provides suggestive evidence of a potential effect. These findings suggest that directors are more inclined to mirror peers' dividend increases than cuts, in line with firms' general aversion to reducing payouts.

Table 4: The Effect of Board Interlocks on Mirroring Corporate Actions

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
Panel A: OLS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbf{1}\{\text{Interlocked}\}$	0.0000	-0.0001	-0.0009***	-0.0001	-0.0038***	-0.0018***	-0.0004**	-0.0004***
	(0.0001)	(0.0001)	(0.0003)	(0.0001)	(0.0005)	(0.0003)	(0.0002)	(0.0001)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
Sample Mean	0.0005	0.0003	0.006	0.001	0.016	0.007	0.002	0.0005
R^2	0.034	0.039	0.075	0.050	0.104	0.155	0.062	0.080
Panel B: 2SLS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0027***	0.0004	0.0101*	0.0025	0.0017	0.0064*	0.0107***	0.0005
	(0.0010)	(0.0007)	(0.0052)	(0.0016)	(0.0078)	(0.0037)	(0.0028)	(0.0009)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
Sample Mean	0.0005	0.0003	0.006	0.001	0.016	0.007	0.002	0.0005

Notes: This table reports estimates from regressions examining the effect of interlocked boards on the likelihood of firms undertaking mirroring corporate actions. The dependent variable in each column is a mirroring action indicator, equal to 1 if the responding firm within the firm-pair undertakes a given corporate action within 16 quarters after the interlocked peer firm undertook the same action. All regressions include firm-pair and industry-pair-by-quarter fixed effects. Industry-pair-by-quarter fixed effects are defined by joining the Fama-French 12 industry classifications of the two firms within each pair and interacting with the calendar quarter. Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

For equity events, the estimated mirroring effects for repurchase announcements and seasoned equity offerings are also positive, although only the latter is statistically significant at the 10% level (Column 6). The coefficient implies that board interlocks increase the likelihood of mirroring seasoned equity offerings by 0.64 percentage points, which corresponds to a 91% increase relative to the sample mean. In contrast, I find no significant causal effects for repurchase announcements. One possible explanation is that repurchases are more constrained by firm-specific cash flow conditions or managerial discretion than by peer influence. While repurchases are

flexible and discretionary, they may reflect opportunistic timing or idiosyncratic balance sheet conditions rather than coordinated behavior across firms.

For stock splits, column 7 reports a highly significant effect for forward stock splits at the 1% level, which suggests that board interlocks increase the likelihood of mirroring a forward split by 1.07 percentage points. The absolute magnitude is economically noteworthy, and equivalent to a 535% increase relative to the sample mean of 0.2%. By contrast, the estimated effect for reverse stock splits (Column 8) is small and statistically indistinguishable from zero. This result aligns with economic intuition, because reverse splits tend to be mechanical actions taken by firms to maintain compliance with stock exchange listing requirements – such as keeping the share price above the $1 minimum threshold to avoid delisting – and are likely not strategic decisions shaped by peer behavior[23]. As such, it is unsurprising that board interlocks exert no detectable causal influence on the likelihood of mirroring reverse split decisions.

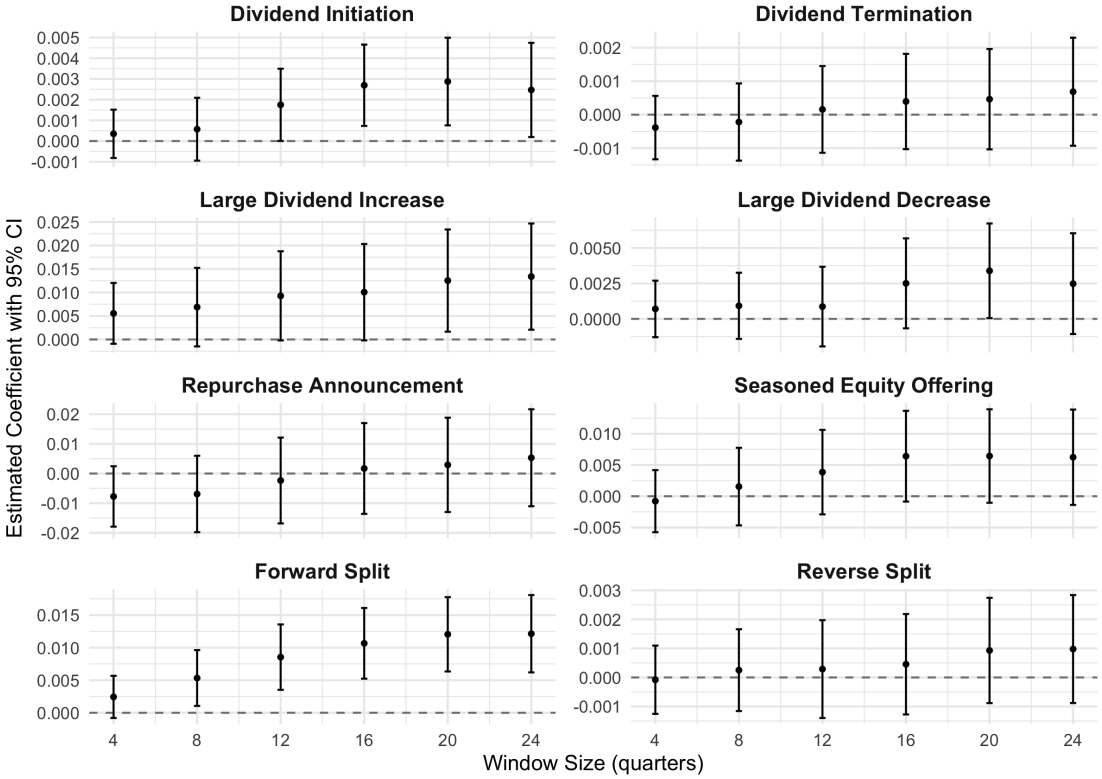
Since the 16-quarter window used to define the outcome variables may appear ad hoc, I conduct a sensitivity analysis by re-estimating Equation 4 using alternative window lengths. A mirroring action is coded as 1 if Firm B undertakes the same corporate action as its interlocked peer, Firm A, within k quarters after Firm A acts. Figure 6 plots the 2SLS estimates and 95% confidence intervals using the Age $\geq$ 72 instrument across $k \in \{4, 8, 12, 16, 20, 24\}$. The 16-quarter baseline estimates, also reported in Panel B of Table 4, are similar in magnitude and significance to those for $k = 12$ and $k = 20$, indicating that the main results are robust to the choice of window length.

Comparing 2SLS with OLS Results. Next, the 2SLS estimates are compared with the OLS estimates reported in Panel A of Table 4. The OLS coefficients are uniformly zero or negative, with several statistically significant estimates for large dividend increases, repurchase announcements, seasoned equity offerings, and both types of stock splits. These negative correlations suggest that, absent a causal identification strategy, firms with interlocked boards may appear less likely to undertake mirroring corporate actions.

The negative OLS coefficients but positive 2SLS estimates suggest the presence of negative omitted-variable bias. Unobserved strategic similarities between firms may cause them to independently undertake similar corporate actions. In such cases, firms that are already closely aligned may have less need for a formal board interlock. This endogeneity issue of latent firm-pair similarities is corrected by the IV design, because the timing of a director reaching an age threshold (e.g., 72) is plausibly independent of the underlying strategic similarity between the two firms. The 2SLS estimate identifies the local average treatment effect among compliers, i.e. firm-pairs

[23] See Nasdaq Listing Rules – 5500 Series: *Hearings and Review Process*, available at https://listingcenter.nasdaq.com/rulebook/nasdaq/rules/nasdaq-5500-series. However, some researchers claim that reverse splits are also discretionary decisions, such as Han (1995) and Peterson and Peterson (1992).

Figure 6: Sensitivity Test of IV Estimates by Event Type and Window Length



Notes: This figure plots the estimated 2SLS coefficients with 95% confidence intervals, using the age-72 instrument across different window lengths $k \in \{4, 8, 12, 16, 20, 24\}$ quarters for defining a mirroring action. A mirroring action is coded as 1 if Firm B undertakes the same corporate action as its interlocked peer, Firm A, within k quarters after Firm A acts.

whose interlock status changes due to age-based director retirements, and hence isolates the true causal impact of active interlocks on policy mirroring.

Overall, the 2SLS estimates indicate that board interlocks causally influence firms' decisions to undertake certain corporate actions. All estimated coefficients are positive, and several – most notably for dividend initiations, large dividend increases, seasoned equity offerings, and forward stock splits – are statistically significant. These actions correspond very closely to those identified as significant in the previous event-study analysis, though the 2SLS magnitudes are larger, consistent with the presence of negative selection bias observed in the OLS estimates.

5.3 Testing for Confounding Effects of Director Turnover

Because the dissolution of an interlock mechanically entails both the loss of the board link and the departure of the director, one concern is that the exclusion restriction may be violated if the instrument affects firm outcomes directly through board turnover, which changes the management structure, rather than solely through the dissolution of the interlock.

To address this concern, I conduct a placebo test using the subsample of firm pairs for which the interlock has already been broken, and regress the mirroring outcome directly on the instrument. The intuition is that if the instrument (Age $\geq$ 72) is valid only because it induces interlock

dissolution, then it should have no explanatory power for mirroring behavior once the interlock is already absent. Consistent with this logic, Table 5 shows that the instrument's coefficient is statistically insignificant in the placebo regression, indicating that, conditional on the interlock being dissolved, directors' ages above the retirement threshold no longer influence firms' propensity to mirror their peers' actions. This result supports the validity of the exclusion restriction and suggests that the IV operates through the interlock channel rather than through direct effects of director turnover.

