

Older and Wiser, or Too Old to Govern?

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Abstract

We show that elderly independent directors aged 65 or above are associated with monitoring deficiencies. Elderly independent directors are more likely to be absent from board meetings than their counterparts. Firms with greater presence of such directors are associated with higher CEO compensation, more earnings management and financial misreporting, a lower sensitivity of CEO turnover to performance, and a lower level of total payout. These firms also experience lower announcement-period stock returns when they make acquisitions. We also find that investors react negatively to appointments of old independent directors and company bylaw changes that would increase director mandatory retirement age. Finally, firms with a greater presence of old independent directors on their boards display significantly poorer performance.

1. Introduction

The board of directors is at the center of the policy debate on corporate governance. While the corporate governance reforms and regulations since early 2000s have largely focused on the improvement of board independence, boardroom age limit has recently drawn attention from various interested constituencies. According to a recent report issued by Spencer Stuart, an executive search consulting firm, the past decade has witnessed a notable trend towards older boards at U.S. public corporations. Specifically, the average age of independent directors of S&P 500 companies rose to 63.1 in 2014, from 61.7 in 2009 and 60.5 in 2004. Another alarming fact is that 45% of S&P 500 companies' boards now have an average age of 64 or older, compared with 16% of boards a decade ago. As the number of boards with elderly members will likely continue to grow, it becomes increasingly important to understand the consequences, if any, of boardroom aging. In this study, we investigate whether director age influences how an independent director performs his or her monitoring duty and how boardroom aging affects the effectiveness of boards in corporate decision making and shareholder value creation.

The issues related to director age are nuanced and defy simple formulas. On the one hand, elderly independent directors can be valuable assets to a board for a couple of reasons. First, elderly independent directors likely have developed useful industry knowledge and connections over the course of their careers and are more likely to possess deep knowledge about the company on whose boards they sit. Their expertise and networks can enable them to better understand the firm's operations and help overcome the challenges facing managers. For example, Community Bancorp in 2011 raised its director retirement age from 70 to 72, saying it feared "the premature loss of active board members who have valuable knowledge and insight about the company's history, operations and local markets."¹ In 2009, a similar desire to retain key board talent persuaded UAL Corporation to boost its mandatory retirement age from 73 to 75 and Goldman Sachs from 72 to 75.² Second, older directors, especially those who have retired from their full-time jobs, may have less time constraint and greater availability to fulfill the obligations and challenges associated with their directorships. Though not their focus,

¹http://articles.chicagotribune.com/2012-04-10/business/ct-biz-0411-retirement-age--20120410_1_retirement-age-board-members-middlefield-board

² <http://www.wsj.com/articles/SB10001424052748703905404576164791847168546>

Falato et al. (2014) find that higher director age helps to alleviate the adverse stock price reaction to interlocked directors' attention shock, possibly because older directors have more time to focus their attention on board responsibilities than their younger counterparts.

On the other hand, the effectiveness of a director's monitoring function may decline as he or she gets older. First, as people age, their talent and vigor decline. An older director may not be able to keep pace with the latest industrial or technological innovations which are increasingly playing a crucial role in a company's long-term success. Second, vested in old-school strategies, old independent directors may be slow or reluctant to adapt to changing environments, causing the firm to lose valuable investment opportunities. Third, older directors may have served longer terms on the board which may compromise their independence. As old directors become more acquainted with managers, they may become more sympathetic to the challenges and difficulties that managers face, and hence more lenient when they perform the monitoring duty. Fourth, compared to young directors, old directors may have greater incentives to enjoy quiet life. As directors age, their expected remaining tenure in the directorship market gets shorter. Therefore, the expected payoff from future opportunities in the director labor market may not be enough to cover the costs they need to incur now to build a reputation as diligent guardians for shareholders. In addition, older directors also have less to lose from future labor market opportunities as they approach the end of their careers in the director labor market. As a result, old directors might seek to maximize current incomes by accepting as many board seats but not making enough efforts, jeopardizing the effectiveness of board monitoring.

These potential issues associated with boardroom aging have already triggered significant shareholder concerns. For example, in 2010 two prominent active investors, Relational Investors LLC and the California State Teachers' Retirement System, together launched a proxy contest over Occidental Petroleum Corp, partly because Occidental waived the retirement-age rule for two directors.³ In early 2015, Coca-Cola Company announced the retirement of two longtime directors, James D. Robinson III, 79 years old, and Peter V. Ueberroth, 77. This board restructuring plan at Coca-Cola also came amid pressure from shareholders as the company failed to meet its revenue growth targets and shareholders believe that old directors who lack nimbleness in the fast-growing market should step

³ <http://www.wsj.com/articles/SB10001424127887323551004578441192135940694>

down as the company needs to attract younger consumers.⁴

To test the competing conjectures developed above, we analyze a sample of S&P 1500 firms during the period of 1998-2014 and investigate how the presence of old independent directors affects the effectiveness of board monitoring of corporate policies and decisions. To begin, we need to decide how old is too old. As pointed out by Jenter and Lewellen (2015), research in labor economics shows that a disproportional fraction of workers retire at the age of 65. This effect cannot be fully explained by monetary incentives, including Social Security benefits or Medicare, but possibly by behavioral reasons related to customs or social norms. Jenter and Lewellen (2015) use the age of 65 as the normal CEO retirement age. Similarly, we define an independent director as “old independent director” (OID) if he or she is at least 65 years old.⁵ We construct a measure *Older-than-64 directors (%)*, the fraction of all independent directors who are OIDs, to capture the extent of boardroom aging. We do not use alternative measures such as the median and average age, which may mask the distribution of age among independent directors. We only focus on independent directors since the monitoring responsibility generally falls upon independent directors, not gray or inside directors.

We first conduct a director-level analysis by comparing the board meeting attendance records of OIDs with those of non-OIDs, because attending board meetings is the primary channel through which directors fulfill their oversight function and obtain up-to-date information about the firm’s operations and financial conditions. After controlling for other observable director characteristics as well as firm financial and governance variables, we find that OIDs exhibit significantly poorer board meeting attendance records. Specifically, OIDs are 20% more likely than their young counterparts to miss more than 25% of board meetings. This evidence suggests that OIDs have less incentives or capabilities to provide adequate monitoring of management.

We next examine how the presence of OIDs on corporate boards influences the effectiveness of board monitoring in several key areas of corporate policies and decision making: CEO compensation, financial reporting quality, CEO turnover decisions, company acquisition decisions, and payout policies. We find a set of consistent evidence that support the monitoring deficiencies by OIDs. Specifically, we find that as the percentage of OIDs on corporate boards rises, excess CEO compensation increases.

⁴ <http://www.wsj.com/articles/two-coca-cola-directors-to-retire-amid-board-renovation-1424381549>

⁵ Results are qualitatively similar if we use 70 as the cutoff.

More interestingly, such increase is not driven by equity-based compensation, but by the significant increase in the cash components of CEO pay. A greater presence of OIDs on corporate boards is also associated with lower financial reporting quality, measured either by performance-adjusted abnormal accruals or by the likelihood of intentional financial misrepresentation. In terms of CEO turnover decisions, we find that OIDs are associated with significantly lower CEO turnover-performance sensitivity. This result suggests OIDs are more lenient when replacing poorly performing managers. As for company acquisition decisions, we show that acquirer returns are lower when they have a greater fraction of OIDs sitting on their boards. Finally, we find that OIDs are associated with less generous payout policies, especially when the firm has more excess cash on its balance sheet.

In further analysis, we assess the overall impact of OIDs on firm performance. We find that firm performance, measured either by return on assets (ROA) or Tobin's q , is significantly lower when firms have a greater fraction of OIDs on their boards. This result, together with the findings from the investigations on specific corporate decisions, supports the conjecture that OIDs have monitoring deficiencies that impair the effectiveness of board oversight of management.

A potential issue that could cloud our inference is the endogeneity problem. Specifically, the presence of OIDs on corporate boards may be determined by the potential supply of and demand for OIDs, which themselves can have direct impacts on the corporate decision outcomes and firm performance. For example, it is possible that firms appointing or retaining more old independent directors have poor corporate governance to begin with or are run by CEOs intent on consuming private benefits and avoiding board oversight. These firm and managerial attributes could be responsible for the corporate policies and outcomes we observe. We use a number of approaches to address the endogeneity issue. First, we include firm-fixed effects in all firm-level regressions to control for time-invariant firm-specific unobservable factors that may correlate with both the presence of OIDs and our corporate outcome variables and firm performance measures. Second, we employ an instrumental variable regression approach where we instrument our OID measure with a measure of the potential supply of old directors. Knyazeva, Knyazeva, and Masulis (2013) show that the supply of directors in the local labor market has a significant impact on a firm's ability to hire qualified independent directors. Following their argument, we use the number of executives and directors aged over 65 at firms

headquartered in the same state as the sample company as the instrument for our OID measure. We find that all the results from firm-level analyses continue to hold using two-stage least squares regressions.

Third, for our firm performance analysis, we conduct a modified difference-in-difference test in which we use the governance reforms in early 2000s as a potential exogenous shock to the structure and compositions of boards of public corporations. SOX, as well as the new listing requirements implemented by NYSE and Nasdaq in early 2000s, requires all public firms to have the majority of board members being independent. As these corporate governance reforms and regulations drastically increase the demand for independent directors, some firms may encounter difficulties in recruiting qualified independent directors and hence have to tap into the pool of older candidates. This analysis confirms the negative impact of OIDs on firm performance.

Finally, we conduct two event studies, one on OID appointment announcements and the other on the announcement of company bylaw changes that would increase the mandatory retirement age for directors. We find that shareholders react negatively to both types of events. Specifically, the average 3-day cumulative abnormal return (CAR) when firms appointment OIDs is -0.197%, while the median is -0.217% and both numbers are statistically significant. When firms change bylaws to increase director retirement age, the 3-day CAR has mean of -0.62% and median of -0.685%. Again, both numbers are significantly different from zero.

Our study contributes to the literature on boards of directors by identifying age as another director characteristic that influences an independent director's ability to fulfill his or her monitoring duty. Many prior studies related to corporate boards include director age mostly as a control variable in their analyses, and they usually use the mean age of (independent) directors when doing so. The extant evidence regarding the effect of director age on corporate outcomes is also quite mixed. Faleye (2007) finds that the director age has a negative relation with Tobin's Q while Fracassi and Tate (2012) find that such relation only exists for firms with poor governance. Cai and Sevilir (2012) find that director age has a positive effect on acquirer announcement returns. Both Fracassi and Tate (2012) and Khorana et al. (2007) find no effect of director age on merger frequency while Ahn and Walker (2007) find an inverse relation between director age and spinoff. In contrast, we construct a measure that more aptly captures the extent of the presence of old independent directors on corporate boards, and provide a

comprehensive analysis of the consequences of the growing phenomenon of boardroom aging. As the debate over director age limit is likely to continue among the media, activist shareholders, and regulators, our findings of negative impacts of OIDs on the effectiveness of board monitoring carry timely and important policy implications.

The rest of the paper is organized as follows. Section 2 describes the procedures for sample construction and reports sample summary statistics. Sections 3 compares the board meeting attendance records and key committee involvement between old independent directors and younger ones. Section 4 examines the effects of old independent directors on various corporate policies and firm performance. Section 5 investigates the stock price reactions to announcements of old independent director appointments and director retirement policy changes. Section 6 concludes.

2. Sample Construction

We start with the universe of firms in the Institutional Shareholder Services (ISS, formerly RiskMetrics) database, which covers firms in the S&P 1500 index. Our sample period is from 1998 to 2014, since prior to 1998 some important director information such as director shareholdings and the number of major company board seats is largely missing. We merge the ISS sample with COMPUSTAT and CRSP to obtain financial and stock returns data. We remove dual class firms where board monitoring is unlikely to matter. We also remove observations with incomplete key financial or governance variables.

