The Impact of Governance Reform on Board Functioning and Firm Value: Evidence from the Post-SOX Directorial Labor Market

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Abstract

We investigate how governance reform affects board functioning and firm value through the labor market channel. We find that unseasoned independent directors (UIDs), directors entering the director labor market for the first time, are an important source of labor supply after the 2002 enactment of the Sarbanes-Oxley Act (SOX) when the director labor shortage is particularly acute. Although investors on average react negatively to a firm's decisions to appoint UIDs in the pre-SOX period, this negative reaction is completely negated in the post-SOX era. Moreover, boards with UIDs generally do not underperform those with only seasoned independent directors, especially in the post-SOX periods. In some corporate policies such as CEO turnover and compensation decisions, we find that boards with UIDs perform better than boards without UIDs post-SOX. UIDs are more likely to be appointed to monitoring committees such as audit, nominating/governance, and compensation committees in the post-SOX period relative to the pre-SOX period. Overall, our findings highlight the positive impact of governance reform on board functioning and firm value through its influence on directorial labor markets.

Today's boards are small and require every director to pull his or her weight. A new, first-time director may slow down or weaken effectiveness.

– "Board talent getting scarcer," *Businessweek*, January 28, 2008

Prior literature shows that the Sarbanes-Oxley Act (SOX) of 2002 has set new trends in corporate boardrooms but has also had unintended consequences. Linck, Netter, and Yang (2009), for example, find that SOX has led to an imbalance in the directorial labor market, as the declining supply of independent directors has not been able to meet firms' growing demand for such directors. Chen and Moers (2012) show that the shortage in the directorial labor market has been largely filled by new independent directors entering the directorial labor market for the first time. Anecdotal evidence also suggests that in the post-SOX corporate boardroom, directors with diverse backgrounds have been increasingly replacing positions once dominated by top business executives.[1]

The influx of relatively inexperienced directors has raised questions about the impact of this trend on board functioning. Some argue that the increased presence of inexperienced directors will make boards less effective, while others claim that more diversified boards will improve corporate decisions and business operations (Wahid (2013)). However, despite increasing presence of inexperienced directors on the board, the literature has little to say about the effectiveness of such unseasoned independent directors (UIDs), independent directors who are appointed as directors on corporate boards for the first time, and their effect on firm value. In this

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[1] For example, index fund manager Legal & General Investment Management's move to recruit board directors without prior board experience illustrates firms' efforts to increase diversity in the boardroom. ("LGIM calls for greater boardroom diversity," *Financial Times*, December 5, 2011.)

paper, we provide new evidence on how these UIDs, who have become an important source of labor supply since the enactment of SOX, affect board functioning and firm value.

There are two competing views about the role of UIDs. On the one hand, the negative view of UIDs posits that they may be worse directors than seasoned independent directors (SIDs), particularly in the post-SOX period when experienced director candidates are in short supply (Yermack (2006), Linck, Netter, and Yang (2009)). First, UIDs lack experience in the boardroom. This lack of experience puts them at a disadvantage as they need to learn how boards function and how to interact with management and other members of the board, which takes time. Moreover, UIDs tend to be young non-CEO executives or individuals who lack enterprise-wide experience. Although some UIDs have expertise in certain disciplines such as finance, accounting, law, or consulting, the lack of enterprise-wide experience makes it difficult for them to consider company matters at a strategic level, and may also make them inclined to defer to the CEO and other experienced directors when making board decisions. Second, UIDs tend to lack authority and social connections due to their status and exposure to the corporate world. UIDs may therefore need the help of incumbent CEOs and other seasoned directors for their career advancement, making them less independent than SIDs. Moreover, their lack of connections is likely to make them less valuable as independent directors as they cannot serve as an important source of business contacts (Mace (1986)). Finally, due to a tight directorial labor market in the post-SOX period, some firms may appoint ineffective UIDs simply to conform to the minimum requirements of board independence, without regard to their ability.