Table 5: Placebo Test for Confounding Effects of Director Departures

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
$\mathbf{1}\{\text{Age} \geq 72\}$	-0.0001	-0.0002*	-0.0011	-0.0001	0.0008	-0.0002	-0.0004	0.0000
	(0.0001)	(0.0001)	(0.0007)	(0.0002)	(0.0010)	(0.0005)	(0.0003)	(0.0001)
Observations	585,238	585,238	585,238	585,238	585,238	585,238	585,238	585,238

Notes: This table reports results from a placebo test assessing whether the instrument affects firm behavior directly through director departures rather than through the dissolution of board interlocks. The regression sample is restricted to firm-pairs where the interlock has already been broken. All regressions include firm-pair and industry-pair-by-quarter fixed effects, and standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.4 Alternative Economic Linkages Between Firms

A potential concern is that the observed mirroring may arise from alternative inter-firm linkages rather than board interlocks. To address this, I test whether client-supplier relationships, shared exposure to hedge fund activism, or common institutional ownership explain the results. The instrumental variable is unlikely to be correlated with these alternative mechanisms. Retirement age thresholds are adopted primarily for board refreshment and succession planning rather than in response to external economic relationships. Moreover, a shared director reaching these age thresholds is unlikely to coincide with major changes in ownership structure or client-supplier relationships. Across these robustness checks, the interlock coefficients remain positive and statistically significant, with little attenuation in magnitude. These results indicate that board interlocks constitute an independent channel of influence, distinct from other common inter-firm connections.

5.4.1 Client-Supplier Relationship

Panel A of Table 6 investigates whether client-supplier relationships can account for the observed mirroring of corporate actions attributed to board interlocks. To measure client-supplier ties, I

obtain the dataset from Cohen and Frazzini (2008), which is based on the WRDS Compustat Segments database.[24] Under Statement of Financial Accounting Standards (SFAS) No.131, companies are required to disclose customers that account for more than 10% of sales at the segment level, so the dataset captures only economically significant client-supplier relationships. A firm pair is considered as linked in a given quarter if one firm was a customer or supplier of the other within the past three years. Since the data from Cohen and Frazzini (2008) only cover the period up to 2009, I restrict the sample to the years 1994–2009 for this analysis.

Specification (i) of Panel A presents the baseline second-stage estimates, where the interlock indicator is instrumented using the Age $\geq$ 72 threshold. I find that interlocked firms are significantly more likely to mirror certain corporate actions taken by their peers in the subperiod of 1994–2009. In particular, board interlocks increase the probability of mirroring dividend initiations by 0.22%, large dividend increases by 1.73%, large dividend decreases by 0.39%, and forward stock splits by 2.74%.

Specification (ii) adds a control for whether the firm pair had a client-supplier relationship within the prior three years. The interlock coefficients remain stable in both magnitude and significance, while the client-supplier variable is insignificant across all actions. These results reject the hypothesis that the observed mirroring is driven by supply-chain linkages.

5.4.2 Shared Exposure to Hedge Fund Activism

Panel B of Table 6 evaluates whether common exposure to hedge fund activism by the same fund can account for the mirroring of corporate actions attributed to board interlocks. Hedge fund activism is measured using a dataset of activist campaigns from 1994 to 2016, constructed from Schedule 13D filings that report ownership stakes of 5% or more and stated intentions.[25] According to Brav et al. (2022), activist campaigns are identified using a combination of Schedule 13D content and supplemental news and web-based searches to verify the activist nature of the filer.[26] I define a firm pair as jointly exposed to activism in a given quarter if both firms were targeted by the same activist hedge funds within the past three years.

Specification (i) shows that over the subsample period of 1994–2016, board interlocks significantly increase the probability of mirroring dividend initiations by 0.26%, large dividend decreases by 0.56%, seasoned equity offerings by 0.78%, and forward stock splits by 2.23%. The probability of mirroring large dividend increases also rises by 1.05%, although this estimate is no longer statistically distinguishable from zero.

Specification (ii) includes a control for whether both firms in the pair were targeted by the same hedge fund within the prior three years. The inclusion of this variable does not meaning-

[24] I thank Lauren Cohen for generously sharing the customer-supplier dataset.

[25] I thank Alon Brav for generously sharing the dataset on hedge fund activism.

[26] The sample excludes events involving risk arbitrage, distress financing, closed-end funds, and securities with non-standard CRSP share codes.

Table 6: Alternative Mechanism Tests for Mirroring Corporate Actions

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Client-Supplier Relationship, 1994-2009								
(i) Baseline: Only Interlocked								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0022**	0.0019	0.0173**	0.0039*	0.0090	0.0034	0.0274***	-0.0009
	(0.0011)	(0.0012)	(0.0069)	(0.0023)	(0.0102)	(0.0042)	(0.0065)	(0.0009)
(ii) With Alternative Mechanism								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0022**	0.0019	0.0173**	0.0039*	0.0090	0.0034	0.0274***	-0.0009
	(0.0011)	(0.0012)	(0.0069)	(0.0023)	(0.0102)	(0.0042)	(0.0065)	(0.0009)
Client-Supplier (3Y)	0.0002	-0.0001	0.0063	0.0000	0.0048	0.0081	0.0008	-0.0001
	(0.0002)	(0.0002)	(0.0045)	(0.0004)	(0.0055)	(0.0056)	(0.0102)	(0.0001)
Observations	493,332	493,332	493,332	493,332	493,332	493,332	493,332	493,332
Panel B: Shared Hedge Fund Activism, 1994-2016								
(i) Baseline: Only Interlocked								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0026*	0.0000	0.0105	0.0056**	0.0047	0.0078*	0.0223***	-0.0005
	(0.0014)	(0.0010)	(0.0078)	(0.0024)	(0.0108)	(0.0045)	(0.0049)	(0.0008)
(ii) With Alternative Mechanism								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0026*	0.0000	0.0105	0.0056**	0.0047	0.0078*	0.0223***	-0.0005
	(0.0014)	(0.0010)	(0.0078)	(0.0024)	(0.0108)	(0.0045)	(0.0049)	(0.0008)
Same HF Activism (3Y)	-0.0012**	0.0011	-0.0094***	-0.0017***	-0.0070*	-0.0016	-0.0051***	0.0019
	(0.0006)	(0.0010)	(0.0037)	(0.0007)	(0.0037)	(0.0013)	(0.0013)	(0.0019)
Observations	805,173	805,173	805,173	805,173	805,173	805,173	805,173	805,173
Panel C: Shared Large Institutional Owner (≥5%), 1997–2021								
(i) Baseline: Only Interlocked								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0027**	0.0002	0.0101*	0.0035*	0.0046	0.0072*	0.0129***	0.0005
	(0.0011)	(0.0009)	(0.0060)	(0.0019)	(0.0089)	(0.0042)	(0.0032)	(0.0007)
(ii) With Alternative Mechanism								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0027**	0.0002	0.0101*	0.0035*	0.0047	0.0072*	0.0129***	0.0005
	(0.0011)	(0.0009)	(0.0060)	(0.0019)	(0.0089)	(0.0042)	(0.0032)	(0.0007)
Same 5% Owner (This Q)	0.0001*	0.0000	-0.0005	0.0001	0.0009**	0.0007**	-0.0001	-0.0003***
	(0.0001)	(0.0001)	(0.0003)	(0.0001)	(0.0005)	(0.0003)	(0.0002)	(0.0000)
Observations	1,044,789	1,044,789	1,044,789	1,044,789	1,044,789	1,044,789	1,044,789	1,044,789

Notes: This table reports two-stage least squares (2SLS) estimates of the effect of board interlocks on the likelihood that a firm mirrors its interlocked peer's corporate action within a 16-quarter window. Within each panel, two separate regressions are shown: (i) a baseline specification that includes only the instrumented interlock indicator, and (ii) a specification that adds a control for the alternative mechanism. The baseline is reported to facilitate coefficient comparisons, as the sample periods differ across panels due to data availability for each alternative mechanism. All regressions include firm-pair and industry-pair-by-quarter fixed effects. Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

fully alter the magnitude or statistical significance of the interlock coefficients relative to those in Specification (i). However, the shared hedge fund activism variable itself is negative and statistically significant for several corporate actions. Specifically, when both firms have been targeted by the same hedge fund within the past three years, the probability of mirroring declines by 0.12% for dividend initiations, 0.94% for large dividend increases, 0.17% for large dividend decreases, 0.70% for repurchase announcements, and 0.51% for forward stock splits.

While interlocked directors tend to encourage convergence in corporate actions, activist hedge funds appear to push firms towards divergence. These patterns align with Brav et al. (2008) and Brav et al. (2015), who show that hedge fund activists pursue firm-specific agendas aimed at enhancing shareholder value, resulting in heterogeneous and often substantial changes in payout policy, capital structure, and capital allocation. Taken together, these findings suggest that board interlocks and hedge fund activism operate through distinct and orthogonal channels of influence on corporate decision-making.

5.4.3 Common Ownership by Institutional Investors

Panels C of Table 6 examines whether common institutional ownership can explain the observed mirroring of corporate actions attributed to board interlocks. To measure common institutional ownership, I use quarterly data from Thomson Reuters Refinitiv 13F (OP Feed), covering 1997Q1 to 2021Q4.[27] The percentage of ownership by each investor is computed by normalizing the end-of-quarter value of holdings reported by each investor against the firm's end-of-quarter market capitalization. Common institutional ownership is defined as the presence of at least one common 13F investor holding 5% or more of the outstanding shares of both firms in the same quarter. The 5% threshold is a commonly used benchmark in the literature for identifying significant ownership stakes and potential influence (e.g. He and Huang (2017)).

Specification (i) shows that during the period from 1997 to 2021, board interlocks significantly increase the likelihood of mirroring several corporate actions: dividend initiations by 0.27%, large dividend increases by 1.01%, large dividend decreases by 0.35%, seasoned equity offerings by 0.72%, and forward stock splits by 1.28%.