While analyzing the ISS database, we discover pervasive errors in our key variable, director age, after 2005. What alerted us of these errors is that based on the ISS information, the median director age increase is 3 from 2005 to 2006, but 0 from 2006 to 2007. We then find cases in which a director's age is, for example, 63 in 2005, but 66 in 2006 and 66 in 2007. This occurs to more than half of the observations in 2006 and 2007. We further find that for directors that entered the database in 2006 and after, the age in ISS is often different from the age in the firm's proxy statement, with the difference usually between one and three years. It is not clear how these errors happened, but we speculate they were probably caused by ISS's data collection methodology change in 2006. We manually checked the director age for a random sample of firms prior to 2006 and did not find the presence of measurement

errors. Because there is no systematic way we can fix the errors, we manually verify and correct the age information for all directors that entered the ISS database during the period 2006-2014 using the proxy statement information. For directors that entered the ISS database prior to 2006, we use their pre-2006 age information to figure out their age for later years. All of our analyses are based on the corrected director age information.

Table 1 displays the sample frequency distribution by year. The median independent director age increases monotonically. The average percentage of independent directors who are 65 or older shows an upward trend, especially in the last decade. The percentage of firms whose boards are dominated by old independent directors is also increasing notably. By the year 2014, the median firm has 50% independent directors who are 65 or older.

We compare the attributes of independent directors at the cutoff of age 65. Table 2 reports the univariate analysis of independent director attributes. It's no surprise that older-than-64 directors are more likely to be retired. They have higher appointment age and longer tenure than directors below age 65. They're less likely to be co-opted, i.e., appointed after the current CEO assumed office. Older-than-64 directors have higher ownership but are less likely to be blockholders. Old independent directors hold more board seats and do not have more financial expertise. Old independent directors are more likely to be former employees of the firms while they're less likely to be CEOs or executives of other firms.

Table 3 presents summary statistics of key financial, governance and outcome variables. All continuous variables are winsorized at their 1st and 99th percentiles to reduce the influence of outliers. We control for an array of board characteristics that could also influence firm decisions and firm performance. Alongside director age, a closely related issue that has also provoked debate is director tenure. Long-serving, entrenched board members may have lost outside perspective and make it harder to bring in fresh oversight, though a recent study by Dou et al. (2015) find evidence supporting improved governance by independent directors with extended tenure. Director age and tenure are likely to be correlated. To account for director tenure and isolate the effects of director age, in all regressions, we control for the percentage of independent directors who have at least 15 years of tenure. We also control for Fama French 48 industry fixed effects and year fixed effects.

3. Analysis of Board Meeting Attendance and Board Committee Service

Earlier studies consistently find that director age has a positive relation with the number of directorships or committee memberships (Masulis and Mobbs, 2014; Adams and Ferreira, 2009; Ferris et al., 2003). But director age has a negative effect on the probability of gaining additional board seats and a positive effect on losing current board seats (Masulis and Mobbs, 2014; Bouwman, 2011; Ferris et al., 2003; Coles and Hoi, 2003).

In this section, we conduct director-level tests to assess the monitoring effectiveness of old independent directors. First, we examine whether old independent directors have poor board meeting attendance records. Second, we examine whether old independent directors are appointed to time-consuming committees and take on committee chair positions.

3.1. Board Meeting Attendance

Board behavior is largely unobservable, but publicly listed firms in the U.S. are required to disclose a director's board meeting attendance record in their annual proxy filings. The level of disclosure is limited to whether a director attended less than 75% of board meetings during a fiscal year. We obtain the board meeting attendance information from ISS for all independent directors. Given its adverse reputational consequences, only 1.4% of independent directors in our sample exhibit this attendance problem. Specifically, we estimate a regression where the dependent variable, *Attend_less75_pct*, is equal to one if an independent director attended less than 75% of a firm's board meetings, and zero otherwise. The key explanatory variable is an indicator variable equal to one if a director is aged 65 or above. We control for director attributes, firm financial and governance characteristics.

The regression results are presented in Table 4. The key indicator variable *Older-than-64* is positive in all regressions, though it's not statistically significant when director fixed effects are included. This is not surprising since missing more than 25% of board meetings is rare. For Model (1), the average marginal effect of *Older-than-64* is 0.003. It suggests that the probability of an independent director aged 65 or above missing more than 25% of board meetings is 0.3 percentage points higher than that of an independent director aged below 65. This evidence is economically significant in light of the unconditional mean of meeting absence at 1.4%.

For the director attribute variables, we observe that independent directors who are CEOs of other

firms, directors with more board seats and shorter tenure are significantly more likely to miss board meetings. For the firm-level control variables, we find that directors are more likely to miss board meetings in smaller firms and firms with larger boards.

Board meetings are an important mechanism for outside directors to participate in a firm's governance. Our examination of board meeting attendance yields results indicative of old directors' monitoring deficiencies. Absence from board meetings is one potential channel through which old independent directors could undermine board effectiveness.

3.2. Board Committee Service

Another measure of a director's contribution of time and energy is board committee service. We study old independent directors' membership and chairmanship on the four committees: audit, compensation, nominating and governance. We then focus on audit and compensation committees that are viewed as more time-consuming.

The regression results are reported in Table 5. Consistent with prior studies (e.g. Masulis and Mobbs, 2014), we find that independent directors who are 65 or older have more committee memberships and are more likely to serve as committee chairmen. They are more likely to have simultaneous membership on both the audit committee and the compensation committee. And they are also more likely to take on chair positions on the two committees.

However, when we control for director fixed effects, we find that independent directors aged at 65 or above are less likely to serve on the audit committee and the compensation committee simultaneously. They are also significantly less likely to take on committee chair positions, especially the two more time intensive committees. The unconditional mean of chairmanship on the audit or compensation committees is 0.240. For Model (8), the average marginal effect of *Older-than-64* is -0.048, representing a 20% decrease (-0.048/0.240) in the probability of being chairmen on the two committees.

Across directors, old independent directors are more likely to staff committees and serve as chairmen. However, for the same director, he/she is less likely to take on chair positions and serve on the audit and compensation committees when he/she ages beyond 65. The distinction underlies the importance of controlling for director fixed effects. Given the potentially greater demand upon directors' effort from committee chairmanship and committee service on both the audit and compensation

committees, our results suggest that old independent directors avoid time-consuming roles in board committees.

4. Old Independent Directors and Corporate Policies

4.1. Analysis of CEO Compensation

In this section, we examine whether the presence of old independent directors affects CEO compensation level and structure. Setting CEO pay is one of the most important board decisions. To the extent that ineffective monitoring by old independent directors allows for more managerial self-interest behavior, we expect firms with more old independent directors to pay CEOs higher but tie CEO pay to firm performance in a weaker way. Core et al. (1999) find a positive effect of the percentage of older-than-69 outside directors on CEO total pay and cash pay but no effect on pay mix, where their sample consists of only 495 observations over a 3-year period for 205 publicly traded U.S. firms. Dou et al. (2015) find that the average age of independent directors, as a control variable, does not significantly affect CEO total compensation.

We obtain CEO compensation data from Execucomp. We removed firm-year observations in which CEOs have been in office for less than one year, since the compensation received by these CEOs is for a partial fiscal year. Given that members on the compensation committees are responsible for setting CEO pay, we further measure old independent directors' presence on the compensation committee by *Older-than-64 directors (%) - on compensation committee*. It is calculated as the number of older-than-64 independent directors on the compensation committee divided by the total number of compensation committee members.

The regression results are reported in Table 6. Firms with more old independent directors pay CEO more. As regards the pay structure, CEOs at these firms receive a higher percentage of cash compensation and a lower percentage of equity compensation. More importantly, the coefficient on *Older-than-64 directors (%) - on compensation committee* carries the same sign as *Older-than-64 directors (%)*. The effect of old independent directors holds with the inclusion of firm fixed effects. In an unreported robustness test, we also use the Black-Scholes delta of CEO compensation as an

alternative pay-performance sensitivity measure⁶. We find qualitatively similar results that CEOs at firms with more old independent directors have lower delta.

The evidence in this section suggests that old independent directors on the compensation committee lead to an inefficiently high level of overall CEO pay. They also weaken CEO incentives through a larger weight on cash pay and a smaller weight on equity pay. These results reinforce the notion of poor monitoring by old independent directors.

4.2. Analysis of Earnings Management and Restatements

One of independent directors' major responsibilities is to oversee financial statements and ensure the integrity of financial reporting. In this section, we examine whether the presence of old independent directors increases a firm's propensity to manipulate earnings. Anderson et al. (2004) examine how board characteristics affect accounting report integrity and thus the cost of debt, and find no evidence that average age of all directors affects the cost of debt. But Anderson et al. (2004) didn't directly test whether director age is associated with earnings management. Dou et al. (2015) use average age of independent directors as a control variable and find no significant relation to restatements. By contrast, we examine whether the presence of elderly independent directors makes a firm's financial reports more questionable.

Our primary proxy for earnings management is the performance-adjusted discretionary accruals measure of Kothari et al. (2005). A firm's discretionary accruals are defined as the difference between its total accruals and the fitted normal accruals derived from a modified Jones model (Jones, 1991).

We also infer earnings manipulation from observing "extreme" outcomes in which the manipulation requires future restatement. Our restatement sample is obtained from the Audit Analytics (AA) restatements database. The AA database covers all SEC registrants who have disclosed a financial statement restatement in electronic filings. AA defines restatement as a revision of previously filed financial statements as a result of an error, fraud or GAAP principle misapplication. The database excludes revisions due to changes in accounting principles such as adoption of SFAS 123R and changes in presentation as a result of mergers/acquisitions. From the database, we identify the beginning date

⁶ Delta is defined as the change in the value of the CEO's total portfolio of stocks and options for a 1% change in stock price.

and end date of a misreported period. If multiple filings correct the same underlying misstatement, they are considered as a single restatement observation.

Restatements can be classified into irregularities (intentional misreporting) and accounting errors (unintentional misstatements). We follow Hennes et al. (2008) to identify irregularities. Hennes et al. (2008) classify a restatement as an irregularity if it satisfies at least one of the three criteria: (i) variants of the words “irregularity” or “fraud” were explicitly used in restatement announcements or relevant filings in the four years around the restatement; (ii) the misstatements came under SEC or DOJ investigations; and (iii) independent investigations were launched by boards of directors of restating firms.

Given the importance of the audit committee in overseeing a firm’s financial reports, we further measure old independent directors’ presence on the audit committee by *Older-than-64 directors (%) - on audit committee*. It’s calculated as the number of older-than-64 independent directors on the audit committee divided by the total number of audit committee members.

The regression results are reported in Table 7. Firms with more old independent directors have higher levels of discretionary accruals and a higher likelihood of financial restatements and irregularities. More importantly, the variable *Older-than-64 directors (%) - on audit committee* is also positive and statistically significant. Old independent directors on the audit committee lead to weakened board oversight over financial reporting as firms commit more misstatements. The effect of old independent directors holds in the firm fixed effects regression. The average marginal effect of *Older-than-64 directors (%) - on audit committee* in Model (8) is 0.021, suggesting that a one standard-deviation increase in old directors’ presence on the audit committee leads to a 0.625 percentage point increase in the probability of intentional misreporting. This figure is economically meaningful given that the unconditional probability of intentional misreporting in our sample is only 4.0%.

The results from this section suggest that the integrity of accounting reports is undermined when more old independent directors sit on the audit committee. The evidence supports the hypothesis that old independent directors are associated with lax monitoring and fail to curtail aggressive managerial reporting.

4.3. Analysis of CEO Turnovers

CEO retention is another major board decision that reflects monitoring effectiveness. We hypothesize that old independent directors fail to discipline and replace poorly performing CEOs. The CEO turnover data are from Jenter and Kanaan (2015) and cover the period from 1998 to 2007. There are a total of 309 forced CEO turnovers. Unconditionally, it translates into a 2.4% probability of forced CEO turnover in a given firm-year.

We estimate a model where the dependent variable is equal to one if a firm experiences a forced CEO turnover in a given year and zero otherwise. We use accounting returns ROA over the previous fiscal year as our main performance metric. As an alternative performance measure, we also use stock returns over the previous fiscal year.⁷

The regression results of forced CEO turnovers are reported in Table 8. The variable of interest is the interaction term between *Older-than-64 directors (%)* and *Performance*. The interaction term captures the effect of old director presence on CEO turnover-performance sensitivity. We also control for other governance variables and their interactions with firm performance. When firm fixed effects are included, the explanatory power comes from the variation within each firm. Therefore the model drops firms with no forced CEO departures within the sample period, reducing the sample size.