On the other hand, the positive view of UIDs holds that UIDs perform a value-enhancing role, especially in the post-SOX era. First, UIDs tend to be more independent than seasoned directors. Reform-minded newcomers can add value by disrupting the old boys' network in the boardroom

and providing more independent views in setting corporate agenda (Kramarz and Thesmar (2006), Adams and Ferreira (2009)). The role of an independent voice inside the boardroom has become increasingly important in the post-SOX era, when managers actively seek to maintain their influence through informal channels while complying with stringent board requirements.[2] Second, UIDs increase board diversity, which provides new perspectives on firm operations, and in turn increases firm value (Carter, Simkins, and Simpson (2003), Adams and Ferreira (2009)). Third, UIDs appointed during the post-SOX period may be of higher quality than those appointed pre-SOX and thus more likely to perform a valuable role. Since the passage of SOX, the nomination of board members has drawn much attention from the media and shareholder activists, which has increased the pressure on firms to tighten their screening procedures in recruiting directors (Bebchuk, Cohen, and Wang (2013)). This pressure is likely to be especially high when appointing UIDs who have no past performance as a director.[3] In support of this view, a 2008 report by executive search firm Spencer Stuart shows that firms are more strategic and cast a wider net when searching for director candidates in the post-SOX era.[4] Fourth, Linck, Netter, and Yang (2009) note that directors' workload and liability risk have increased with the passage of SOX, suggesting that the personal costs, including reputational costs, of becoming outside directors are more likely to outweigh the benefits in the post-SOX period. Consequently, under the new regime, lower quality directors may have fewer incentives to join the post-SOX directorial labor market. Further, since UIDs have no track record in this labor market and have

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[2] Coles, Daniel, and Naveen (2014) find that firms increase the proportion of outside directors prone to be more supportive of management in the post-SOX period. Kim and Lu (2012) provide evidence that in the post-SOX period, CEOs are more likely to appoint non-CEO top executives with pre-existing social connections to them in executive suites.

[3] For examples of heightened scrutiny of outside director appointments after the passage of SOX, see "Senator's wife nominated for utility board," *Associated Press Newswires*, April 8, 2003, and "Senate spouses find jobs on boards of PepsiCo, ConocoPhillips," *Bloomberg*, June 14, 2005.

[4] http://content.spencerstuart.com/sswebsite/pdf/lib/pov08.pdf.

to go through a stricter hiring process, it may be more costly for them to become a director in the post-SOX period. Thus, UIDs who decide to enter the directorial labor market in the post-SOX era may be of better quality than those who joined boards in the pre-SOX era.

To evaluate these competing views on the effectiveness of UIDs on corporate boards, we conduct appointment- as well as firm-level analyses for the period 1998 to 2010. We find that consistent with prior literature, there is an influx of UIDs in the post-SOX period, especially for the period 2002-2006 when the labor shortage is most severe. As a first test of appointment-level analyses, we examine the market's ex-ante valuation of UID appointment announcements. We find that, relative to SIDs, investors on average react more negatively to a firm's decision to appoint UIDs in the pre-SOX period but that this negative reaction is completely negated in the post-SOX era. These findings suggest that the market views UIDs appointed in the post-SOX period as better quality directors than those appointed in the pre-SOX period and that UIDs are equally as good as SIDs post-SOX. As a second test of appointment-level analyses, we compare board attendance records and the committee membership of UIDs with those of SIDs for the first three years of directorship. We find that the likelihood of missing board meetings is similar between UIDs and SIDs in both the pre- and post-SOX periods. Although UIDs are less likely to be appointed to monitoring and advisory committees pre-SOX compared to SIDs, the likelihood of UIDs being appointed to monitoring committees significantly increases post-SOX. These results suggest that UIDs play an increasingly important role in a firm's decision-making process post-SOX.

Next, we examine the number of directorships in other firms that UIDs receive after their first appointment and votes received by UIDs in director elections in the post-SOX period. We find that UIDs tend to receive more board seats from other firms in the post-SOX period

compared to the pre-SOX period. We also find that UID candidates receive more votes than SID candidates for election in the post-SOX. Our results reflect both the director labor market's positive view and shareholders' positive perception of the role of UIDs in the post-SOX boardroom.

Turning to firm-level analyses, to provide further evidence on the effectiveness of UIDs on corporate boards, we examine how the role of boards with UIDs is different from that of boards with SIDs in various corporate events. Consistent with the event study analysis, we find little evidence supporting the view that the influx of UIDs post-SOX weakens the quality of board functioning: UIDs perform as well as, if not better than, SIDs, and in some corporate events such as CEO turnover and compensation decisions, boards with UIDs perform better than boards without UIDs in the post-SOX period.

First, we find that compared to the pre-SOX period, UID presence in the post-SOX period significantly increases the sensitivity of CEO forced turnover to performance. Second, CEO pay in the post-SOX period is lower for firms whose boards have UIDs than for firms whose boards consist entirely of SIDs, particularly when UIDs sit on the compensation committee. Third, we find that while UIDs in the pre-SOX period are ineffective at preventing managers from making poor acquisition decisions, in the post-SOX period acquirers whose boards have UIDs do not perform worse than those whose boards do not have UIDs.