Adding the institutional ownership indicator in Specification (ii) of Panel C leaves the estimated effect of interlocks on mirroring behavior virtually unchanged. The coefficients on shared ownership nonetheless reveal several noteworthy patterns. As shown in Panel C, when a common institutional investor holds at least 5% of both firms' shares, the likelihood of mirroring increases by 0.01 percentage points for dividend initiations, 0.09 percentage points for repurchase announcements, and 0.07 percentage points for SEOs. In contrast, 5% shared ownership significantly reduces the probability of reverse-split mirroring, while its effect on forward splits is

[27] Under Section 13(f) of the Securities Exchange Act of 1934 and Rule 13f-1, institutional investment managers with discretion over at least $100 million in SEC-designated securities are required to report holdings via Form 13F.

statistically insignificant. These findings suggest that large institutional investors influence corporate decisions through their ownership links, consistent with Azar et al. (2018) and He and Huang (2017), but that this channel operates independently of board interlocks.

5.5 Heterogeneity Tests

In this section, I test whether the estimated mirroring effect differs by director and firm characteristics. This analysis sheds light on the channels through which interlocks facilitate mirroring behavior across firms.

For the heterogeneity tests below, I estimate the results on the firm-quarter level, using the following second stage of the 2SLS specification:

$$\begin{aligned}\text{Mirror}_{it} = \beta_1 \widehat{\text{Interlock}}_{it} + \beta_2 \widehat{\text{Interlock}}_{it} \times \text{Heterogeneity}_{it} + \beta_3 \text{Heterogeneity}_{it} \\ + \delta_j + \lambda_{g(j)t} + \nu_{it}\end{aligned} \tag{5}$$

where Mirror_{it} indicates whether the focus firm i undertakes the mirroring corporate action in quarter t. It is constructed as the product of the pair-level mirroring indicator and an indicator for whether firm i performs the corresponding action. $\widehat{\text{Interlock}}_{it}$, the fitted value from the first-stage regression, is estimated using $\mathbf{1}\{\text{Age}_{it} \geq 72\}$ as the instrument. $\text{Heterogeneity}_{it}$ measures firm i's director or firm characteristic of interest in quarter t. δ_j captures the firm-pair fixed effects of firm-pair j which firm i belongs to, and $\lambda_{g(j)t}$ captures the industry-pair-by-quarter fixed effects of firm-pair j. In this setting, each firm pair appears twice, once for each firm within the pair.

5.5.1 Interlocked Director Heterogeneity

The following director characteristics are examined. First, *busy directors*, defined as those serving on more than three boards simultaneously, are directors who may face greater time constraints and reduced attention to any single firm. Second, I examine *tenure*, distinguishing between directors with above-median tenure (four years or longer) and those with below-median tenure, to assess whether influence and experience facilitate mirroring between firms. Third, whether the shared director holds a *C-suite position* (e.g., CEO, CFO, COO) is studied, as these roles may confer greater decision-making authority and access to proprietary firm information. Finally, the analysis examines whether the director serves on the *finance committee*, which is directly involved in decisions related to the corporate actions studied in this paper.

Table 7 presents the results. Panel A shows that the interaction term $\widehat{\text{Interlock}}_{it} \times \text{Busy Director}_{it}$ is consistently negative and statistically significant for several corporate actions, including dividend initiations, large dividend increases and decreases, and forward stock splits.[28] This finding

[28]Note that Panel A is still the firm-pair level design, since the heterogeneity variable of busy board member is

implies that busy shared directors cause less mirroring, and is consistent with theories that board member busyness decreases their effectiveness by reducing oversight, due to director's limited attention (Fich and Shivdasani (2006); Falato et al. (2014)), as well as with evidence showing that busy board members engage in less mirroring (Chen et al. (2023)).

Panel B reports results on long-tenured board members. The interaction term is positive and statistically significant for several corporate actions, including large dividend decreases, repurchase announcements, and seasoned equity offerings. This suggests that interlocks involving long-tenured directors are more effective in transmitting corporate policies across firms, consistent with the view that longer tenure foster greater board influence and reputation within the firm (Adams et al. (2010); Kaplan and Reishus (1990)). Their experience might allow them to more effectively promote the diffusion of practices across firms.

Panel C examines the C-suite status of interlocked directors. With the exception of dividend initiations, where the interaction term is positive and significant at the 10% level, the coefficients for other mirroring corporate actions are small and statistically insignificant. C-suite directors are typically insiders who possess extensive firm-specific information and decision-making authority, which might allow them to rely less on external signals from interlocked firms when making corporate policy choices (Hermalin and Weisbach (1998); Raheja (2005); Adams and Ferreira (2007)); therefore, interlocks involving C-suite directors exhibit weaker mirroring effects.

Panel D examines whether serving on the finance or investment committee affects mirroring actions. The interaction term is small and mostly insignificant across corporate actions, suggesting that such committee membership does not lead to more mirroring. Finance committees are primarily responsible for overseeing firms' financing practices, advising on dividend and capital structure policies, and occasionally participating in investment-related decisions (Klein (1998)). Because major payout and financing decisions are ultimately deliberated and approved by the full board, the results suggest that diffusion channel likely operates through board-level interactions rather than solely through committee-level ones.

5.5.2 Firm Heterogeneity

In addition to director characteristics, the analysis considers firm-level attributes, particularly board structure and firm quality. Board structure is captured by *Outsider Dominated*, which equals one if the fraction of a firm's independent directors is above the sample median. Firm quality is measured using lagged one-year return on assets (ROA), logarithm of Tobin's Q, and annual stock returns.

Table 8 presents the results. Panel A of Table 8 shows that the interaction term between the interlock indicator and the outsider-dominated board indicator is positive and statistically signif-

well-defined for the director on the firm-pair level.

Table 7: Director-level Heterogeneity Effects

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Busy Director								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0063**	0.0010	0.0245**	0.0060	0.0099	0.0176*	0.0244***	0.0019
	(0.0025)	(0.0017)	(0.0125)	(0.0039)	(0.0183)	(0.0091)	(0.0068)	(0.0021)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Busy Director	-0.0018***	-0.0008	-0.0085**	-0.0024**	-0.0063	-0.0041	-0.0091***	0.0001
	(0.0007)	(0.0005)	(0.0034)	(0.0011)	(0.0050)	(0.0026)	(0.0018)	(0.0006)
Busy Director	-0.0007	0.0002	-0.0019	-0.0003	-0.0002	-0.0030	-0.0013	-0.0007
	(0.0007)	(0.0004)	(0.0027)	(0.0010)	(0.0040)	(0.0024)	(0.0016)	(0.0005)
Num.Obs.	1174243	1174243	1174243	1174243	1174243	1174243	1174243	1174243
Panel B: Long Tenure								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0015	0.0004	0.0020	-0.0014	-0.0014	0.0080*	-0.0012	0.0013
	(0.0012)	(0.0009)	(0.0046)	(0.0018)	(0.0069)	(0.0043)	(0.0026)	(0.0010)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Long Tenure	-0.0006	-0.0001	0.0005	0.0027***	0.0062**	0.0018	0.0022**	-0.0003
	(0.0006)	(0.0004)	(0.0018)	(0.0007)	(0.0027)	(0.0019)	(0.0009)	(0.0005)
Long Tenure	0.0005	0.0001	0.0000	-0.0022***	-0.0041*	-0.0015	-0.0013*	0.0003
	(0.0005)	(0.0003)	(0.0015)	(0.0006)	(0.0022)	(0.0016)	(0.0007)	(0.0004)
Num.Obs.	1502891	1502891	1502891	1502891	1502891	1502891	1502891	1502891
Panel C: C-Suite Officer								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0010	0.0000	0.0027	0.0020	0.0072	0.0104***	0.0023	0.0009
	(0.0010)	(0.0009)	(0.0045)	(0.0015)	(0.0067)	(0.0037)	(0.0026)	(0.0008)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ C-Suite Officer	0.0011*	-0.0015	-0.0028	0.0006	0.0009	0.0020	0.0011	-0.0004
	(0.0006)	(0.0019)	(0.0065)	(0.0014)	(0.0065)	(0.0043)	(0.0018)	(0.0015)
C-Suite Officer	-0.0010*	0.0013	0.0027	-0.0006	-0.0014	-0.0015	-0.0006	0.0003
	(0.0005)	(0.0016)	(0.0058)	(0.0012)	(0.0057)	(0.0038)	(0.0016)	(0.0014)
Num.Obs.	1502891	1502891	1502891	1502891	1502891	1502891	1502891	1502891
Panel D: Finance Committee Membership								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0008	0.0003	0.0025	0.0017	0.0070	0.0101***	0.0020	0.0010
	(0.0010)	(0.0008)	(0.0043)	(0.0015)	(0.0066)	(0.0037)	(0.0026)	(0.0007)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Finance Committee	-0.0001	0.0001	0.0043*	0.0013*	0.0010	-0.0005	-0.0002	-0.0002
	(0.0006)	(0.0004)	(0.0023)	(0.0008)	(0.0034)	(0.0014)	(0.0009)	(0.0003)
Finance Committee	0.0001	-0.0001	-0.0037*	-0.0011*	-0.0007	0.0009	0.0002	0.0002
	(0.0005)	(0.0003)	(0.0020)	(0.0007)	(0.0029)	(0.0012)	(0.0008)	(0.0003)
Num.Obs.	1502891	1502891	1502891	1502891	1502891	1502891	1502891	1502891