We find that the interaction term is positive and statistically significant across all specifications. That means the CEO turnover-performance sensitivity is weaker for firms with more old independent directors. To see the economic impact, we calculate the implied probabilities of forced departure derived from the regression coefficients. Specifically, we calculate the difference in implied probability when *Performance* changes from the 25th percentile to the 75th percentile (the interquartile range). Take Model (1) as an example. When all independent directors are aged below 65 (i.e. *Older-than-64 directors (%)=0*), the difference in implied probability of forced turnover is 0.015, which represents a 64% change. When all independent directors are aged 65 or above (i.e. *Older-than-64 directors (%)=1*), the difference in implied probability is 0.007, which represents a 23% change. Overall, the evidence is consistent with the notion that old independent directors fail to actively discipline underperforming CEOs and thus facilitate managerial entrenchment.

⁷ Stock returns incorporate investors' belief about the probability of future CEO turnovers and thus may introduce a forward-looking bias (Weisbach, 1988).

4.4. Analysis of Dividend and Repurchase

In this section, we examine a firm's payout policy. When firms have exhausted their investment opportunities, they should return the excess cash to shareholders in the forms of dividends and stock repurchases. However, distribution of free cash flows to shareholders will reduce the resources under CEOs' control. Self-interested CEOs prefer to retain control over the excess cash, making firms outgrow their optimal size. We hypothesize that firms with more old independent directors are less likely to pay out free cash flows to shrink the empire against CEOs' wishes.

We separately examine firms' repurchase and dividend decisions. The regression results are reported in Table 9. The coefficient on *Older-than-64 directors (%)* is negative and statistically significant for both dividends and repurchases. The effect of old independent directors holds with the inclusion of firm fixed effects. *Ceteris paribus*, firms with more old independent directors make fewer repurchases and payout lower dividends.

We further examine whether old independent directors lead to lower payout at firms that have piled up excess cash. We follow Harford (1990) to measure excess cash. Excess cash is defined as the deviation of the firm's ratio of cash and short-term investments to total assets from its predicted value by a cash management model. Importantly, Table 9 shows that the interaction term between *Older-than-64 directors (%)* and *Excess cash* is negative and statistically significant. That means old independent directors actually lead to more payout reduction at firms with more excess cash. In an unreported test, we also interact *Older-than-64 directors (%)* with free cash flow⁸ and find qualitatively similar results. That is, the negative relation between old independent directors' presence and payout is stronger for firms with more free cash flow.

4.5. Analysis of Acquisition Returns

In this section, we assess whether the presence of old independent directors affects firms' acquisition performance. Acquisitions can boost shareholder returns by combining two firms with valuable synergies. However, as evidenced by many studies, a nontrivial proportion of acquisitions are

⁸ Free cash flow is measured as operating cash flow minus dividends and capital expenditures.

value-destroying and made for agency reasons, such as managerial empire building and overconfidence (e.g., Masulis et al., 2007; Malmendier and Tate, 2008). We hypothesize that the monitoring deficiency of old independent directors will manifest in poor acquirer returns.

Acquisition data are extracted from Securities Data Corporation's (SDC) Mergers and Acquisitions Database. We obtain 3,367 deals for our sample firms during the sample period. For each deal, we require that (i) the deal is completed, (ii) the deal value disclosed is more than \$1 million and at least 1% of the acquirer's market value of equity, as measured on the 11th trading day prior to the announcement date, (iii) the acquirer controls less than 50% of target shares prior to transaction and owns 100% of target shares afterwards, and (iv) the acquirer has financial data available from COMPUSTAT and governance data from ISS for the year prior to transaction, and has stock return data available from CRSP for the period from the 210th trading day prior to deal announcement to the 2nd trading days afterwards. We measure acquirer performance by the cumulative abnormal return (CAR) over the 5-day window (-2, 2), where day 0 is the announcement date. We estimate the coefficients of a standard market model using daily stock returns over the period (-210, -11) and the CRSP value-weighted return as the market return. We also control for other firm-level governance variables and deal-level determinants of acquirer returns that are found to be empirically important.

The regression results are presented in Table 10. The association between *Older-than-64 directors (%)* and *Acquirer CAR* is negative and statistically significant. A one-standard-deviation increase in *Older-than-64 directors (%)* lowers acquirer returns by 0.004. While Dou et al. (2015) use the average age of independent directors as a control variable and find no significant relation to acquirer returns, our results indicate that old independent directors are associated with lower-quality acquisitions.

4.6. Analysis of Firm Performance

In previous sections, we infer the monitoring effectiveness of old independent directors from specific firm decisions. In this section, we examine how the presence of old independent directors affects overall firm performance. We find consistent results that old independent directors fail to fulfill the monitoring role, and thus we expect them to have an adverse effect on firm performance.

We use two measures of firm performance, the *Industry-adj ROA* and the *Tobin's Q*. The

regressions results are reported in Table 11. The associations between *Older-than-64 directors (%)* and the two performance measures are negative and statistically significant. The negative effect of old directors on firm performance holds with the inclusion of firm fixed effects. To interpret the coefficients in economic terms, take the OLS regressions as an example. All else equal, a one-standard-deviation increase in *Older-than-64 directors (%)* leads to a 0.005 decrease in *Industry-adj ROA* and a 0.051 decrease in *Tobin's Q*. With respect to other governance variables, we find that firms with a large number of directors underperform. Busy directors contribute negatively to firm performance. We also find an inverse U-shaped relation between director ownership and firm performance.

4.7. Identification

The composition of board is a choice variable. We rely on two approaches to deal with the endogeneity problem. The first one is a firm fixed effects regression, which controls for time-invariant firm-specific factors that relate to both firm outcomes and old director presence. However, firm fixed effects regressions are unable to detect the effects of time-varying omitted variables.

The second one is an instrumental variable (IV) approach. We construct an instrumental variable by measuring the local old director pool. In the spirit of Knyazeva et al. (2013), the local old director pool captures the supply side of old independent directors. Our measure of the availability of old directors is the natural logarithm of the number of old executives or directors of firms headquartered in the same state as the sample firm. The number of old executives of a firm is the sum of all executives from Execucomp and all directors from ISS with identifiable age which is 65 or higher. Logs are used to address the right skewness of the densities. This measure implicitly assumes that prospective directors are locally drawn, which seems reasonable as headquarter locations are likely to be most relevant for determining the cost of board participation for executives holding top positions at other firms. Headquarter locations are generally chosen in the early life of a firm, many years prior to making the board composition decisions. Thus, we treat firm location as predetermined and use the supply of old directors in the firm's vicinity as a source of exogenous variation. We use firm headquarter locations reported in Compustat and remove firms headquartered outside the United States. Because executives of direct competitors are unlikely to join the board due to competitive concerns, we exclude firms in the same 4-digit SIC industry in calculating local old director pool.

We argue that the local old director pool should only affect firm outcomes through the channel of firms' old independent director representation. In other words, local old director pool affects firms' board composition but do not directly influences firm outcomes. In the first stage, we predict the level of old independent director representation by the size of the local old director pool as well as second-stage control variables.

In the Appendix we present the first-stage estimates of the IV regressions where the outcome variable is firm performance. The first-stage Cragg-Donald Wald F statistic is above 40, rejecting the null hypothesis of weak instruments. The statistical significance of the coefficient on *Local old director pool* at 1% level similarly confirms the instruments' strength and relevance.

Table 12 presents the regressions of all the outcome variables using the IV approach. The control variables are omitted for brevity. We find that our previous results hold when we instrument *Older-than-64 directors (%)* with the local old director pool. The coefficient on *Older-than-64 directors (%)* continues to be significantly positive for *Discretionary accruals*, *Restatement*, *Irregularity*, *Total compensation*, *Cash intensity* and significantly negative for *Equity intensity*, *Dividend/EBIT* and *Total payout/EBIT*, *Industry-adj ROA* and *Tobin's Q*. The interaction term *Older-than-64 directors (%)*Performance* continues to be significantly positive for *Forced turnover*⁹.

4.8. Additional Evidence from SOX

To further establish a causal relationship between old independent director presence and firm performance, we exploit the passage of Sarbanes-Oxley Act and changes to the NYSE/NASDAQ listing rules (collectively, SOX). Exogenous shocks to the composition of corporate boards rarely exist, but the SOX provides an ideal setting. Previous studies utilize SOX as an exogenous regulatory shock that substantially increased board independence (e.g., Duchin et al., 2010; Armstrong et al., 2014).

Precipitated by governance scandals in the U.S., the Sarbanes-Oxley Act of 2002 and the concurrent NYSE/NASDAQ listing rule changes were intended to strengthen independent oversight of corporate boards. This package of reforms required a fully independent audit committee and a majority

⁹ For the CEO turnover tests, we follow the methodology of Knyazeva et al. (2013). *Older-than-64 directors (%)* is predicted from the local old director pool, industry median *Older-than-64 directors (%)*, and second-stage controls. *Older-than-64 directors (%)*Performance* is predicted from industry median *Performance* and the product of the industry medians of *Performance* and *Older-than-64 directors (%)*.

of directors to be independent. Firms that were already compliant with SOX prior to its passage were not affected. Only noncompliant firms were forced to increase the percentage of independent directors. Noncompliant firms can conform by adding new directors to the boards or removing inside directors from the boards. Either way, the age profile of independent directors is likely to be altered. If noncompliant firms choose to recruit new directors, some may draw from the pool of retired executives from other firms while others may look for younger candidates.

We follow the methodology of Coles et al. (2014) and conduct a modified difference-in-differences (DiD) test. The approach we use allows the possibility that SOX and associated exchange provisions have a direct effect on firm performance, as well as an effect through old independent directors. This is because SOX is likely to affect board monitoring through numerous channels, such as by mandating complete independence for certain committees and requiring financial expertise on the audit committee.

To assess the impact of the exogenous shock to old independent directors' presence, we estimate an augmented firm performance regression, which includes *Older-than-64 directors (%)* and its interactions with three key dummy variables: *Post-SOX*, *Noncompliant*, and *Post-SOX * Noncompliant*. The controls in this specification include the independent variables used in the firm performance regressions in Table 11 and the individual dummies, as well as the interactions of all the independent variables with the three key dummy variables. The "clean" estimate, arising from the exogenous changes in *Older-than-64 directors (%)* forced on noncompliant firms, is given by the sum of three coefficients: *Older-than-64 directors (%)*, *Older-than-64 directors (%) * Noncompliant*, *Older-than-64 directors (%) * Post-SOX * Noncompliant*.¹⁰

We remove firms that are not members of the NYSE or NASDAQ and focus on the period 1998-2005. The end year is 2005, by which time all of the relevant regulations were adopted and phased in. We define compliant firms as those that had both a majority independent board and a fully independent audit committee before SOX (1998-2001). We require compliance in all four years because firms that became compliant in 2001 might have been influenced by the legislative deliberations or public discussion prior to actual passage of SOX. Nevertheless, results are largely the same if we use a narrower window of 2001-2005. Firms that do not satisfy the above criteria are classified as

¹⁰ See Coles et al. (2014) for a detailed discussion of the coefficients in the model.

noncompliant.

The regression results are shown in Table 13. The “clean” estimate is negative and statistically significant for both firm performance measures. The “clean” effect pertaining to the exogenous shock to *Older-than-64 directors (%)* has a much larger magnitude than that of the OLS regressions in Table 11. The result reassures our finding in Table 11 that the presence of old independent directors exhibits a negative association with firm performance. One caveat is that noncompliant firms may change the age profile of their boards for unobserved reasons. If these reasons correlate with other factors that affect firm performance, it may weaken the power of this test.

5. Announcement Effects of Old Independent Director Appointments and Director Retirement Policy Changes

There are mainly two contributing factors to the trend of aging directors. Boards have extended or increased mandatory retirement ages, in some cases. Director age limits are less prevalent and set higher than they were in the past. Of the S&P 500 boards that specify a retirement age, 30% of boards now set it at 75 or older, a six-fold increase from 2004 when only 5% of boards had a retirement age of 75 or higher, according to a 2014 study by *Equilar*.¹¹ In others, boards have increased recruitment of retired executives to fortify the board with industry expertise and to ensure that new directors have the time available to meet the increasing demands of board service. In fact, according to the same 2014 *Equilar* study, more than half of new independent directors added to S&P 500 boards in 2014 were retired - the first time ever. To evaluate old independent directors’ contribution to firm value, we conduct two separate event studies on the two contributing factors of boardroom aging. Specifically, we gauge the stock price reactions to the announcements of old independent director appointments and firms changing their director retirement policy.