Finally, we examine how the presence of UIDs on the board affects firm value in the post-SOX period. We find that firms with UIDs in the post-SOX period outperform firms with SIDs when firm value is measured by Tobin's q.

Our study contributes to the literature in two important ways. First, we extend the literature on the effects of SOX on board functioning and firm value. There is growing evidence that SOX

may have had some unintended negative consequences. For example, Guthrie, Sokolowsky, and Wan (2010) find little material effects of the board reforms on reining in CEO pay, Krishnan et al. (2011) show that mandated independence requirements provide firms incentives to hire more directors who are socially tied to CFOs/CEOs, which results in greater earnings management, and Hwang and Kim (2009) show that firms use loopholes to hire independent directors who are not truly independent although they meet the regulatory requirements. In contrast, by examining how UIDs -- an important source of labor supply after the enactment of SOX -- affect board functioning and firm value, we show that corporate governance reform can have a positive effect.

Second, our research extends the literature that sheds light on the effects of SOX on the supply side of the directorial labor market (e.g., Chen and Moers (2012), Gao, He, and Kang (2012)). Chen and Moers (2012), who mainly focus on the determinants of new director appointments, identify a substantial inflow of unseasoned directors into post-SOX boardrooms. Gao, He, and Kang (2012) show that the rule changes targeted at boards of public firms have prompted many board members of privately held firms to depart and assume directorships in public firms. We provide evidence on not only the prevalence of UIDs as a new source of director labor market but also the positive impact of their presence on the overall quality of the board and firm value. Our findings suggest that under the heightened market scrutiny, firms are likely to take more prudent steps to recruit more effective outside directors (Bebchuk, Cohen, and Wang (2013)). The tough screening process prevents the labor market imbalance from undermining board effectiveness in the post-SOX period and helps enhance board oversight.

The paper is organized as follows. In Section I, we describe the data, discuss our identification of UIDs, and report summary statistics. In Section II, we report results from appointment-level analyses including the valuation effects of UID appointments, the likelihood

of UIDs missing board meetings, the likelihood of UIDs being assigned to monitoring/advising committees, the number of directorships in other firms after UIDs' first appointment, and votes received by UIDs in director elections in the post-SOX period. In Section III, we report results from firm-level analyses on the effects of UIDs on various corporate governance outcomes and firm value. We summarize our findings and conclude in Section IV.

I. Data, Identification of UIDs, and Summary Statistics

To examine the effectiveness of UIDs on corporate boards, we conduct both the firm- and appointment-level analyses. For the firm-level analyses, we construct our sample by matching the firms in the Standard and Poor's (S&P) Compustat database with the universe of firms in RiskMetrics (formerly IRRC director database). We delete firms with missing stock returns and financial data. We also exclude firms incorporated outside the U.S. The final sample consists of 17,100 firm-year observations for 2,604 unique firms from 1998 to 2010.[5]

We use several data sources to construct our variables. We use RiskMetrics to obtain information on board structure and other board-related variables. We obtain financial and stock return data from Compustat and the Center for Research in Security Prices (CRSP), respectively. We use Thomson 13F and BoardEx to obtain information on institutional holdings and the educational background and occupation history of the directors, respectively. Data on CEO compensation, CEO turnover, and CEO tenure are from Execucomp. Finally, data on mergers and acquisitions (M&As) and voting outcomes during firm annual general meetings are obtained

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[5] Our sample period begins in 1998 because important director information such as director shareholdings and committee memberships is missing prior to 1998. However, since information on the list of directors itself is complete prior to 1998, we use the list in 1997 to determine the independent director appointments in 1998.

from Security Data Corporation (SDC) Platinum M&A database and ISS Voting Analytics, respectively.

For the appointment-level analyses, we obtain our initial sample of independent director appointments by following directors across proxy statements in RiskMetrics. We consider a new director appointment being taken place when a director appears for the first time on the list of directors in a firm's proxy statement. Since we follow new independent director appointments for the first three years of their directorships in the appointment-level analyses, we exclude the cases where directors change their status to either affiliated or executive directors from independent directors during this period. We also delete the cases in which firms appoint more than five new directors in a given year since such multiple appointments are likely related to major corporate events (Fahlenbrach, Low, and Stulz, 2010). These filtering processes yield 10,371 independent director appointments.