Notes: This table reports two-stage least squares (2SLS) estimates examining how director attributes moderate the effect of board interlocks on firms' mirroring of corporate actions. In Panel A, *Busy Director* equals one if the director simultaneously serves on more than three boards in a given quarter. In Panel B, *Long Tenure* equals one if the director's tenure exceeds the sample median of four years in that firm-quarter. In Panel C, *C-Suite Officer* indicates whether the director holds a top executive position (e.g., CEO or CFO) in the firm-quarter. In Panel D, *Finance Committee Member* equals one if the director sits on the firm's finance or equivalent committee responsible for capital allocation decisions. All regressions include firm-pair and industry-pair-by-quarter fixed effects. Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Firm-level Heterogeneity Effects

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Outsider-Dominated Boards								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0013**	0.0003	0.0038	0.0007	-0.0010	0.0021	0.0048***	0.0003
	(0.0005)	(0.0004)	(0.0027)	(0.0009)	(0.0041)	(0.0021)	(0.0015)	(0.0005)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Outsider Dominated	0.0002	0.0001	0.0023***	0.0008***	0.0018*	0.0005	0.0006**	0.0002
	(0.0001)	(0.0001)	(0.0006)	(0.0002)	(0.0009)	(0.0005)	(0.0002)	(0.0001)
Outsider Dominated	-0.0001	-0.0001**	-0.0014***	-0.0005***	-0.0006	-0.0004*	-0.0005***	-0.0001**
	(0.0001)	(0.0001)	(0.0003)	(0.0001)	(0.0005)	(0.0002)	(0.0001)	(0.0000)
Num.Obs.	2347599	2347599	2347599	2347599	2347599	2347599	2347599	2347599
Panel B: Profitability (Lag 1-year ROA)								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0014***	0.0003	0.0050*	0.0012	-0.0001	0.0015	0.0046***	0.0003
	(0.0005)	(0.0004)	(0.0027)	(0.0009)	(0.0041)	(0.0021)	(0.0014)	(0.0005)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Lag ROA	-0.0002	0.0002	0.0006	0.0000	-0.0066	0.0159	0.0124***	0.0037
	(0.0022)	(0.0006)	(0.0032)	(0.0014)	(0.0052)	(0.0106)	(0.0018)	(0.0043)
Lag ROA	0.0004	-0.0003	0.0011	-0.0002	0.0075***	-0.0169***	-0.0055***	-0.0036*
	(0.0012)	(0.0003)	(0.0017)	(0.0007)	(0.0027)	(0.0053)	(0.0008)	(0.0020)
Num.Obs.	2288421	2288421	2288421	2288421	2288421	2288421	2288421	2288421
Panel C: Firm Valuation (Lag 1-year Tobin's Q)								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0013**	0.0002	0.0042	0.0013	0.0006	0.0020	0.0028*	0.0003
	(0.0006)	(0.0004)	(0.0029)	(0.0010)	(0.0042)	(0.0020)	(0.0014)	(0.0005)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Log Lag Tobin's Q	0.0002	0.0003*	0.0017*	0.0000	-0.0004	0.0004	0.0039***	0.0001
	(0.0002)	(0.0002)	(0.0009)	(0.0003)	(0.0015)	(0.0009)	(0.0006)	(0.0002)
Log Lag Tobin's Q	-0.0002*	-0.0003***	-0.0004	-0.0001	0.0013	0.0000	-0.0007**	-0.0006***
	(0.0001)	(0.0001)	(0.0005)	(0.0002)	(0.0008)	(0.0005)	(0.0003)	(0.0001)
Num.Obs.	2314000	2314000	2314000	2314000	2314000	2314000	2314000	2314000
Panel D: Past Stock Returns (Lag 1-year Annual Returns)								
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0014***	0.0003	0.0050*	0.0013	-0.0003	0.0021	0.0049***	0.0004
	(0.0005)	(0.0004)	(0.0027)	(0.0009)	(0.0041)	(0.0019)	(0.0014)	(0.0004)
$\mathbf{1}(\widehat{\text{Interlocked}}) \times$ Lag Stock Return	-0.0001	0.0011	-0.0103	0.0010	-0.0090	-0.0006	-0.0019	0.0010
	(0.0004)	(0.0011)	(0.0076)	(0.0010)	(0.0065)	(0.0038)	(0.0025)	(0.0017)
Lag Stock Return	0.0001	-0.0007	0.0050	-0.0005	0.0051*	-0.0006	0.0018*	-0.0012
	(0.0002)	(0.0005)	(0.0033)	(0.0005)	(0.0028)	(0.0016)	(0.0011)	(0.0007)
Num.Obs.	2213629	2213629	2213629	2213629	2213629	2213629	2213629	2213629

Notes: This table reports two-stage least squares (2SLS) estimates examining how firm characteristics moderate the effect of board interlocks on firms' mirroring of corporate actions. In Panel A, *Outsider Dominated* equals one if the fraction of the firm's independent directors are above median. Panel B interacts interlock status with *Lag 1-year ROA*, which is a measure of profitability. Panel C interacts interlock status with the *Logarithm of Lag 1-year Tobin's Q*. Panel D interacts interlock status with *Lag 1-year Stock Returns*. All regressions include firm-pair and industry-pair-by-quarter fixed effects. Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

icant for several corporate actions, including large dividend increases, large dividend decreases, repurchase announcements, and forward stock splits. This pattern suggests that interlocks are more effective in transmitting corporate policies when the focal firm's board is dominated by independent directors. Directors can broadly be categorized as insiders, i.e. firm executives such as the CEOs or CFOs, and outsiders, i.e. independent board members who do not hold managerial positions but instead monitor management on behalf of shareholders. Raheja (2005) argues that inside directors contribute valuable firm-specific knowledge to board deliberations but may have distorted incentives due to private benefits and dependence on the CEO, whereas outside directors provide more objective oversight but possess less detailed information about the firm's internal constraints and opportunities. Consistent with theories of herd behavior (Banerjee 1992) and peer effects (Manski 1993), which predict that agents are more likely to imitate peers when private signals are imprecise, as well as with the endogenous board formation framework of Hermalin and Weisbach (1998), these results suggest that outsider-dominated boards, having limited access to proprietary information, are more likely to rely on external information transmitted through interlocks when making corporate policy decisions.

Panels B through D of Table 8 examine whether firm quality, measured by profitability (lagged ROA), valuation or growth prospects (lagged Tobin's Q), and past stock returns, affects the strength of interlock-driven mirroring. Across all three panels, the interaction terms between the interlock indicator and these firm-level characteristics are generally small and statistically insignificant, with the exception of forward splits, suggesting that firm fundamentals do not materially moderate the diffusion of corporate actions through interlocks. Taken together with the results from Panel A, these findings are consistent with the idea that outsider-dominated boards, lacking proprietary insider knowledge, may rely less on firm-specific information and more on external information transmitted through interlocks when doing corporate actions.

6 Asset Pricing Implications

While the preceding analyses document that corporate actions diffuse through board interlocks, it is unclear whether investors pay attention to these inter-firm board links that drive mirroring corporate actions. In this section, I employ the board interlocks setting to test for investor inattention (Cohen and Frazzini (2008); Hong and Kacperczyk (2009)). If board interlocks are neglected by investors and limits to arbitrage exist, then buying stocks whose interlocked peer firm initiated an action and shorting comparable stocks could yield abnormal returns.

Testing for investor inattention requires that the overlooked information be publicly available ex-ante and salient enough that rational investors could reasonably be expected to incorporate it. In the context of board interlocks, both conditions are satisfied. Public firms are required by law to report each director's current board memberships and past professional experience in

their filings[29], making board interlocks ex-ante observable to investors. In terms of salience, many board connections are long-standing relationships through which directors make strategic decisions that influence future stock returns and cash flows. Investors should therefore take these relationships into account.

6.1 Time Series Return Analysis

I form portfolios using matched treated and control firms and conduct time-series return analyses at the monthly level. While trading frequencies in practice range from intra-minute intervals to annual horizons, this paper adopts a monthly portfolio updating frequency. This frequency mirrors the rebalancing approach of many quantitative institutional investors, and represents a practical compromise between the reduced transaction and trading costs associated with lower-frequency updates and the improved timeliness of higher-frequency updates (Novy-Marx and Velikov (2016); Green et al. (2017)).

For each corporate action, I construct monthly interlock-treated portfolios using firms whose interlocked peers initiated the same action within the preceding 48 months. A 48-month (16-quarter) investment horizon captures the long-term abnormal return dynamics, and also aligns with the event study's window length in Section 4. Because institutional investors typically concentrate trading in more liquid securities, value-weighted returns are calculated for these portfolios to mitigate the disproportionate influence of microcap stocks (Hou et al. (2015); Green et al. (2017)). The weights are based on each stock's end-of-month market capitalization from the prior month. Matched control portfolios are likewise formed using the value-weighting method.

To examine the price impact of board interlocks on stock returns, I employ two methodologies. The first is the Capital Asset Pricing Model (CAPM), which provides a benchmark for assessing abnormal performance relative to market risk:

$$R_{i,t} - R_{c,t} = \alpha + \beta_1 \left(R_{m,t} - R_{f,t}\right) + \varepsilon_t, \tag{6}$$

where $R_{i,t}$ is the return on the interlock-treated portfolio i in month t, $R_{c,t}$ is the return on the portfolio of matched control firms, $R_{m,t} - R_{f,t}$ is the excess return on the value-weighted market portfolio, and ε_t is the error term. Standard errors are adjusted for serial correlation using the Newey-West method (Newey and West (1987)).