5.1. Announcements of Old Independent Director Appointments

To construct the announcement sample, we gather information on independent directors who were 65 or older when they joined the board from ISS. We search the Factiva database around that time for the first public disclosure date of the appointments. We cross check in the Capital IQ Key Development

¹¹ 2014 Board Composition & Recruiting Trends Report.

database when we cannot find appointment news in Factiva. Usually the appointment date is several months prior to the annual shareholder meeting date at which the director's name first appeared. This is because temporary or additional director appointments have to be subsequently confirmed by shareholders at the next shareholder meeting. The sample construction is described in Table 14. There are 1,127 appointments in the full sample. If directors are elected in annual shareholder meetings, director information is disclosed in proxy statement which contains myriad of other information. We identify director appointments that coincide with annual shareholder meetings and confirm them by reading DEF 14A files where necessary. After we remove these cases, the non-proxy sample includes 973 appointments. We then remove other contaminated appointments by confounding events such as multiple appointments of directors, earnings announcements and dividend declaration. Finally there are 676 appointments in the uncontaminated clean sample.

We estimate the cumulative abnormal returns (CARs) over a 3-day event window (-1, 1) with event date 0 being the announcement date. We estimate the coefficients of a standard market model using daily stock returns over the period (-210, -11) and the CRSP value-weighted return as the market return. Table 15 presents the event study results. In Panel A, we report a univariate analysis on whether the mean and median CAR is significantly different from zero. We find that on average the stock market reacts negatively to the announcements of old independent directors. The announcement CARs are negative and statistically significant across all samples. The mean announcement effect ranges from -0.187% to -0.205%, depending on sample selection. In Panel B, we conduct a cross-sectional test by regressing the announcement CARs on firm characteristics. We find that the announcement effect is significantly lower when the appointing firms already have a higher percentage of old independent directors.

5.2. Announcements of Director Retirement Policy Changes

While retirement is not mandatory in the U.S., some firms indicate in their bylaws a mandatory retirement age for directors¹². To construct the announcement sample, we gather information on director retirement policy changes from the Capital IQ Key Development database. Specifically, we conduct a

¹² Some firms set different mandatory retirement ages for inside and outside directors. Usually the age limit for outside directors is higher than that for inside directors.

keyword search on “Age”, “Director” and “Retire”. The search returns 208 raw results. We read each of the news articles and remove irrelevant news, duplicate news, news that we cannot identify the direction of change in retirement age and news for which data in CRSP is not available. We confirm the changes in bylaws by checking EDGAR files. We identify 91 retirement policy changes that will potentially increase old directors’ presence. After removing contaminated announcements, the clean sample contains 59 events.

We estimate the 3-day cumulative abnormal returns (CARs) in the same way as we do for the announcements of old independent director appointments. The results are reported in Table 16. The announcement effect is negative and statistically significant on average. The mean CAR is -0.907% in the full sample and -0.620% in the uncontaminated sample. Shareholders react as if they believe that increasing director age is value-destroying.

Our initial search for director retirement policy changes does not place restrictions on the direction of change. During our research, we also identify 5 events that decrease the mandatory retirement age, 2 events that impose mandatory retirement age and 1 event that eliminate board's discretion to waive the mandatory retirement age. We find that the stock market reacts positively to these 8 age-decreasing events, with a mean CAR of 0.976%.

6. Conclusion

This paper explores the implications of independent director age for firm decisions and performance. We posit that elderly independent directors may be detrimental to board monitoring effectiveness.

Our analysis of S&P 1500 firms over the period 1998-2014 provides support for this conjecture. We demonstrate that firms with a higher percentage of independent directors older than 64 are associated with (i) greater earnings management, a higher likelihood of misstatement and intentional misreporting, (ii) a higher level of total CEO compensation but a smaller weight on equity-based incentive, (iii) a lower forced CEO turnover - performance sensitivity, (iv) lower payout especially when firms have more excess cash and (v) lower acquirer announcement returns. As a result, old independent director presence leads to lower firm performance. We also find that appointments of old

independent directors and board retirement policy changes that would increase director age have negative announcement returns.

Our paper highlights the importance of the age profile of board members. We conclude that the recent trend of lifting or waiving retirement age in an attempt to retain experienced directors without considering the potential governance deterioration may carry undesirable consequences for firms' governance and performance.

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Table 1
Year Distribution of Sample Firms and Old Independent Directors

Year	<i>Director age</i>			<i>Older-than-64 directors (%)</i>		<i>Domination by Older-than-64 directors (0/1)</i>		
	N	Mean	Median	N	Mean	Median	Mean	Median
1998	9,393	59.98	60	1,427	0.324	0.333	0.266	0
1999	9,711	60.02	60	1,453	0.317	0.300	0.260	0
2000	9,359	59.89	60	1,425	0.311	0.286	0.255	0
2001	9,650	59.74	60	1,452	0.298	0.267	0.248	0
2002	8,311	60.16	61	1,277	0.310	0.286	0.245	0
2003	8,802	60.26	61	1,289	0.304	0.286	0.233	0
2004	8,977	60.51	61	1,301	0.319	0.300	0.243	0
2005	8,987	60.62	61	1,308	0.319	0.300	0.248	0
2006	8,979	60.85	61	1,285	0.332	0.333	0.259	0
2007	9,600	61.03	62	1,303	0.343	0.333	0.275	0
2008	10,658	61.32	62	1,378	0.365	0.364	0.319	0
2009	10,175	61.71	62	1,319	0.387	0.375	0.346	0
2010	10,335	62.06	63	1,317	0.401	0.400	0.381	0
2011	10,285	62.35	63	1,316	0.421	0.400	0.416	0
2012	10,448	62.67	64	1,318	0.447	0.444	0.466	0
2013	10,689	62.85	64	1,321	0.460	0.444	0.483	0
2014	10,602	63.01	64	1,307	0.469	0.500	0.501	1
Total	164,961	61.18	62	22,796	0.360	0.333	0.319	0

N = number of observations.

This table displays the distribution of the presence of old independent directors by the year of annual meeting. Column 2-4 report statistics for *Director age* at individual director level. Column 5-9 report statistics for *Older-than-64 directors (%)* and *Domination by Older-than-64 directors (0/1)* at firm level. *Domination by Older-than-64 directors (0/1)* is an indicator equal to one if *Older-than-64 directors (%)* is at least 50%, and zero otherwise.

Table 2
Attributes of Independent Directors

	(1)	(2)	(2) - (1)	
Mean	Age≤64	Age>64	Difference	<i>t</i> -stat
<i>Age</i>	56.530	69.250	12.720***	(480.00)
<i>Retired</i>	0.213	0.433	0.220***	(85.72)
<i>Age at appointment</i>	50.620	58.340	7.720***	(220.00)
<i>Tenure</i>	5.918	10.800	4.882***	(160.00)
<i>Coopted</i>	0.502	0.331	-0.171***	(-68.39)
<i>Ownership</i>	0.060	0.061	0.001**	(2.35)
<i>Blockholder</i>	0.009	0.006	-0.003***	(-6.51)
<i>No. of board seats</i>	1.582	1.606	0.024***	(5.12)
<i>Financial expertise</i> (available since 2007)	0.237	0.241	0.004	(1.55)
<i>Former employee</i>	0.002	0.003	0.002***	(6.07)
<i>CEO of other firms</i>	0.153	0.037	-0.116***	(-73.75)
<i>Executive of other firms</i>	0.196	0.073	-0.123***	(-68.03)

This table reports the mean statistics of director attributes. The sample is restricted to independent directors. Colum (1) shows the statistics for independent directors aged at 64 or below. Colum (2) shows the statistics for independent directors aged above 64. The last two columns show the simple mean-comparison tests between the two groups of independent directors. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 3
Summary Statistics

Variable	N	Mean	Std.	P25	Median	P75
Firm characteristics						
<i>ROA</i>	22,796	0.127	0.091	0.073	0.122	0.176
<i>Tobin's Q</i>	22,796	1.853	1.164	1.126	1.453	2.101
<i>Log market cap</i>	22,796	7.680	1.569	6.584	7.548	8.677
<i>RND</i>	22,796	0.037	0.075	0	0	0.0315
<i>Volatility</i>	22,796	0.117	0.053	0.080	0.106	0.142
Governance characteristics						
<i>Eindex</i>	22,796	2.042	1.283	1	2	3
<i>Board size</i>	22,796	9.396	2.555	8	9	11
<i>Independence</i>	22,796	0.726	0.157	0.625	0.750	0.857
<i>Director ownership</i>	22,796	0.071	0.111	0.010	0.027	0.076
<i>Duality</i>	22,796	0.457	0.498	0	0	1
<i>Busy board</i>	22,796	0.100	0.129	0	0.056	0.167
<i>Indep. blockholder</i>	22,796	0.042	0.199	0	0	0
<i>Indep. director tenure</i>	22,796	0.137	0.175	0	0.091	0.231
<i>Cooption</i>	22,796	0.394	0.328	0.1	0.333	0.667
Outcome variables						
<i>Attend_less75_pct</i>	149,558	0.014	0.117	0	0	0
<i>Number of committee memberships</i>	149,558	1.838	1.104	1	2	3
<i>Committee chairman</i>	140,980	0.310	0.462	0	0	1
<i>Audit and compensation committee member</i>	149,558	0.186	0.389	0	0	0
<i>Audit or compensation committee chairman</i>	140,980	0.240	0.427	0	0	0
<i>Discretionary accruals</i>	18,153	0.000	0.047	-0.024	0.000	0.025
<i>Restatement</i>	22,796	0.091	0.287	0	0	0
<i>Irregularity</i>	22,796	0.040	0.219	0	0	0
<i>Total compensation</i>	20,415	8.125	1.017	7.421	8.159	8.844
<i>Cash intensity</i>	20,399	0.375	0.267	0.164	0.295	0.522
<i>Equity intensity</i>	20,399	0.452	0.270	0.266	0.499	0.659
<i>Forced turnover</i>	16,152	0.024	0.153	0	0	0
<i>Acquirer CAR</i>	3,367	0.002	0.718	-0.033	0.001	0.037
<i>Dividend/EBIT</i>	20,795	0.140	0.203	0.000	0.075	0.212
<i>Repurchase/EBIT</i>	19,463	0.275	0.510	0.000	0.000	0.363
<i>Total payout/EBIT</i>	20,830	0.408	0.572	0.031	0.246	0.533

N = number of observations.

This table reports summary statistics for key firm characteristics, governance characteristics and outcome variables. Detailed definitions of all variables are provided in Appendix.

Table 4
Regressions of Independent Directors' Board Meeting Attendance

	(1)	(2)	(3)	(4)
Director characteristics				
<i>Older-than-64</i>	0.046* (1.68)	0.130 (0.82)	0.054** (2.51)	0.189 (0.88)
<i>Number of board seats</i>	0.022** (2.30)	0.094 (1.60)	0.020** (1.97)	0.033 (0.43)
<i>CEO director</i>	0.207*** (6.53)	0.352*** (3.03)	0.177*** (5.05)	0.395*** (2.61)
<i>Ownership</i>	0.892 (0.92)	-14.564** (-2.46)	0.857 (0.57)	-21.301 (-1.56)
<i>Tenure</i>	-0.011*** (-4.54)	-0.010 (-0.81)	-0.014*** (-4.60)	-0.014 (-0.81)
<i>Coopted</i>	0.067* (1.95)	0.119 (1.01)	0.070 (1.60)	0.200 (1.26)
Firm characteristics				
<i>Log market cap</i>	-0.045*** (-4.02)	-0.302*** (-6.32)	-0.046*** (-3.07)	-0.416*** (-5.85)
<i>ROA</i>	-0.282 (-1.32)	-0.439 (-0.61)	-0.346 (-1.16)	-0.605 (-0.66)
<i>Tobin's Q</i>	0.031** (2.49)	0.127*** (2.71)	0.028* (1.66)	0.140** (2.41)
<i>RND</i>	-0.002 (-0.72)	-0.010 (-0.50)	0.016 (1.03)	0.216 (1.05)
<i>Volatility</i>	0.432 (1.61)	0.087 (0.07)	0.091 (0.25)	-1.298 (-0.76)
<i>Eindex</i>	-0.005 (-0.46)	0.057 (1.26)	-0.031** (-2.01)	-0.002 (-0.03)
<i>Board size</i>	0.038*** (6.67)	0.114*** (5.58)	0.042*** (5.78)	0.136*** (5.03)
<i>Independence</i>	0.048 (0.89)	0.161 (0.91)	0.072 (1.23)	0.138 (0.66)
<i>Director ownership</i>	0.165 (1.20)	0.161 (0.28)	0.176 (1.00)	-0.358 (-0.40)
<i>Duality</i>	-0.049* (-1.93)	-0.130 (-1.53)	-0.057* (-1.66)	-0.170 (-1.48)
<i>Busy board</i>	0.019 (0.19)	0.007 (0.02)	0.010 (0.08)	-0.119 (-0.26)
<i>Indep. blockholder</i>	0.016 (0.26)	0.216 (0.92)	-0.105 (-1.18)	0.126 (0.40)
<i>Indep. director tenure</i>	0.059 (0.81)	0.150 (0.52)	0.129 (1.40)	0.378 (1.00)
<i>Cooption</i>	0.058	0.014	0.024	-0.030

	(1.18)	(0.09)	(0.38)	(-0.13)
<i>Number of board meetings</i>			-0.005	0.025
			(-0.80)	(1.29)
<i>Director meeting fee</i>			-0.069***	-0.190**
			(-3.62)	(-2.31)
Industry fixed effects	Yes	Yes	Yes	Yes
Director fixed effects		Yes		Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	119,442	12,526	50,940	5,806
Pseudo R ²	0.075	0.093	0.058	0.089

This table reports the regression analysis of poor board meeting attendance. The sample is restricted to independent directors. Each observation is a director-firm-year. The dependent variable is *Attend_less75_pct*, which is an indicator equal to one if an independent director attended less than 75% of a firm's board meetings, and zero otherwise. Model (1) and (3) estimate a Probit regression and Model (2) and (4) estimate a conditional Logit regression. In parentheses are z-statistics based on standard errors adjusted for heteroskedasticity and clustering at director level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 5
Regressions of Independent Directors' Committee Membership and Chairmanship

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Number of committee memberships</i>		<i>Committee chairman</i>		<i>Audit and compensation committee member</i>		<i>Audit or compensation committee chairman</i>	
Director characteristics								
<i>Older-than-64</i>	0.042*** (6.70)	0.005 (0.68)	0.067*** (4.19)	-0.139*** (-2.80)	0.036** (2.04)	-0.075* (-1.72)	0.043** (2.46)	-0.174*** (-3.20)
<i>Number of board seats</i>	0.023*** (4.98)	0.006* (1.76)	0.115*** (11.71)	0.098*** (3.63)	0.016* (1.75)	0.026 (0.77)	0.089*** (8.41)	0.117*** (4.25)
<i>CEO director</i>	0.025*** (2.85)	0.034*** (4.05)	-0.051** (-2.33)	-0.119** (-2.10)	-0.002 (-0.09)	-0.021 (-0.30)	-0.062*** (-2.67)	-0.167*** (-2.76)
<i>Ownership</i>	-1.839*** (-4.74)	0.083 (0.18)	-5.274*** (-5.51)	1.647 (0.57)	-7.284*** (-7.26)	-6.448 (-1.19)	-6.383*** (-5.30)	-0.458 (-0.12)
<i>Tenure</i>	0.008*** (14.96)	0.008*** (6.61)	0.036*** (26.30)	0.097*** (14.90)	0.008*** (5.32)	0.008 (0.94)	0.025*** (17.72)	0.079*** (10.66)
<i>Coopted</i>	-0.017** (-2.14)	-0.014 (-1.59)	0.026 (1.29)	0.016 (0.29)	-0.000 (-0.02)	-0.010 (-0.13)	0.017 (0.81)	0.011 (0.18)
Firm characteristics								
<i>Log market cap</i>	-0.006** (-2.07)	-0.018*** (-3.95)	-0.015** (-2.11)	-0.015 (-0.55)	-0.027*** (-3.26)	-0.003 (-0.09)	-0.013* (-1.71)	0.008 (0.26)
<i>ROA</i>	0.090* (1.92)	0.099** (2.33)	0.348*** (2.96)	0.676** (2.13)	0.147 (1.10)	0.007 (0.02)	0.247* (1.95)	0.610* (1.69)
<i>Tobin's Q</i>	0.005 (1.46)	0.010*** (2.63)	-0.020** (-2.34)	-0.044* (-1.76)	0.030*** (3.16)	0.070** (2.10)	-0.015 (-1.63)	-0.046 (-1.64)
<i>RND</i>	-0.004 (-1.59)	-0.003* (-1.75)	-0.006 (-1.09)	0.002 (0.41)	-0.000 (-0.16)	-0.010 (-1.47)	-0.004 (-0.99)	0.004 (0.54)
<i>Volatility</i>	-0.176*** (-2.61)	-0.048 (-0.57)	0.056 (0.33)	-0.187 (-0.34)	-0.181 (-0.95)	0.658 (1.00)	-0.004 (-0.02)	-0.019 (-0.03)
<i>Eindex</i>	-0.001 (-0.46)	-0.000 (-0.04)	0.003 (0.46)	0.031 (1.58)	-0.032*** (-4.18)	-0.048* (-1.86)	0.001 (0.08)	0.007 (0.28)
<i>Board size</i>	-0.049*** (-30.95)	-0.028*** (-15.15)	-0.071*** (-18.98)	-0.116*** (-10.58)	-0.128*** (-27.43)	-0.223*** (-14.52)	-0.064*** (-15.92)	-0.115*** (-9.29)
<i>Independence</i>	-0.040*** (-3.11)	-0.013 (-1.01)	-0.039 (-1.18)	0.005 (0.05)	-0.519*** (-15.32)	-0.861*** (-8.33)	-0.107*** (-3.16)	-0.093 (-0.90)

<i>Director ownership</i>	0.051 (1.37)	0.061 (1.21)	0.162* (1.77)	0.558* (1.89)	0.701*** (7.14)	1.172*** (3.01)	0.225** (2.29)	0.718** (2.12)
<i>Duality</i>	0.002 (0.39)	0.006 (1.31)	-0.020 (-1.45)	-0.068** (-1.98)	-0.041** (-2.53)	-0.072 (-1.59)	-0.013 (-0.90)	-0.033 (-0.86)
<i>Busy board</i>	0.127*** (4.48)	0.039 (1.39)	-0.346*** (-5.28)	-0.651*** (-3.77)	-0.159** (-2.09)	-0.124 (-0.54)	-0.311*** (-4.43)	-0.666*** (-3.47)
<i>Indep. blockholder</i>	0.033** (2.14)	0.027* (1.69)	0.027 (0.70)	0.146 (1.37)	-0.003 (-0.08)	0.031 (0.21)	0.032 (0.80)	0.194 (1.64)
<i>Indep. director tenure</i>	-0.086*** (-4.59)	-0.028 (-1.45)	-0.532*** (-11.47)	-0.646*** (-4.90)	0.038 (0.74)	0.086 (0.51)	-0.372*** (-7.60)	-0.431*** (-2.92)
<i>Cooption</i>	-0.030*** (-2.66)	-0.022* (-1.93)	-0.035 (-1.22)	0.062 (0.80)	0.025 (0.79)	-0.118 (-1.20)	-0.026 (-0.86)	-0.010 (-0.11)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Director fixed effects		Yes		Yes		Yes		Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	149,558	115,382	140,980	69,153	149,558	48,421	140,980	56,821
Pseudo R ²	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table reports regression analysis of board committee membership and chairmanship. The sample is restricted to independent directors. Each observation is a director-firm-year. The dependent variable for Model (1) and (2) is the number of committee memberships on the audit committee, compensation committee, nominating committee and governance committee. The dependent variable for Model (3) and (4) is an indicator variable equal to one if a director is the chairman of any committee, and zero otherwise. The dependent variable for Model (5) and (6) is an indicator variable equal to one if a director sits on both the audit committee and the compensation committee, and zero otherwise. The dependent variable for Model (7) and (8) is an indicator variable equal to one if a director is the chairman of the audit committee or the compensation committee, and zero otherwise. Model (1) and (2) estimate a Poisson count regression. Model (3), (5), (7) estimate a Probit regression and Model (4), (6), (8) estimate a conditional Logit regression. In parentheses are z-statistics based on standard errors adjusted for heteroskedasticity and clustering at director level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 6
Regressions of CEO Compensation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Total compensation</i>			<i>Cash intensity</i>			<i>Equity intensity</i>		
<i>Older-than-64 directors (%)</i>	0.078*			0.026**			-0.044***		
	(1.73)			(2.12)			(-3.35)		
<i>Older-than-64 directors - on compensation committee (%)</i>		0.065**	0.066**		0.018**	0.014*		-0.024**	-0.018**
		(2.08)	(2.50)		(2.05)	(1.93)		(-2.56)	(-2.25)
<i>Log market cap</i>	0.452***	0.453***	0.335***	-0.065***	-0.065***	-0.059***	0.061***	0.061***	0.055***
	(39.04)	(38.91)	(18.92)	(-20.33)	(-20.33)	(-10.25)	(18.77)	(18.83)	(8.92)
<i>ROA</i>	0.349**	0.343**	0.760***	0.030	0.033	0.028	-0.102**	-0.105**	-0.221***
	(2.11)	(2.05)	(5.32)	(0.73)	(0.78)	(0.58)	(-2.08)	(-2.12)	(-4.43)
<i>Stock return</i>	0.023	0.025	-0.003	0.020***	0.020***	0.029***	-0.057***	-0.057***	-0.062***
	(1.40)	(1.53)	(-0.17)	(4.26)	(4.18)	(5.80)	(-10.91)	(-10.79)	(-10.90)
<i>Tobin's Q</i>	-0.114***	-0.115***	-0.026*	0.006*	0.006*	-0.003	0.003	0.003	0.011**
	(-7.97)	(-7.96)	(-1.91)	(1.79)	(1.71)	(-0.81)	(0.73)	(0.80)	(2.49)
<i>RND</i>	0.241	0.237	-0.530*	-0.253***	-0.252***	0.088	0.364***	0.365***	-0.083
	(1.19)	(1.16)	(-1.71)	(-4.38)	(-4.38)	(0.85)	(6.02)	(6.07)	(-0.70)
<i>Volatility</i>	2.101***	2.092***	0.325	-0.499***	-0.497***	-0.239***	0.574***	0.576***	0.247***
	(8.22)	(8.33)	(1.12)	(-7.30)	(-7.32)	(-2.84)	(8.23)	(8.29)	(2.81)
<i>Eindex</i>	0.031***	0.030***	0.005	-0.013***	-0.013***	0.000	0.011***	0.010***	-0.002
	(3.35)	(3.26)	(0.58)	(-5.18)	(-5.07)	(0.14)	(3.91)	(3.82)	(-0.67)
<i>Board size</i>	0.012**	0.011**	0.004	0.001	0.001	0.002	-0.002	-0.003	-0.002
	(2.11)	(1.97)	(0.84)	(0.66)	(0.76)	(1.00)	(-1.51)	(-1.55)	(-1.04)
<i>Independence</i>	0.402***	0.390***	0.222***	-0.150***	-0.154***	-0.078***	0.114***	0.120***	0.059**
	(4.92)	(4.76)	(2.82)	(-6.65)	(-6.81)	(-2.94)	(4.60)	(4.75)	(2.09)
<i>Director ownership</i>	-0.868***	-0.831***	-0.571***	0.290***	0.284***	0.134***	-0.303***	-0.299***	-0.173***
	(-5.56)	(-5.33)	(-3.45)	(6.84)	(6.66)	(2.58)	(-7.10)	(-6.86)	(-3.41)
<i>Duality</i>	0.091***	0.090***	0.008	-0.003	-0.003	0.003	-0.006	-0.006	-0.006