The second model extends the CAPM to include additional factors commonly associated with cross-sectional return variation. Specifically, I estimate the Fama-French-Carhart four-factor

[29]Item 401(e) of Regulation S-K, promulgated under the Securities Exchange Act of 1934, mandates that firms "briefly describe the business experience during the past five years" of each director and executive officer named in the filing. This disclosure is typically provided in the company's annual proxy statement (Form DEF 14A) or incorporated by reference into the Form 10-K.

model (Fama and French (1993); Carhart (1997)):

$$R_{i,t} - R_{c,t} = \alpha + \beta_1 (R_{m,t} - R_{f,t}) + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 MOM_t + \varepsilon_t, \tag{7}$$

In this specification, SMB_t captures the return premium for small-cap stocks, HML_t captures the value premium associated with high book-to-market firms, and MOM_t represents the momentum factor. The intercept α in both the CAPM and Carhart specifications provides a measure of long-term abnormal performance.

Since the factor loadings of the interlock-treated portfolio may vary over time, I estimate the return regressions over rolling three-year windows and then average the resulting coefficients across these periods to obtain the final estimates.

Table 9 presents the estimates, where Panel A reports the CAPM coefficients and Panel B the Carhart model coefficients. Panel A shows that buying stocks whose interlocked peers undertake large dividend increases, large dividend decreases, and forward splits, and shorting their matched controls, generates significant abnormal returns of 11, -15, and -49 basis points per month, respectively.

Panel B shows that after controlling for size, value, and momentum factors, buying interlock-treated firms and shorting comparables following large dividend increases (12 bps, 1% significance) and seasoned equity offerings (11 bps, 5% significance) of their peers generate positive abnormal returns. Conversely, dividend initiations (-15 bps, 10% significance), dividend terminations (-18 bps, 1% significance), and forward stock splits (-29 bps, 10% significance) all exhibit negative alphas. Among these five corporate action types that yield significant abnormal returns, four of them correspond to the significant coefficients in Section 5's IV results on mirroring behavior. The significantly negative alpha for dividend terminations likely reflects the return skewness and large negative price reactions when the mirroring of such events indeed occurred.

Based on the table, the most robust abnormal returns – those that remain statistically significant across both the CAPM and Carhart specifications – are those of large dividend increases and forward stock splits. These two corporate actions also correspond to the statistically significant coefficients in the IV results for mirroring behavior. The long-short portfolio following large dividend increases delivers a positive abnormal return of 12 basis points per month (approximately 2.4% annually). In contrast, the long-short portfolio for forward splits generates a negative abnormal return of 29 basis points per month (about 3.5% annually). These results reject the null hypothesis of no return predictability, and imply that investor inattention to board interlocks exists, especially for corporate actions where mirroring behavior is strong.

Table 9: Time-Series Returns of Monthly Long-Short Portfolios

	Dependent Variable: Long-Short Portfolio Return in Each Corporate Action							
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: CAPM, VWLS								
ALPHA	-0.0012	-0.0009	0.0011**	-0.0015**	0.0003	0.0006	-0.0049**	-0.0009
	(0.0010)	(0.0006)	(0.0004)	(0.0007)	(0.0005)	(0.0004)	(0.0020)	(0.0006)
Mkt.RF	-0.1093***	-0.0413***	-0.1864***	-0.1594***	-0.1380***	-0.0512**	-0.1946***	-0.0167
	(0.0191)	(0.0159)	(0.0199)	(0.0242)	(0.0134)	(0.0234)	(0.0363)	(0.0263)
Panel B: Carhart Model, VWLS								
ALPHA	-0.0015*	-0.0018***	0.0012***	-0.0011	0.0006	0.0011**	-0.0029*	0.0005
	(0.0009)	(0.0006)	(0.0004)	(0.0007)	(0.0005)	(0.0004)	(0.0015)	(0.0007)
Mkt.RF	-0.0721***	0.0242	-0.1208***	-0.0906***	-0.0967***	-0.0131	-0.1833***	-0.0026
	(0.0153)	(0.0185)	(0.0202)	(0.0272)	(0.0201)	(0.0164)	(0.0532)	(0.0337)
SMB	-0.0523**	-0.1754***	-0.2738***	-0.1394***	-0.2263***	-0.2641***	-0.1006***	-0.1709***
	(0.0251)	(0.0384)	(0.0229)	(0.0273)	(0.0205)	(0.0217)	(0.0387)	(0.0211)
HML	0.1779***	-0.0111	0.1339***	0.1913***	0.0818***	-0.0411	0.2214***	-0.105**
	(0.0284)	(0.0216)	(0.0234)	(0.0245)	(0.0218)	(0.0358)	(0.0506)	(0.0517)
Mom	0.0568**	0.0834***	0.0729***	0.0424	-0.0079	0.0302	0.0016	0.0028
	(0.0253)	(0.0267)	(0.0181)	(0.0266)	(0.0212)	(0.0256)	(0.0333)	(0.0204)

Notes: This table reports the average coefficients from time-series regressions of long-short portfolio returns on the CAPM and the Fama-French-Carhart four-factor model (Carhart (1997)). The long-short strategy goes long in firms whose interlocked peer undertook a specific corporate action within the past 48 months and short in a matched control firm that did not share a board connection. For each of the eight corporate actions, value-weighted monthly portfolios of interlock-treated firms are constructed. Each regression is estimated using a rolling 36-month window over the sample period. Standard errors are adjusted for serial correlation using Newey-West corrections (Newey and West (1987)). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6.2 Heterogeneity of Returns

Having established evidence of investor inattention, I next examine whether this effect varies across the market's reaction to the initiating firm's corporate action announcement. When the initiating firm's announcement is rewarded by the market but investors overlook the board interlock, its interlocked peer's stock price may not adjust immediately but could exhibit similar gains relative to the control firm over time, generating return predictability. Conversely, if the market responds negatively to the initiating firm's action, the interlocked firm may also underperform relative to its matched control.

Table 10 presents Carhart four-factor model estimates for the value-weighted excess returns of the interlock-treated portfolios relative to the matched control portfolios, conditioning on the announcement day return of their interlocked peers. Panel A shows the results for events where the initiating firm experienced a positive event-day return, while Panel B shows those with a negative return.

Table 10: Time-Series Returns of Monthly Long-Short Portfolios, Conditioning on Interlocked Peer Announcement Day Return

	Dependent Variable: Long-Short Portfolio Return in Each Corporate Action							
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Positive Interlocked Peer Event Day Return								
ALPHA	-0.0024*	0.0013	-0.0003	-0.0001	0.0013***	0.0014	-0.0026*	0.0016
	(0.0013)	(0.0011)	(0.0010)	(0.0010)	(0.0004)	(0.0009)	(0.0013)	(0.0018)
Mkt.RF	0.061	-0.0539	-0.139***	0.0096	-0.0224	0.067**	-0.1116	-0.1497**
	(0.0596)	(0.0353)	(0.0365)	(0.0429)	(0.0236)	(0.0330)	(0.0738)	(0.0639)
SMB	0.0046	-0.0971*	-0.303***	-0.2375***	-0.1611***	-0.2097***	-0.0486	-0.1001**
	(0.0530)	(0.0560)	(0.0288)	(0.0445)	(0.0245)	(0.0341)	(0.0444)	(0.0510)
HML	0.2192***	0.0547	0.2278***	0.1187**	0.069**	-0.0411	0.2652***	-0.161**
	(0.0443)	(0.0339)	(0.0328)	(0.0510)	(0.0287)	(0.0473)	(0.0634)	(0.0720)
Mom	0.1142**	0.051	0.0401	0.1036***	-0.0078	0.0501	0.0137	-0.0017
	(0.0529)	(0.0311)	(0.0382)	(0.0327)	(0.0218)	(0.0313)	(0.0391)	(0.0415)
Panel B: Negative Interlocked Peer Event Day Return								
ALPHA	-0.0010	-0.0048***	0.0011	-0.0018**	-0.0011	0.0008	-0.0002	0.0016
	(0.0016)	(0.0012)	(0.0007)	(0.0009)	(0.0008)	(0.0006)	(0.0010)	(0.0012)
Mkt.RF	-0.1139***	0.1019***	-0.0685***	-0.1327***	-0.069**	0.0221	-0.1561***	-0.0267
	(0.0343)	(0.0272)	(0.0202)	(0.0439)	(0.0345)	(0.0203)	(0.0347)	(0.0447)
SMB	-0.1391***	-0.1038	-0.2357***	-0.1597***	-0.1423***	-0.194***	-0.2058***	-0.057
	(0.0385)	(0.0695)	(0.0326)	(0.0424)	(0.0301)	(0.0276)	(0.0749)	(0.0538)
HML	0.1916***	-0.0174	0.1416***	0.3243***	0.1496***	0.0302	0.0531	-0.0233
	(0.0569)	(0.0356)	(0.0315)	(0.0457)	(0.0348)	(0.0420)	(0.0610)	(0.0522)
Mom	0.0664**	0.110***	0.1476***	0.0653	0.0027	0.015	0.091**	-0.007
	(0.0310)	(0.0337)	(0.0277)	(0.0487)	(0.0373)	(0.0381)	(0.0423)	(0.0288)

Notes: This table reports the average coefficients from time-series regressions of long-short portfolio returns on the Fama-French-Carhart four-factor model (Carhart (1997)). Panel A conditions on positive event-day returns of the interlocked peer. Panel B conditions on negative event-day returns. Each regression uses value-weighted portfolios based on prior-month market capitalization. Event-day returns are defined as follows: announcement dates for dividend initiations, large dividend increases and decreases, and stock splits; initial authorization dates (board approvals) for repurchase announcements; issuance dates for SEOs; and the projected next dividend announcement date for dividend terminations based on prior dividend issuance frequencies. If multiple events occur within the same month, the return from the first event date is used. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

In Panel A, the risk-adjusted abnormal returns (alphas) are generally small and statistically insignificant across most corporate actions, with the exception of repurchase announcements, where the alpha is positive (13 bps) and significant at 1% level, and dividend initiations and forward stock splits, where the alphas are negative (-24 bps and -26 bps) and significant at the 10% level. In contrast, Panel B shows that when the initiating firm's announcement day return is negative, the estimated alphas are either negative (-48 bps for dividend terminations and -18 bps for large dividend decreases) or statistically indistinguishable from zero. Taken together, although interlock-treated firms tend to earn positive (negative) abnormal returns when their peer's action is rewarded (penalized) by the market, this pattern is not uniform in all cases. Overall, the existence

of abnormal returns suggest the presence of investor inattention.