	(4.68)	(4.64)	(0.45)	(-0.57)	(-0.55)	(0.63)	(-1.02)	(-1.07)	(-0.94)
<i>Busy board</i>	0.280***	0.272***	0.115	-0.022	-0.021	-0.013	-0.006	-0.009	-0.019
	(3.95)	(3.84)	(1.63)	(-1.10)	(-1.00)	(-0.55)	(-0.25)	(-0.40)	(-0.70)
<i>Indep. blockholder</i>	0.066	0.058	0.028	-0.025*	-0.025*	-0.002	0.034**	0.034**	0.014
	(1.44)	(1.24)	(0.60)	(-1.81)	(-1.77)	(-0.12)	(2.33)	(2.32)	(0.97)
<i>Indep. director tenure</i>	-0.166***	-0.165***	-0.054	0.088***	0.089***	0.052***	-0.069***	-0.077***	-0.060***
	(-2.87)	(-2.91)	(-1.02)	(5.17)	(5.29)	(2.78)	(-3.99)	(-4.45)	(-3.01)
<i>Cooption</i>	-0.012	-0.009	0.061**	0.040***	0.040***	0.025**	-0.043***	-0.042***	-0.066***
	(-0.36)	(-0.28)	(2.10)	(4.60)	(4.57)	(2.41)	(-4.51)	(-4.39)	(-5.91)
Industry fixed effects	Yes	Yes		Yes	Yes		Yes	Yes	
Firm fixed effects			Yes			Yes			Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	20,415	20,415	20,415	20,339	20,339	20,339	20,339	20,339	20,339
Adjusted R ²	0.539	0.539	0.733	0.333	0.330	0.517	0.201	0.198	0.408

This table reports the OLS regression analysis of CEO compensation. The dependent variable for Model (1)-(3) is *Total compensation*, the natural logarithm of the dollar value of the CEO's total annual compensation. The dependent variable for Model (4)-(6) is *Cash intensity*, the proportion of total annual CEO compensation that comes from cash. The dependent variable for Model (7)-(9) is *Equity intensity*, the proportion of total annual CEO compensation that comes from option grants and stocks. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 7
Regressions of Earnings Management and Restatements

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Discretionary accruals</i>			<i>Restatement</i>			<i>Irregularity</i>		
<i>Older-than-64 directors (%)</i>	0.006*** (3.07)			0.121* (1.65)			0.138* (1.68)		
<i>Older-than-64 directors - on audit committee (%)</i>		0.005*** (3.24)	0.003* (1.85)		0.141*** (2.77)	0.594*** (3.04)		0.157** (2.50)	0.536** (2.23)
<i>ROA</i>	-0.018** (-2.03)	-0.018** (-2.05)	0.025** (2.24)	-0.917*** (-3.53)	-0.901*** (-3.46)	-3.091*** (-3.74)	-0.787** (-2.40)	-0.761** (-2.31)	-2.332** (-2.41)
<i>Tobin's Q</i>	0.001 (1.04)	0.001 (1.05)	0.000 (0.48)	-0.015 (-0.68)	-0.013 (-0.62)	0.023 (0.35)	-0.007 (-0.27)	-0.006 (-0.22)	-0.062 (-0.84)
<i>Log market cap</i>	-0.000 (-0.36)	-0.000 (-0.40)	0.001 (0.62)	-0.006 (-0.30)	-0.006 (-0.30)	0.194* (1.88)	0.033 (1.29)	0.033 (1.29)	0.288*** (2.61)
<i>RND</i>	-0.058*** (-6.29)	-0.059*** (-6.34)	-0.037 (-1.44)	-0.928** (-2.39)	-0.893** (-2.30)	-5.070*** (-3.53)	-1.057** (-2.10)	-1.009** (-2.00)	-5.490*** (-2.80)
<i>Volatility</i>	-0.049*** (-4.41)	-0.050*** (-4.43)	-0.018 (-1.15)	1.462*** (3.30)	1.472*** (3.33)	2.086 (1.43)	2.827*** (5.01)	2.850*** (5.04)	4.511*** (2.90)
<i>Eindex</i>	-0.000 (-0.72)	-0.000 (-0.70)	-0.001 (-1.41)	-0.036** (-1.99)	-0.035* (-1.95)	0.002 (0.02)	-0.033 (-1.31)	-0.031 (-1.26)	0.051 (0.57)
<i>Board size</i>	-0.000 (-1.62)	-0.000 (-1.51)	-0.000 (-1.17)	-0.008 (-0.78)	-0.008 (-0.78)	0.038 (1.12)	0.003 (0.27)	0.003 (0.26)	0.080** (2.02)
<i>Independence</i>	-0.003 (-0.83)	-0.004 (-1.02)	0.001 (0.10)	-0.274* (-1.86)	-0.303** (-2.18)	-0.815* (-1.80)	-0.234 (-1.58)	-0.279* (-1.95)	0.133 (0.26)
<i>Director ownership</i>	-0.000 (-0.05)	-0.000 (-0.05)	0.004 (0.43)	-0.110 (-0.60)	-0.404* (-1.78)	0.027 (0.03)	-0.120 (-0.54)	-0.131 (-0.59)	1.050 (1.19)
<i>Duality</i>	0.001 (1.63)	0.002* (1.72)	0.002* (1.91)	0.012 (0.32)	0.011 (0.29)	0.311*** (2.94)	0.028 (0.56)	0.026 (0.53)	0.432*** (3.41)

<i>Busy board</i>	-0.001 (-0.20)	-0.001 (-0.19)	-0.004 (-0.81)	-0.047 (-0.26)	-0.056 (-0.31)	0.373 (0.69)	-0.362 (-1.51)	-0.371 (-1.55)	-0.447 (-0.71)
<i>Indep. blockholder</i>	-0.000 (-0.08)	-0.000 (-0.12)	0.000 (0.01)	-0.036 (-0.40)	-0.033 (-0.37)	0.192 (0.70)	0.166 (1.39)	0.170 (1.42)	0.562* (1.79)
<i>Indep. director tenure</i>	0.004 (1.39)	0.004* (1.69)	-0.000 (-0.14)	-0.041 (-0.37)	-0.073 (-0.65)	-0.318 (-0.83)	-0.027 (-0.18)	-0.064 (-0.43)	-0.240 (-0.61)
<i>Cooption</i>	-0.001 (-0.56)	-0.001 (-0.62)	-0.001 (-0.74)	0.149** (2.49)	0.146** (2.45)	0.208 (1.13)	0.150* (1.87)	0.144* (1.80)	0.014 (0.07)
Industry fixed effects	Yes	Yes		Yes	Yes		Yes	Yes	
Firm fixed effects			Yes			Yes			Yes
Year fixed effects	Yes								
N	18,153	18,153	18,153	22,796	22,796	8,254	22,796	22,796	4,272

This table reports the regression analysis of earnings management and restatements. The dependent variable for Model (1)-(3) is *Discretionary accruals*, the performance-adjusted discretionary accruals. The dependent variable for Model (4)-(6) is *Restatement*, an indicator equal to 1 if the firm subsequently restated the financial statements for that fiscal year. The dependent variable for Model (7)-(9) is *Irregularity*, an indicator equal to 1 if the firm subsequently restated the financial statements for that fiscal year and the restatement is classified as irregularity. Model (1)-(3) estimate an OLS regression. Model (4), (5), (7), (8) estimate a Probit regression and Model (6), (9) estimate a conditional Logit regression. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 8
Regressions of Forced CEO Turnovers

Performance =	(1) Industry-adjusted ROA	(2)	(3) Market-adjusted stock return	(4)
<i>Older-than-64 directors (%)</i>	-0.053 (-0.27)	0.360 (0.54)	-0.151 (-1.20)	0.563 (1.10)
<i>Older-than-64 directors (%) * Performance</i>	3.460** (2.43)	9.926*** (2.66)	0.447* (1.78)	1.108* (1.85)
<i>Log market cap</i>	-0.002 (-0.07)	-0.581*** (-3.00)	-0.020 (-0.84)	-0.859*** (-4.16)
<i>Tobin's Q</i>	-0.093*** (-2.80)	-0.173 (-1.00)	-0.143*** (-4.20)	-0.171 (-0.95)
<i>RND</i>	-0.853* (-1.91)	-4.176 (-1.45)	-0.203 (-0.49)	-1.408 (-0.62)
<i>Volatility</i>	1.856*** (3.26)	-0.942 (-0.30)	2.557*** (4.65)	0.021 (0.01)
<i>Performance</i>	-2.635*** (-3.04)	-2.079 (-1.51)	-0.238 (-0.79)	-0.471** (-2.08)
<i>Eindex</i>	-0.021 (-0.87)	-0.257 (-1.21)	-0.017 (-0.74)	-0.243 (-1.15)
<i>Eindex * Performance</i>	-0.046 (-0.24)	0.898 (1.18)	-0.025 (-0.46)	-0.208 (-1.57)
<i>Board size</i>	0.015 (1.20)	0.045 (0.76)	0.023* (1.94)	0.085 (1.44)
<i>Board size * Performance</i>	-0.104 (-1.05)	-0.928*** (-2.60)	-0.006 (-0.23)	0.021 (0.32)
<i>Independence</i>	0.285 (1.53)	-0.748 (-0.97)	0.191 (1.04)	-0.648 (-0.86)
<i>Independence * Performance</i>	1.980 (1.24)	-3.394 (-0.52)	0.171 (0.44)	1.081 (1.01)
<i>Director ownership</i>	-0.596* (-1.82)	-1.938 (-1.28)	-0.545* (-1.77)	-1.471 (-1.27)
<i>Director ownership * Performance</i>	0.233 (0.10)	-9.128 (-0.79)	-1.229 (-1.60)	-2.906 (-1.40)
<i>Duality</i>	-0.294*** (-4.87)	-0.782*** (-3.99)	-0.247*** (-4.21)	-0.700*** (-3.61)
<i>Duality * Performance</i>	-0.660 (-1.36)	-1.266 (-0.89)	-0.013 (-0.11)	0.099 (0.33)
<i>Busy board</i>	0.188 (0.90)	1.055 (1.14)	0.232 (1.15)	0.689 (0.76)
<i>Busy board * Performance</i>	-0.101 (-0.06)	3.756 (0.71)	0.378 (0.81)	1.158 (1.04)
<i>Indep. blockholder</i>	0.077	0.327	-0.002	0.156

	(0.56)	(0.68)	(-0.01)	(0.32)
<i>Indep. Blockholder * Performance</i>	1.461	4.308	0.345	0.680
	(1.22)	(1.30)	(1.11)	(0.88)
<i>Indep. director tenure</i>	-0.192	-0.145	-0.173	-0.141
	(-1.24)	(-0.20)	(-1.16)	(-0.20)
<i>Indep. director tenure * Performance</i>	-1.281	3.228	-0.448	0.074
	(-0.95)	(0.65)	(-1.28)	(0.09)
<i>Cooption</i>	-0.449***	1.232***	-0.514***	1.145***
	(-5.13)	(3.64)	(-6.01)	(3.57)
<i>Cooption * Performance</i>	0.944	-1.055	0.215	0.352
	(1.41)	(-0.38)	(1.24)	(0.75)
Industry fixed effects	Yes		Yes	
Firm fixed effects		Yes		Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	12,508	2,388	12,508	2,388

This table reports the regression analysis of CEO turnover. The dependent variable is *Forced turnover*, an indicator equal to one if a firm experiences a forced CEO turnover, and zero otherwise. The variable *Performance* represents *Industry-adjusted ROA* in Model (1)-(2) and *Market-adjusted stock return* in Model (3)-(4). Model (1), (3) estimate a Probit regression and Model (2), (4) estimate a conditional Logit regression. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 9
Regressions of Dividend and Repurchase