7 Robustness Checks

7.1 2SLS Results with Additional Age IVs

In addition to estimating the 2SLS model using only the Age ≥ 72 instrument, this paper considers alternative instrument sets that include Age ≥ 70 and Age ≥ 72, as well as all three thresholds (Age ≥ 70, 72, and 75). The results, presented in Appendix Table A5, continue to show large and statistically significant effects for dividend initiations and forward stock splits. However, the estimates for large dividend increases and seasoned equity offerings become statistically insignificant under these alternative specifications.

7.2 Testing for General Activity Bias

To assess whether the mirroring effects documented in the IV section merely reflect that interlocked firms are generally more active in undertaking corporate actions, I re-estimate Equation 4 by replacing the dependent variable with an *either-firm-action* indicator. This indicator equals one in quarters when either firm in the pair initiates the action, regardless of whether it follows the other firm's prior behavior. If the main results were driven by a broad propensity for interlocked firms to take more actions in general, one would expect positive and significant effects across many corporate actions in this falsification exercise.

The results in Appendix Table A6 show little evidence of such a pattern. Most coefficients are economically small and statistically indistinguishable from zero, indicating that interlocks do not systematically increase overall corporate activity. The only two exceptions are large dividend increases and decreases, where the coefficients are positive and statistically significant.

8 Conclusion

This paper presents the first comprehensive causal analysis on how board interlocks influence a broad set of common corporate actions that directly affect shareholder value. By exploiting mandatory retirement age policies as a plausibly exogenous source of variation, this paper finds that when two firms share the same directors, they are more likely to mirror one another's dividend initiations, large dividend increases, equity issuance, and forward stock splits. In addition, board interlocks are orthogonal to other common inter-firm connections, including customer-supplier relationships, common institutional ownership, shared exposure to hedge fund activism, and within-industry competition. Consistent with corporate finance theories, long-tenured outside

directors drive the mirroring actions between firms. They might hold substantial sway in board decisions due to their experience, yet their limited firm-specific knowledge due to outsider status might lead them to depend more on external information sources, including those transmitted through board interlocks. From an asset-pricing perspective, interlock-driven corporate actions produce economically meaningful return patterns, as shown in calendar-time portfolio regressions with value-weighted returns. The persistence of these abnormal returns is inconsistent with the efficient market hypothesis and suggests investor inattention to board interlocks.

These findings contribute to and extend several strands of the corporate finance and asset pricing literature. First, they add to the literature on CEO and director effects, by exploring the cross-firm impact of directors (Bertrand and Schoar (2003)). Second, this paper contributes to the classic view of dividends, repurchases, and equity issuance as signals of firm fundamentals (e.g. Myers and Majluf (1984); Fama and French (2001)) by showing that these actions can also diffuse across firms via director networks. Third, they highlight that director networks are not merely correlated with firm outcomes, but causally shape corporate financial policies. Fourth, the asset-pricing evidence links this study to the broader literature on return predictability and the "factor zoo" (e.g., Fama and French (1993); Hou et al. (2015); McLean and Pontiff (2016)), as well as to research on post-event return anomalies (Michaely et al. (1995); DeAngelo et al. (2009)).

Several directions for future research remain open. One promising avenue is to examine the welfare implications of interlock driven mirroring, whether such diffusion enhances shareholder value by transmitting efficient corporate strategies or inefficient ones across firms. Understanding these effects has important policy implications: if interlock-driven diffusion contributes to capital misallocation or amplifies correlated corporate behavior, regulators may need to revisit governance standards on board interlocks, disclosure requirements, or director independence to balance the benefits of information sharing against potential risks of collusive behavior. Future work could also explore how interlock-driven mirroring interacts with other governance mechanisms, such as institutional investor monitoring or director succession planning, and whether these forces amplify or constrain the transmission of corporate actions. Extending the analysis to other firm level outcomes, such as capital investment, employment, ESG practices, or political engagement, could further illuminate the broader economic consequences of inter-firm board networks.

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Appendices

A Additional Notes and Tables

Table A1: Summary Statistics of Interlocked Firm-Pair and Firm-Level Characteristics, 1994–2023

	N	Mean	SD	p10	p25	Median	p75	p90
Panel A: Firm-Pair-Qtr Variables – Board Interlocks and Director Age								
Indicator: Firm Pair is Interlocked	1,174,243	0.502	0.500	0	0	1	1	1
Shared Director Age	1,174,243	65.052	9.919	52.5	58.75	65	71.5	77.75
Indicator: Shared Director Age (≥ 70)	1,174,243	0.301	0.459	0	0	0	1	1
Indicator: Shared Director Age (≥ 72)	1,174,243	0.235	0.424	0	0	0	0	1
Indicator: Shared Director Age (≥ 75)	1,174,243	0.154	0.361	0	0	0	0	1
Indicator: Shared Director is Busy	1,174,243	0.445	0.497	0	0	0	1	1
Panel B: Firm-Pair-Qtr Variables – Mirroring of Corporate Actions (16Q Window)								
Mirror: Dividend Initiation	1,174,243	0.0005	0.022	0	0	0	0	0
Mirror: Dividend Termination	1,174,243	0.0003	0.016	0	0	0	0	0
Mirror: Large Dividend Increase ($\geq 20\%$)	1,174,243	0.006	0.077	0	0	0	0	0
Mirror: Large Dividend Decrease ($\geq 20\%$)	1,174,243	0.001	0.030	0	0	0	0	0
Mirror: Share Repurchase Announcement	1,174,243	0.016	0.125	0	0	0	0	0
Mirror: Seasoned Equity Offering	1,174,243	0.007	0.083	0	0	0	0	0
Mirror: Forward Stock Split	1,174,243	0.002	0.048	0	0	0	0	0
Mirror: Reverse Stock Split	1,174,243	0.0005	0.022	0	0	0	0	0
Panel C: Firm-Pair-Qtr Variables – Alternative Linkages								
Customer–Supplier Link (Past 3Y)	493,332	0.001	0.029	0	0	0	0	0
Shared Hedge Fund Target (Past 3Y)	805,173	0.001	0.037	0	0	0	0	0
Shared 5% Institutional Owner (This Q)	1,044,789	0.347	0.476	0	0	0	1	1
Panel D: Firm-Pair-Qtr Variables – Industry Relatedness								
Same Fama-French 12 Industry	1,174,243	0.263	0.440	0	0	0	1	1
Same SIC-4 Industry	1,174,243	0.069	0.254	0	0	0	0	0
Panel E: Firm-Qtr Variables – Interlocked Firm Financials								
Total Assets ($billion)	2,348,486	36.652	181.775	0.136	0.571	2.887	13.780	53.707
Return on Assets (ROA)	2,346,953	-0.008	0.083	-0.070	-0.006	0.008	0.020	0.034
Tobin's Q	2,342,264	2.072	1.182	1.043	1.227	1.653	2.485	3.896
Book Leverage Ratio	2,348,464	0.203	0.183	0	0.059	0.172	0.295	0.435
Market Capitalization ($billion)	2,345,282	16.207	64.968	0.106	0.424	1.962	9.087	34.217
Market-to-Book Ratio	2,345,278	1.576	1.194	0.475	0.741	1.179	2.030	3.426
Stock Return (Past 1Y)	2,284,596	0.093	0.477	-0.448	-0.203	0.033	0.294	0.713
Panel F: Firm-Qtr Variables – Shared Director Characteristics								
Fraction of Insider Directors on the Board	2,347,599	0.162	0.093	0.083	0.100	0.125	0.200	0.286
Tenure in Current Position (Years)	1,502,891	5.711	5.461	0.750	1.750	4	8	13
Indicator: C-suite Membership	1,502,891	0.058	0.234	0	0	0	0	0
Indicator: Member of Finance Committee	1,502,891	0.144	0.351	0	0	0	0	1

Notes: Panels A–D report summary statistics at the firm-pair-quarter level. The sample consists of firm pairs that have ever shared exactly one board member. Panel A presents the main endogeneous variable for whether the interlock is active in a given quarter, along with associated instrumental variables based on the age of the shared director. Busy director is whether the interlocked director sits on more than three boards. Mirroring variables in Panel B measure whether firm i undertakes a corporate action within 16 quarters after a peer firm j with a shared director does so. Panel C includes alternative economic linkages that may account for correlated actions between firms. Panel D captures industry similarity.

Panels E and F report firm-level characteristics, with each observation corresponding to one firm in a firm-pair-quarter. Panel E includes financial variables calculated from Compustat, with stock return calculated from CRSP data. The detailed definitions are reported in the Appendix. ROA is top- and bottom-coded at -1 and 1, respectively. The book leverage ratio is constrained to lie within the interval $[0, 1]$. Tobin's Q, the market-to-book ratio, and stock returns are winsorized at 95% level. Panel F presents governance characteristics of shared directors based on BoardEx.