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Repurchase/EBIT</i>			<i>Dividend/EBIT</i>			<i>Total payout/EBIT</i>		
<i>Older-than-64 directors (%)</i>	-0.074*** (-3.29)	-0.054* (-1.66)	-0.106*** (-4.11)	-0.002** (-2.49)	-0.005* (-1.65)	-0.001 (-0.22)	-0.068*** (-2.72)	-0.021* (-1.71)	-0.096*** (-3.58)
<i>Excess cash</i>			0.118*** (3.11)			0.008 (0.54)			0.136*** (3.17)
<i>Older-than-64 directors (%)</i> <i>* Excess cash</i>			-0.268*** (-3.46)			-0.086*** (-3.21)			-0.236*** (-3.04)
<i>Log market cap</i>	0.026*** (4.84)	0.059*** (4.12)	0.025*** (4.51)	-0.004 (-1.50)	0.004 (0.79)	-0.004 (-1.48)	0.022*** (3.79)	0.080*** (5.23)	0.020*** (3.45)
<i>ROA</i>	0.422*** (4.21)	-0.036 (-0.32)	0.483*** (4.83)	-0.167*** (-3.77)	-0.221*** (-5.18)	-0.178*** (-3.94)	0.262** (2.34)	-0.294** (-2.23)	0.312*** (2.78)
<i>Tobin's Q</i>	-0.016* (-1.91)	-0.047*** (-4.29)	-0.018** (-2.15)	0.007** (2.40)	-0.008*** (-2.65)	0.008** (2.47)	-0.016* (-1.93)	-0.072*** (-6.15)	-0.018** (-2.14)
<i>Capex</i>	-0.836*** (-8.42)	-0.768*** (-5.52)	-0.825*** (-8.36)	-0.236*** (-5.15)	-0.146*** (-2.62)	-0.239*** (-5.21)	-1.097*** (-10.52)	-0.988*** (-6.28)	-1.086*** (-10.45)
<i>Leverage</i>	-0.363*** (-11.37)	-0.706*** (-11.58)	-0.353*** (-10.93)	-0.092*** (-4.53)	-0.058*** (-2.95)	-0.094*** (-4.70)	-0.477*** (-11.34)	-0.773*** (-11.73)	-0.468*** (-11.15)
<i>RND</i>	1.935*** (9.21)	0.463 (1.03)	1.809*** (8.59)	-0.151** (-2.44)	0.027 (0.48)	-0.146** (-2.16)	1.797*** (8.50)	0.437 (1.03)	1.663*** (7.79)
<i>Volatility</i>	-0.559*** (-3.96)	-0.733*** (-3.23)	-0.588*** (-4.15)	-1.113*** (-16.46)	-0.600*** (-8.22)	-1.112*** (-16.25)	-1.522*** (-10.01)	-0.966*** (-4.31)	-1.571*** (-10.21)
<i>Eindex</i>	0.004 (0.91)	0.012 (1.62)	0.005 (1.04)	-0.003 (-1.29)	-0.002 (-0.95)	-0.003 (-1.35)	-0.001 (-0.10)	0.010 (1.24)	-0.000 (-0.03)
<i>Board size</i>	-0.008*** (-3.42)	-0.003 (-0.80)	-0.008*** (-3.21)	0.005*** (3.11)	0.002 (1.49)	0.005*** (2.97)	-0.004 (-1.30)	-0.001 (-0.32)	-0.003 (-1.23)
<i>Independence</i>	0.066* (1.69)	-0.039 (-0.74)	0.068* (1.72)	0.035 (1.55)	0.007 (0.34)	0.034 (1.53)	0.120** (2.53)	-0.026 (-0.43)	0.120** (2.51)
<i>Director ownership</i>	-0.001 (-0.03)	-0.024 (-0.26)	-0.002 (-0.03)	0.062** (2.00)	0.007 (0.20)	0.061** (2.01)	0.071 (1.21)	-0.029 (-0.30)	0.070 (1.20)
<i>Duality</i>	0.008 (0.87)	0.003 (0.29)	0.008 (0.77)	0.003 (0.55)	0.008* (1.83)	0.003 (0.56)	0.012 (1.05)	0.012 (0.93)	0.011 (0.97)

<i>Busy board</i>	0.031 (0.81)	0.082 (1.53)	0.034 (0.87)	0.049** (2.26)	-0.001 (-0.03)	0.050** (2.31)	0.077 (1.63)	0.091 (1.45)	0.082* (1.71)
<i>Indep. blockholder</i>	0.057* (1.82)	0.032 (0.86)	0.051 (1.62)	-0.006 (-0.56)	0.010 (0.85)	-0.006 (-0.53)	0.060* (1.67)	0.061 (1.36)	0.054 (1.53)
<i>Indep. director tenure</i>	-0.111*** (-3.70)	-0.059 (-1.45)	-0.109*** (-3.59)	0.043*** (2.74)	0.015 (0.93)	0.044*** (2.78)	-0.064* (-1.88)	-0.050 (-1.08)	-0.061* (-1.77)
<i>Cooption</i>	-0.011 (-0.71)	0.014 (0.69)	-0.012 (-0.76)	0.001 (0.12)	-0.008 (-1.11)	0.001 (0.07)	-0.014 (-0.74)	0.002 (0.07)	-0.015 (-0.81)
Industry fixed effects	Yes		Yes	Yes		Yes	Yes		Yes
Firm fixed effects		Yes			Yes			Yes	
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	20,795	20,795	20,795	19,463	19,463	19,463	20,830	20,830	20,830
Adjusted R ²	0.168	0.327	0.171	0.187	0.512	0.188	0.130	0.302	0.132

This table reports the OLS regression analysis of firms' payout. The dependent variable is repurchases divided by EBIT for Model (1)-(3), dividends divided by EBIT Model (4)-(6) and the sum of repurchases and dividends divided by EBIT for Model (7)-(9). In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 10
Regressions of Acquirer Returns

	(1)	(2)
<i>Older-than-64 directors (%)</i>	-0.011*** (-3.05)	-0.012*** (-2.76)
<i>Relative deal size</i>	-0.010 (-1.29)	-0.007 (-0.98)
<i>Public target</i>	-0.019*** (-5.51)	-0.019*** (-5.49)
<i>Private target</i>	-0.005** (-1.98)	-0.006** (-2.28)
<i>% Deal value paid by cash</i>	0.000** (2.23)	0.000** (2.07)
<i>Tender offer</i>	0.005 (1.01)	0.005 (1.04)
<i>Hostile deal</i>	-0.007 (-0.42)	-0.009 (-0.50)
<i>Diversifying deal</i>	-0.004* (-1.72)	-0.004* (-1.66)
<i>Log market cap</i>	-0.003*** (-3.66)	-0.003*** (-2.73)
<i>ROA</i>	-0.034** (-2.08)	-0.046*** (-2.72)
<i>Tobin's Q</i>	0.003*** (3.08)	0.003*** (2.78)
<i>RND</i>	-0.073*** (-4.59)	-0.079*** (-4.77)
<i>Volatility</i>	0.028 (1.06)	0.031 (1.12)
<i>Eindex</i>		-0.001* (-1.72)
<i>Board size</i>		-0.000 (-0.10)
<i>Independence</i>		0.010 (1.08)
<i>Director ownership</i>		0.015 (1.00)
<i>Duality</i>		-0.003 (-1.39)
<i>Busy board</i>		-0.004 (-0.46)
<i>Indep. blockholder</i>		-0.002 (-0.36)
<i>Indep. director tenure</i>		0.011

		(1.64)
<i>Cooption</i>		0.002
		(0.43)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	3,700	3,700
Adjusted R ²	0.069	0.065

This table reports the OLS regression analysis of acquirer returns. The dependent variable is the cumulative abnormal returns over the 5-day window (-2, 2), where day 0 is the announcement date of the acquisition. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at industry level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 11
Regressions of Firm Performance

	(1)	(2)	(3)	(4)
	<i>Industry-adj ROA</i>		<i>Tobin's Q</i>	
<i>Older-than-64 directors (%)</i>	-0.015*** (-3.37)	-0.009** (-2.20)	-0.165*** (-2.69)	-0.151*** (-2.72)
<i>Log market cap</i>	0.018*** (18.01)	0.033*** (22.13)	0.358*** (24.74)	0.699*** (29.00)
<i>RND</i>	-0.370*** (-14.67)	-0.575*** (-14.98)	1.877*** (5.78)	-1.501** (-2.55)
<i>Volatility</i>	-0.202*** (-7.67)	-0.023 (-0.98)	1.082*** (3.14)	3.029*** (7.96)
<i>Eindex</i>	-0.000 (-0.04)	-0.001 (-1.34)	0.002 (0.15)	-0.012 (-1.05)
<i>Board size</i>	-0.006*** (-12.06)	-0.002*** (-4.34)	-0.109*** (-15.27)	-0.066*** (-9.71)
<i>Independence</i>	-0.017** (-1.99)	-0.010 (-1.60)	-0.114 (-1.03)	-0.101 (-1.11)
<i>Director ownership</i>	0.099*** (3.19)	0.024 (0.93)	2.247*** (5.69)	1.118*** (2.92)
<i>Director ownership²</i>	-0.174*** (-3.21)	-0.041 (-0.97)	-3.429*** (-4.57)	-1.254** (-2.09)
<i>Duality</i>	-0.005** (-2.51)	-0.000 (-0.36)	-0.059** (-2.46)	-0.025 (-1.29)
<i>Busy board</i>	-0.044*** (-5.16)	-0.014** (-1.99)	-0.755*** (-6.50)	-0.140 (-1.40)
<i>Indep. blockholder</i>	0.008 (1.40)	0.003 (0.67)	0.048 (0.70)	0.029 (0.61)
<i>Indep. director tenure</i>	0.011 (1.55)	-0.007 (-1.44)	0.151 (1.61)	-0.058 (-0.86)
<i>Cooption</i>	-0.001 (-0.24)	-0.002 (-0.81)	0.028 (0.78)	-0.047 (-1.56)
Industry fixed effects	Yes		Yes	
Firm fixed effects		Yes		Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	22,796	22,796	22,796	22,796
Adjusted R ²	0.191	0.681	0.345	0.749

This table reports the OLS regression analysis of firm performance. The dependent variable is *Industry-adjusted ROA* for Model (1) and (2) and *Tobin's Q* for Model (3) and (4). In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 12
Instrumental Variable Regressions

	(1)	(2)	(3)	(4)	(5)	(6)	
	<i>Discretionary accruals</i>	<i>Restatement</i>	<i>Irregularity</i>	<i>Total compensation</i>	<i>Cash intensity</i>	<i>Equity intensity</i>	
<i>Older-than-64 directors (%)</i>	0.038* (1.82)	0.819** (2.09)	0.985*** (5.59)	0.615** (2.50)	0.136** (2.11)	-0.102* (-1.88)	
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	
N	18,153	22,796	22,796	20,415	20,339	20,339	
	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	<i>Forced turnover</i>		<i>Repurchase/EBIT</i>	<i>Dividend/EBIT</i>	<i>Total payout/EBIT</i>	<i>Industry-adj ROA</i>	<i>Tobin's Q</i>
<i>Older-than-64 directors (%)</i>	-0.775*** (-5.20)	-0.791 (-0.82)	0.173 (0.41)	-0.021*** (-3.13)	-0.067* (-1.70)	-0.120*** (-3.96)	-0.848** (-2.06)
<i>Older-than-64 directors (%)</i> <i>* Performance</i>	12.089*** (2.76)	2.150** (2.39)					
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	12,508	12,508	20,795	19,463	20,830	22,796	22,796

This table reports the regression analysis of all the firm outcomes using the instrumental variable approach. The instrument is the local old director pool. Model (1), (4)-(6) and (9)-(13) estimate a two-stage least square (2SLS) regression. Model (2), (3), (7) and (8) estimate a Probit instrumental variable regression using maximum likelihood estimation. *Performance* represents industry-adjusted ROA in Model (7) and market-adjusted stock return in Model (8). The control variables are omitted for brevity. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 13
Regressions of Firm Performance: Evidence from SOX

	(1) <i>Industry-adj ROA</i>	(2) <i>Tobin's Q</i>
<i>Older-than-64 directors (%)</i>	-0.039***	-0.371**
(β_1)	(-3.59)	(-2.38)
<i>Older-than-64 directors (%) * Post-SOX</i>	0.044***	0.509**
(β_2)	(2.86)	(2.43)
<i>Older-than-64 directors (%) * Noncompliant</i>	0.038**	0.179
(β_3)	(2.37)	(0.76)
<i>Older-than-64 directors (%) * Post-SOX * Noncompliant</i>	-0.057***	-0.418*
(β_4)	(-3.02)	(-1.65)
<i>Post-SOX</i>	-0.023	0.596**
(β_5)	(-1.11)	(2.12)
<i>Noncompliant</i>	-0.043	-0.823*
(β_6)	(-1.46)	(-1.80)
Clean estimate: $\beta_1 + \beta_3 + \beta_4$	-0.058***	-0.609***
<i>t-stat</i>	(-3.79)	(-2.91)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	10,844	10,844
Adjusted R ²	0.187	0.287

This table reports the modified difference-in-difference analysis of firm performance around the passage of Sarbanes-Oxley Act and concurrent changes to the NYSE/NASDAQ listing rules. The sample is restricted to firms that are listed on NYSE or NASDAQ and the sample period is 1998-2005. The dependent variable is *Industry-adjusted ROA* for Model (1) and *Tobin's Q* for Model (2). *Post-SOX* is an indicator variable that equals one if the observation is in the period 2002-2005 and zero otherwise. *Noncompliant* is an indicator variable that equals one if the firm was noncompliant in the pre-SOX period, 1998-2001. The control variables in the specifications include the independent variables used in the firm performance regressions in Table 11, as well as the interactions of all the independent variables with the three key dummy variables: *Post-SOX*, *Noncompliant*, *Post-SOX * Noncompliant*. The coefficients of these control variables are omitted for brevity. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 14**Sample of Old Independent Directors Appointment Announcements**

Directors who were 65 or older at first appearance on a firm's board in ISS	2,213
Appointment news is not available in the Factiva database	747
Appointments by dual class firms	178
Appointment news are several years earlier than first appearance in ISS (probably appointment age below 65) or later than first appearance in ISS (probably reelection of incumbent directors)	39
Age is marginally below 65 in news if news contains information on age (mostly for first appearance at the age of 65 or 66)	86
Data around appointment is not available in CRSP/ISS/COMPUSTAT	36
Full sample	1,127
Directors are elected in annual shareholder meetings	154
Non-proxy sample	973
Multiple appointment of directors	200
Dividend/repurchase/stock split	36
Top officer turnover (CEO/CFO/Chairman/President/Vice President)	22
Merger/acquisition/spinoff	15
Earnings announcement	13
Proxy contest	5
Executive pay	2
Raising capital	1
Strategic plan to cut expenses	1
Separation of CEO and Chairman titles	1
Move headquarter	1
Clean sample	676

Table 15

Announcement Effect of Old Independent Director Appointments

Panel A: Univariate Analysis of Announcement CARs

	(1) Full sample	(2) Non-proxy sample	(3) Clean sample
Mean CAR	-0.205%**	-0.187%*	-0.197%*
<i>p</i> -value	(0.023)	(0.065)	(0.078)
Median CAR	-0.229%***	-0.212%**	-0.217%**
<i>p</i> -value	(0.008)	(0.035)	(0.042)
Mean CAR	-0.205%**	-0.187%*	-0.197%*

Panel B: Regressions of Announcement CARs

	(1) Full sample	(2) Non-proxy sample	(3) Clean sample
<i>Older-than-64 (%)</i>	-0.012*** (-2.75)	-0.010** (-2.19)	-0.012** (-2.46)
<i>ROA</i>	-0.015 (-0.82)	-0.015 (-0.74)	-0.024 (-1.03)
<i>Tobin's Q</i>	0.002 (1.40)	0.002 (1.64)	0.003 (1.51)
<i>Log market cap</i>	-0.000 (-0.16)	-0.001 (-0.56)	-0.000 (-0.36)
<i>RND</i>	0.031** (2.48)	0.038** (2.32)	0.028 (1.53)
<i>Volatility</i>	0.012 (0.53)	0.007 (0.27)	-0.021 (-0.69)
<i>Eindex</i>	0.001 (1.04)	0.001 (1.34)	0.001 (0.64)
<i>Board size</i>	-0.000 (-0.22)	0.000 (0.22)	-0.000 (-0.25)
<i>Independence</i>	0.003 (0.38)	0.002 (0.22)	-0.001 (-0.11)
<i>Director ownership</i>	-0.011 (-1.27)	-0.023** (-2.12)	-0.026** (-2.15)
<i>Duality</i>	-0.003 (-1.35)	-0.004 (-1.46)	-0.002 (-0.94)
<i>Busy board</i>	0.012 (1.01)	0.015 (1.49)	0.017 (1.46)
<i>Indep. blockholder</i>	-0.009 (-1.17)	-0.006 (-0.75)	-0.004 (-0.38)
<i>Indep. director tenure</i>	-0.003 (-0.53)	-0.005 (-0.66)	-0.007 (-0.75)
<i>Cooption</i>	-0.000 (-0.07)	-0.001 (-0.20)	-0.003 (-0.67)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
N	1,127	973	676
Adjusted R ²	0.079	0.094	0.133

This table reports the announcement effect of old independent director appointments. Announcement CAR is the cumulative abnormal returns over the 3-day window (-1, 1), where day 0 is the announcement date of the appointment. Panel A reports the univariate analysis of the announcement CARs. Panel B reports the OLS regressions of announcement CARs. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at industry level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Table 16
Announcement Effect of Director Retirement Policy Changes

Event type	Full sample	Clean sample
1. Increase mandatory retirement age	51	35
2. Remove mandatory retirement age	21	9
3. Extend the exact retirement date (e.g. from "upon 72th birthday" to "upon the next annual meeting following 72th birthday")	11	8
4. Waive mandatory retirement age for certain directors	4	3
5. Grant the board the discretion to waive mandatory retirement age	2	2
6. Allow the board to appoint emeritus directors beyond mandatory retirement age	2	2
Total	91	59
Mean CAR	-0.907%***	-0.620%**
<i>p</i> -value	(<0.001)	(0.023)
Median CAR	-0.685%***	-0.685%**
<i>p</i> -value	(0.001)	(<0.001)

Table A1
Variable Definitions

Variable	Definition
Firm characteristics	
<i>ROA</i>	Ratio of operating income before depreciation to total assets. We make industry adjustment by subtracting the industry mean ROA from raw ROA where specified. (Compustat)
<i>Tobin's Q</i>	Ratio of market value of assets to book value of assets. (Compustat)
<i>Log market cap</i>	The natural logarithm of the market value of equity. (Compustat)
<i>RND</i>	Ratio of research and development expenses to net sales. (Compustat)
<i>Volatility</i>	Standard deviation of monthly stock returns during the last five fiscal years. (CRSP)
Governance characteristics	
<i>Older-than-64 directors (%)</i>	Ratio of the number of independent directors aged 65 or above to the total number of independent directors. (ISS)
<i>Eindex</i>	The Bebchuk et al. (2009) entrenchment index of six takeover defenses. (ISS)
<i>Board size</i>	The number of directors sitting on the board. (ISS)
<i>Independence</i>	The percentage of directors who are independent. (ISS)
<i>Director ownership</i>	The aggregate percentage of shares owned by all directors. (ISS)
<i>Duality</i>	An indicator equal to one if CEO is also the chairman of the board, and 0 otherwise. (ISS)
<i>Busy board</i>	The percentage of independent directors who hold 3 or more directorships in the ISS universe firms. (ISS)
<i>Indep. blockholder</i>	An indicator equal to one if at least one independent director is a blockholder and 0 otherwise. Blockholders are investors with at least 5% share ownership in the firm. (ISS)
<i>Indep. director tenure</i>	The percentage of independent directors who have at least 15 years of tenure. Tenure is measured as the number of years between current year and the year when the director's board service began. (ISS)
<i>Cooption</i>	The percentage of directors who are appointed after the current CEO assumes office.
Outcome variables	
<i>Attend_less75_pct</i>	An indicator equal to one if an independent director attended less than 75% of a firm's board meetings, and zero otherwise. (ISS)
<i>Number of committee memberships</i>	The number of committee memberships on the audit committee, compensation committee, nominating committee and governance committee. (ISS)
<i>Committee chairman</i>	An indicator variable equal to one if a director is the chairman of any committee, and zero otherwise. (ISS)
<i>Audit and compensation committee member</i>	An indicator variable equal to one if a director sits on both the audit committee and the compensation committee, and zero otherwise. (ISS)
<i>Audit or compensation committee chairman</i>	An indicator variable equal to one if a director is the chairman of the audit committee or the compensation committee, and zero otherwise. (ISS)
<i>Discretionary accruals</i>	Performance-adjusted discretionary accruals, defined as the residual from a modified Jones model (Jones, 1991): $\frac{TA_{i,t}}{Asset_{i,t-1}} = \beta + \beta \frac{1}{Asset_{i,t-1}} + \frac{\Delta SALE_{i,t} - \Delta AR_{i,t}}{Asset_{i,t-1}} + \frac{PPE_{i,t}}{Asset_{i,t-1}} + ROA_{i,t-1} + \mu_{i,t}$
<i>Restatement</i>	We estimate the model within each fiscal year and Fama-French 48 industry and require at least 10 observations to perform each estimation. Variable definitions follow Kothari et al. (2005). (Compustat) An indicator equal to 1 if the firm subsequently restated the financial statements for that fiscal year, and 0 otherwise. (GAO and Audit

<i>Irregularity</i>	Analytics) An indicator equal to 1 if the firm subsequently restated the financial statements for that fiscal year and the restatement is classified as irregularity, and 0 otherwise. (GAO and Audit Analytics)
<i>Total compensation</i>	The natural logarithm of the dollar value of the CEO's total annual compensation. (Execucomp)
<i>Cash intensity</i>	The proportion of total annual CEO compensation that comes from cash. This is the amount of total current compensation (salary and bonus) scaled by total compensation. (Execucomp)
<i>Equity intensity</i>	The proportion of total annual CEO compensation that comes from option grants and stocks. This is the value of annual option awards plus the value of annual stock grants scaled by total compensation. (Execucomp)
<i>Forced turnover</i>	An indicator equal to one if a firm experiences a forced CEO turnover, and zero otherwise.
<i>Repurchase/EBIT</i>	The amount of repurchases scaled by earnings before interest and taxes. We compute share repurchases as the purchase of common and preferred stock minus any reduction in the value of the net number of preferred stocks outstanding. If the repurchase amount is less than 1% of the previous year's market capitalization, the repurchase amount is set to zero. (Compustat)
<i>Dividend/EBIT</i>	The total amount of dividends declared on the common/ordinary capital of the firm, scaled by earnings before interest and taxes. (Compustat)
<i>Total payout/EBIT</i>	The sum of repurchases and dividends, scaled by earnings before interest and taxes. (Compustat)
<i>Acquirer CAR</i>	Cumulative abnormal returns over the 5-day window (-2, 2), where day 0 is the announcement date. To calculate expected returns, we estimate a market model using the value-weighted market return over the 200-day period (-11, -210). (SDC and CRSP)

Table A2
First-stage Estimates

	(1)	(2)
<i>Local old director pool</i>	0.010*** (3.11)	0.009*** (2.90)
<i>Log market cap</i>	-0.005* (-1.85)	-0.005** (-2.00)
<i>RND</i>	-0.215*** (-3.44)	-0.214*** (-3.44)
<i>Volatility</i>	-0.215*** (-3.09)	-0.193*** (-2.84)
<i>Eindex</i>	-0.000 (-0.04)	-0.000 (-0.06)
<i>Board size</i>	0.002 (1.63)	0.002* (1.69)
<i>Independence</i>	-0.095*** (-3.74)	-0.098*** (-3.92)
<i>Director ownership</i>	0.190** (2.08)	0.182** (2.02)
<i>Director ownership²</i>	-0.213 (-1.19)	-0.206 (-1.17)
<i>Duality</i>	0.009 (1.55)	0.009* (1.65)
<i>Busy board</i>	0.091*** (3.81)	0.096*** (4.07)
<i>Indep. blockholder</i>	-0.037** (-2.35)	-0.035** (-2.26)
<i>Indep. director tenure</i>	0.337*** (17.74)	0.337*** (18.26)
<i>Cooption</i>	-0.020** (-2.25)	-0.021** (-2.37)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Cragg-Donald Wald <i>F</i> -stat (Weak identification test)	48.61	40.46
N	22,796	22,796
Adjusted R ²	0.174	0.178

This table reports the specific first-stage estimates for the 2SLS regressions from Table 12. Model (1) corresponds to Model (12) in Table 12 and Model (2) corresponds to Model (13) in Table 12. The dependent variable is *Older-than-64 directors (%)* and it's predicted from the local old director pool and second-stage controls. *Local old director pool* is the natural logarithm of the number of old executives from firms headquartered in the same state as the sample firm. The number of old executives of is the sum of all executives from Execucomp and all directors from ISS with identifiable age which is 65 or higher. The null hypothesis of weak instruments is rejected. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity and clustering at firm level. Superscripts ***, **, and * denote significance at 1%, 5%, and 10%, respectively.