Table A2: First Stage Estimates and Instrument Validity Tests, with Additional Age Controls

	Age IV: 70	Age IV: 72	Age IV: 75	Age IV: 70 & 72	Age IV: 70 & 75	Age IV: 72 & 75	Age IV: 70, 72, 75
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\mathbf{1}\{\text{Director Age} \geq 70\}$	-0.0907***			-0.0327***	-0.0880***		-0.0400***
	(0.0042)			(0.0038)	(0.0041)		(0.0037)
$\mathbf{1}\{\text{Director Age} \geq 72\}$		-0.1437***		-0.1265***		-0.1292***	-0.1067***
		(0.0047)		(0.0044)		(0.0045)	(0.0039)
$\mathbf{1}\{\text{Director Age} \geq 75\}$			-0.1013***		-0.0975***	-0.0572***	-0.0631***
			(0.0050)		(0.0050)	(0.0047)	(0.0047)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
R^2	0.692	0.694	0.692	0.694	0.693	0.695	0.695
Adj. R^2	0.679	0.681	0.678	0.681	0.680	0.681	0.682
Within R^2	0.024	0.031	0.023	0.031	0.028	0.032	0.033
Within Adj. R^2	0.024	0.031	0.023	0.031	0.028	0.032	0.033
FE: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Industry-Pair×Quarter	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Std.Err Cluster: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Instrument Relevance Test							
F-statistic	477.05	938.39	404.21	470.94	376.06	472.16	314.40
Instrument Exogeneity Test							
J-test p-value for Mirror Action in:							
Dividend Initiation	–	–	–	0.0599	0.5672	0.0428	0.0738
Dividend Termination	–	–	–	0.2064	0.1948	0.5650	0.4847
Large Dividend Increase	–	–	–	0.0569	0.4306	0.0274	0.0252
Large Dividend Decrease	–	–	–	0.0301	0.3648	0.1815	0.0534
Repurchase Announcement	–	–	–	0.1243	0.3459	0.4708	0.6062
Seasoned Equity Offering	–	–	–	0.0618	0.0443	0.4546	0.2035
Forward Split	–	–	–	0.0004	0.0326	0.0353	0.1095
Reverse Split	–	–	–	0.4347	0.2028	0.4346	0.6068

Notes: This table presents the results from first-stage regressions that instrument the endogenous interlock indicator using director age thresholds derived from common mandatory board retirement policies. Each regression includes a control variable for director age. Instruments are indicators equal to one if the shared director in a firm-pair exceeds the stated age threshold in a given quarter.

The reported F-statistics test instrument relevance. For overidentified specifications (multiple instruments), Sargan–Hansen J-test p-values assess exogeneity of the instruments (validity of overidentifying restrictions). The J-test is not reported for just-identified models (single instrument).

All regressions include firm-pair and industry-pair-by-quarter fixed effects (industry defined by the Fama–French 12 classification for each firm in the pair, interacted with quarter). Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: The Effect of Board Interlocks on Mirroring Corporate Actions, with Age Controls

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
2SLS Results	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0014**	0.0001	0.0030	0.0012	-0.0061	0.0032	0.0038**	0.0002
	(0.0007)	(0.0005)	(0.0036)	(0.0011)	(0.0053)	(0.0024)	(0.0017)	(0.0006)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
R^2	0.034	0.039	0.075	0.050	0.104	0.154	0.061	0.079
FE: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Industry-Pair×Quarter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Std.Err Cluster: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports estimates from regressions examining the effect of interlocked boards on the likelihood of firms undertaking mirroring corporate actions. Each regression includes a control variable for director age. The dataset is on the firm-pair-quarter level, and restricted to firm-pairs that ever shared one board member at most since the board interlock formation. The dependent variable in each column is a mirroring action indicator, equal to 1 if the responding firm within the firm-pair undertakes a given corporate action within 16 quarters after the interlocked peer firm undertook the same action.

The table presents two-stage least squares (2SLS) estimates, where $\mathbf{1}(\text{Interlocked})$ is instrumented by an indicator of whether the shared board member exceeds the age of 72. All regressions include firm-pair and industry-pair-by-quarter fixed effects and additional control variable for director age. Industry-pair-by-quarter fixed effects are defined by joining the Fama-French 12 industry classifications of the two firms within each pair and interacting with the calendar quarter. Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Definitions of Financial Variables Used

Variable	Definition and Source
Total Assets ($billion)	Obtained from Compustat item `atq`. Reported in billions of dollars.
Return on Assets (ROA)	Calculated from Compustat as `niq`/`atq`, at quarterly frequency.
Tobin's Q	Computed as (`atq`+`market_cap`−`ceqq`−`txdbq`)/`atq`. Market capitalization (`market_cap`) is introduced below.
Book Leverage Ratio	Computed from Compustat as (`dlttq` + `dlcq`)/`atq`.
Market Capitalization ($billion)	Computed as the shares outstanding (`shrout`) times the closing price (`prc`) at the end-of-quarter obtained from CRSP. Reported in billions of dollars.
Market-to-Book Ratio	Computed as (`market_cap` + `dlcq` + `dlttq`)/`atq`. This definition follows a similar idea as in Chang and Dasgupta (2009).
Stock Return (Past 1Y)	Computed as the percentage change in market capitalization over the past four quarters: (`market_cap`$_t$ − `market_cap`$_{t-4}$)/`market_cap`$_{t-4}$.

Table A5: 2SLS Estimates of Board Interlocks on Mirroring Corporate Actions Using Alternative Instruments

	Mirroring Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
Panel A: 2SLS								
(IV: Age $\geq$ 70 and 72)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0021**	0.0006	0.0069	0.0012	0.0016	0.0039	0.0098***	0.0006
	(0.0009)	(0.0007)	(0.0051)	(0.0015)	(0.0077)	(0.0035)	(0.0027)	(0.0008)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
R^2	0.034	0.039	0.075	0.050	0.104	0.154	0.058	0.079
FE: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Industry-Pair×Quarter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Std.Err Cluster: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: 2SLS								
(IV: Age $\geq$ 70, 72 and 75)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0019**	0.0004	0.0061	0.0011	-0.0016	0.0025	0.0073***	0.0005
	(0.0009)	(0.0007)	(0.0047)	(0.0015)	(0.0072)	(0.0033)	(0.0024)	(0.0008)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
R^2	0.034	0.039	0.075	0.050	0.104	0.154	0.060	0.079
FE: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Industry-Pair×Quarter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Std.Err Cluster: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports 2SLS estimates from regressions examining the effect of board interlocks on the likelihood of firms undertaking mirroring corporate actions. The dependent variable is an indicator for whether the responding firm in a pair undertakes the same corporate action within 16 quarters after its interlocked peer.
Panel A uses two age-based instruments: indicators for whether the shared director exceeds age 70 or 72. Panel B expands the instrument set to include an indicator for age $\geq$ 75. These instruments exploit variation from mandatory retirement policies across firms to identify exogenous changes in board interlock status.
All regressions include firm-pair and industry-pair-by-quarter fixed effects. Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Activity Bias Falsification Test: Effect of Board Interlocks on Either Firm's Corporate Actions, 2SLS Estimates

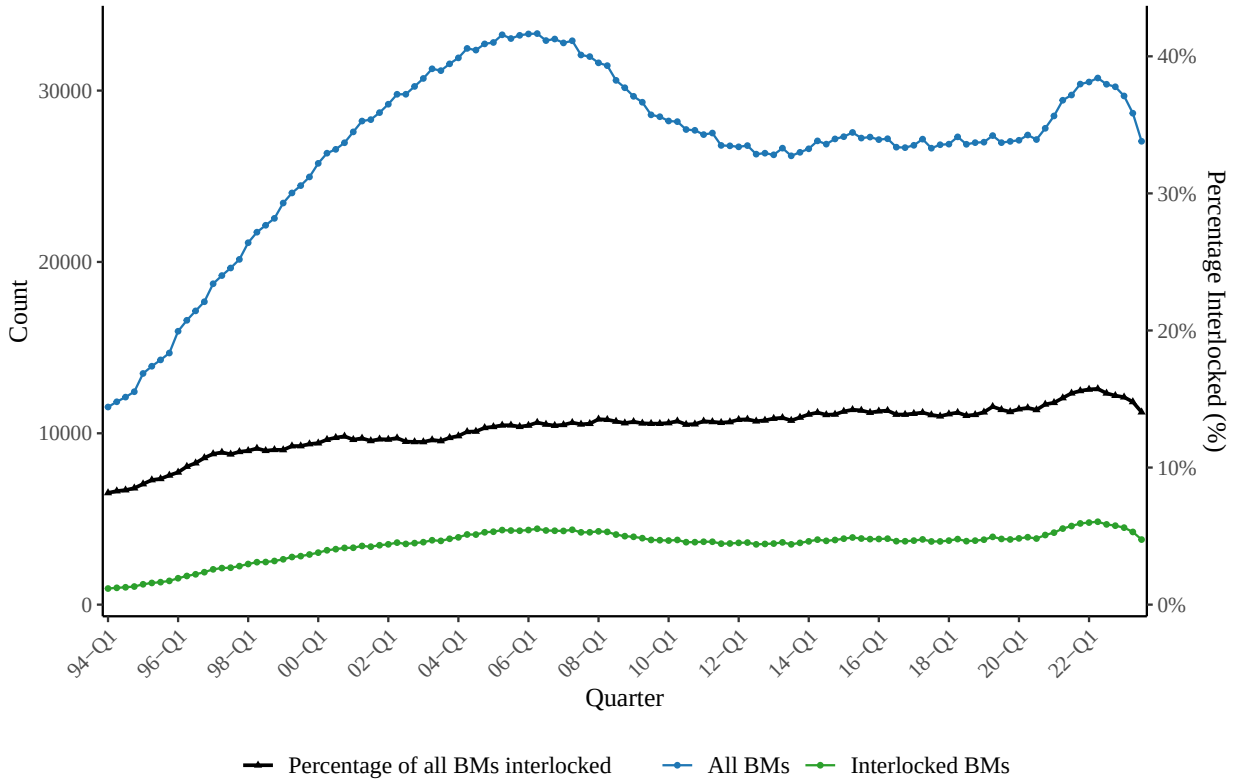
	Either-Firm Action in:							
	Dividend Events				Equity Events		Stock Splits	
	Dividend Initiation	Dividend Termination	Large Dividend Increase	Large Dividend Decrease	Repurchase Announce--ment	Seasoned Equity Offering	Forward Split	Reverse Split
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbf{1}(\widehat{\text{Interlocked}})$	0.0008	0.0023	0.0182**	0.0200***	-0.0066	-0.0134	0.0019	0.0042
	(0.0036)	(0.0032)	(0.0092)	(0.0047)	(0.0110)	(0.0086)	(0.0051)	(0.0030)
Observations	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243	1,174,243
R^2	0.052	0.074	0.091	0.093	0.100	0.131	0.082	0.085
FE: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Industry-Pair×Quarter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Std.Err Cluster: Firm-Pair	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports 2SLS estimates from regressions at the firm-pair–quarter level evaluating whether interlocked boards increase the likelihood that *either firm in the pair* undertakes a given corporate action in quarter t. The dependent variable, *either-firm-action*, equals 1 in quarter t if *either* firm in the pair initiates the specified action in that quarter; by construction, it does *not* check whether one firm's action occurs after the other's within any k-quarter window. Corporate actions include four dividend events (initiation, termination, large increase, large decrease), two equity events (share repurchase announcement and seasoned equity offering), and two types of stock splits (forward and reverse).

The endogenous regressor $\mathbf{1}(\text{Interlocked})$ is an indicator equal to 1 if the two firms share a common board member in quarter t. It is instrumented by an indicator that the shared director is age ≥ 72, leveraging plausibly exogenous interlock dissolutions driven by mandatory retirement policies. All specifications include firm-pair and industry-pair-by-quarter fixed effects (industries defined by joining the Fama–French 12 classifications of the two firms and interacting with calendar quarter). Standard errors are clustered at the firm-pair level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

B Additional Figures

Figure B1: BoardEx Public Firms Total Director and Interlocked Director Count, 1994–2023

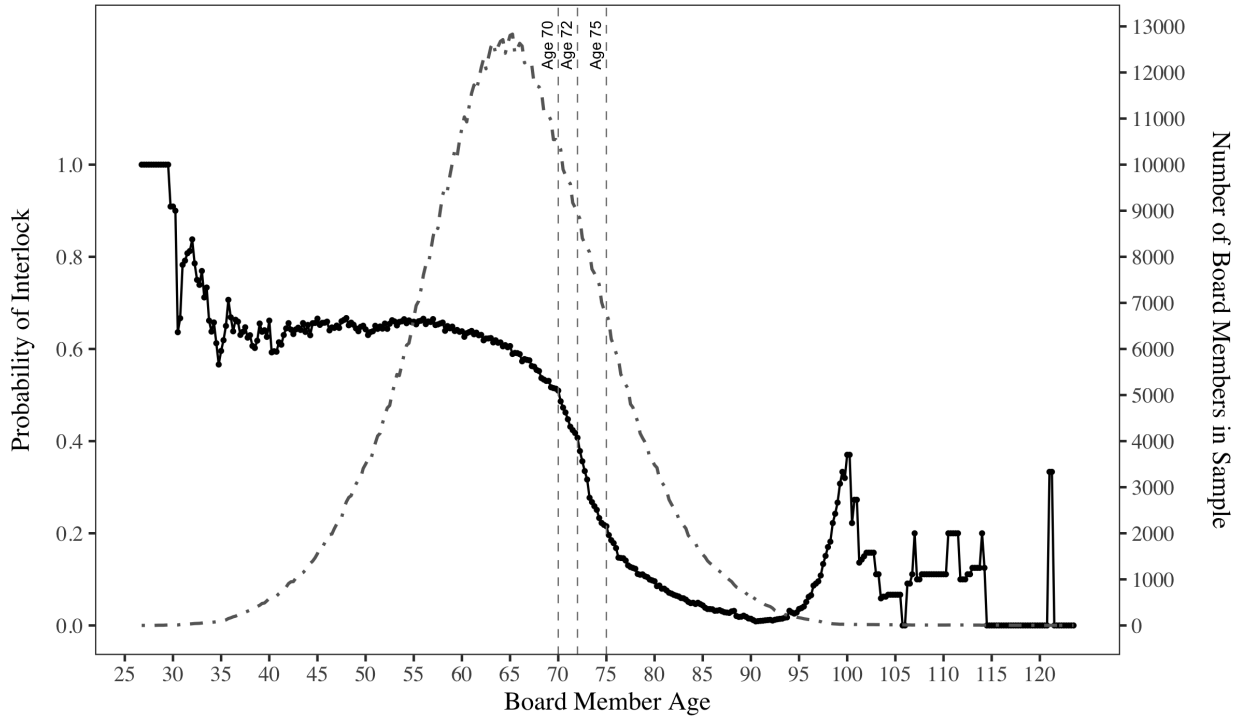


Notes: This figure shows the quarterly counts of board members (blue) and interlocked board members (green), as well as the percentage of interlocked board members (black), based on the BoardEx-Compustat matched sample from 1994Q1 to 2023Q3. Interlocked board members are defined as individuals who simultaneously serve on the boards of two or more public firms in the sample.

Figure B2: Quarterly Frequency of Corporate Action Occurrences, 1994–2023, 1994–2023

Notes: This figure shows the quarterly counts of corporate actions at the firm level, excluding utilities and financial firms, using the Compustat firm sample from 1994Q1 to 2023Q3. Repurchase announcements and SEO data come from SDC Platinum.

Figure B3: Interlock Probability and Sample Size by Board Member Age



Notes: This figure shows how the probability of board interlock varies with board member age (black solid line) for the entire age range observed in the main analysis sample. This probability calculated as the number of interlocked board members of that age divided by the total number of board members of that age. The gray dashed line represents the number of board members at each age, peaking around age 65. Vertical dashed lines mark common retirement thresholds at ages 70, 72, and 75.

C J-test Discussion

The J-test results from Table 3 are discussed in this section. To compute the J-test, I first estimate the two-stage least squares regression of the mirroring action indicator with the 16-quarter window (defined in Section 3) on the endogenous interlock variable, instrumented by the specified age-based instruments. I then regress the residuals on the same set of instruments, including the same fixed effects as in the main regression. The null hypothesis is that the instruments are uncorrelated with the structural error term; the test statistic follows a χ^2 distribution with degrees of freedom equal to $m - 1$, where m is the number of instruments used. The J-test is not reported for just-identified models, i.e., when only one instrument is used.

For many corporate actions, including dividend initiation, dividend termination, and reverse stock splits, the p-values across specifications generally exceed the 10% threshold, supporting the validity of the instruments in these contexts. However, the J-test results do vary across instrument combinations for other mirroring corporate action types.

For large dividend increases and decreases, the J-tests suggest that at least one of the instruments based on the Age $\geq$ 70 and Age $\geq$ 72 thresholds violates the exclusion restriction. As shown in Column 4 of Table 3, the J-test p-value falls below 5% when using only these two instruments, indicating that at least one may influence dividend policy through channels unrelated to board interlocks. In contrast, when Age $\geq$ 75 is included in the instrument set—either with Age $\geq$ 70 or Age $\geq$ 72—the p-values increase substantially, and the null hypothesis of instrument exogeneity can no longer be rejected. Comparing Column 5 (using Age $\geq$ 70 and 75) to Column 6 (using Age $\geq$ 72 and 75), the latter yields a higher p-value, suggesting that the Age $\geq$ 70 instrument is more likely to violate the exclusion restriction than the Age $\geq$ 72 instrument in the context of large dividend changes.

For repurchase announcements, Column 4 (using Age $\geq$ 70 and Age $\geq$ 72) yields a J-test p-value of 0.9652, indicating strong support for instrument validity. However, when the Age $\geq$ 75 indicator is included, either with Age $\geq$ 70 (Column 5) or with Age $\geq$ 72 (Column 6), the p-values fall to 0.0895 and 0.0777, respectively. These marginally significant values raise concerns about potential violations of the exclusion restriction when Age $\geq$ 75 is used in combination with only one of the lower age thresholds. In contrast, when all three thresholds (Age $\geq$ 70, 72, and 75) are included as instruments (Column 7), the p-value rises to 0.1710, suggesting no evidence of a violation. This pattern implies that the inclusion of Age $\geq$ 75 may be problematic in some specifications, but that its effect may be mitigated when used jointly with both lower thresholds.

For seasoned equity offerings, the J-test consistently yields p-values below 10% across all specifications in Columns 4 to 7. This does not imply that all instruments are invalid, but rather that the overidentification test detects correlation between the instruments and the structural error term for at least one included instrument. A plausible explanation is that directors nearing or surpassing mandatory retirement thresholds may influence capital structure decisions directly, independent of their effect on board interlocks. For example, impending board turnover may prompt firms to initiate seasoned equity offerings before a long-tenured or influential director departs, either to align with their preferences, protect their

legacy, or complete a capital restructuring plan. In addition, retirement-driven governance changes can signal changes in strategic direction or perceived stability, which in turn could affect the timing or likelihood of equity issuance. Since SEOs often involve considerations such as market timing, investor signaling, and dilution management, they may be particularly sensitive to changes in board composition and leadership dynamics.

For forward stock splits, using only the Age ≥ 70 and Age ≥ 72 instruments yields a J-test p-value of 0.2745, indicating no evidence of a violation of the exclusion restriction (see Column 4 of Table 3). However, when the Age ≥ 75 instrument is added to the set, the p-values drop sharply towards 0. These results suggest that the Age ≥ 75 instrument may directly affect stock split decisions through channels unrelated to board interlocks. Its inclusion appears to introduce endogeneity, and its use should therefore be avoided when estimating the causal impact of interlocks on forward split behavior.