A. Identification of UIDs

UIDs are defined as first-time directors who have never been a director on the board of a private or public U.S. firm.[6] Specifically, we first identify potential UID candidates by examining their directorship information reported in RiskMetrics. The directors are classified as UID candidates if they have no prior directorship experience in any S&P 1500 firms prior to joining their current boards. We then examine the profiles of these candidates using the BoardEx

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[6] In examining a director's past boardroom experience, we exclude board memberships in subsidiaries, foreign operations, foundations and other not-for-profit organizations, and government organizations such as the U.S. Nuclear Regulatory Commission and Federal Reserve banks. Although such experience may be helpful in fulfilling duties as a board member, boards of profit and not-for-profit organizations work differently and therefore qualifications to work on these entities are quite different (Hallock (2002)). Fich and Shivdasani (2006) also do not consider directorships held in nonpublic firms, not-for-profit and charitable organizations, trusts, and associations when defining busy directorships.

database to collect their directorship information in non-S&P 1500 firms and eliminate those candidates that have prior board membership outside S&P 1500 firms.[7] If director profiles are not available in BoardEx, we manually check their directorship history using other sources including proxy statements and company websites.

We consider a director as an UID during the first three years of her first independent directorship.[8] Directors with executive director experience prior to assuming their first independent directorship are not considered UIDs since they already have boardroom experience and thus are familiar with a board decision-making process. If directors assume additional independent directorships within the first three years of their service, they are still considered UIDs at the other firms because they are still relatively new to serving as a director.

B. Distributions of Sample Firms with an UID and Sample UID Appointments by Year

Panel A of Table I presents the distribution of firms with UIDs and the fraction of UIDs on the board in our sample. Out of 17,100 firm-year observations, 5,535 (32.4%) have at least one UID on their board. As expected, the annual average number of firms with an UID increases from 369 during the pre-SOX period (1998-2001) to 451 during the post-SOX period (2002-2010).[9] The proportion of firms with at least one UID increases to 35% in the post-SOX period from 27.1% in the pre-SOX period. Pearson chi-square test estimates indicate that the increase in firms with UIDs is statistically significant at the 1% level.

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[7] We thank Young Han (Andy) Kim for sharing the matched identifiers between BoardEx and Compustat.
[8] In untabulated tests, we also experiment with the first two (four) years of independent directorship and find qualitatively similar results.
[9] The passage of SOX occurred in July 2002, which coincided with the end of the 2001 fiscal year for many firms. Some studies use 2001 as the base year and exclude observations in the 2002 transition period (e.g., Kim and Lu (2012), Krishnan, Raman, Yang, and Yu (2011)). Our results remain qualitatively similar when we use this approach.

As shown in the last column of Panel A, the increase in the presence of UIDs on the board is mainly due to firms without any UIDs adding UIDs to their boards rather than firms with UIDs increasing the representation of UIDs on their boards: conditional on the presence of an UID, the percentage of independent directors who are UIDs decreases from an annual average of 22.3% in the pre-SOX period to 18.7% in the post-SOX period. Thus, the large increase in the number of UIDs post-SOX is largely driven by firms without UIDs adding UIDs to their boards. However, given that one out of five independent directors is an UID in both the pre- and post-SOX periods, representation of UIDs on the board remains stable over the full sample period.

Panel B of Table I reports the distribution of independent director appointments made by our sample firms. There are 8,070 SID appointments and 2,301 UID appointments from 1998 to 2010. The average annual ratio of the number of newly appointed SIDs to the total number of newly appointed independent directors falls to 77.3% post-SOX from 79.2% pre-SOX. In contrast, the average annual ratio of the number of newly appointed UIDs rises to 22.7% post-SOX from 20.8% pre-SOX. It is worth noting that the proportion of new UID appointments are highest immediately after the passage of SOX (i.e., 2004) when the director labor market is likely to experience a tight independent director supply.

C. Characteristics of Sample Firms

Panel A of Table II presents summary statistics on the firm, board, and CEO characteristics of our sample firm-year observations according to the presence of UIDs on the board. The Appendix provides detailed descriptions on the variables. We winsorize all continuous variables at the 1% level in both tails to mitigate the effects of potential outliers. Focusing first on the firm characteristics, we find that during the pre-SOX period, compared to firms without UIDs, firms

with UIDs on average are smaller, younger, and have higher investment opportunities as measured by Tobin's q. But these differences become weaker in the post-SOX period as the average size and age of firms with UIDs increase in the post-SOX period. Other firm characteristics such as return volatility, leverage, R&D intensity, ROA, and stock return performance are similar between firms with and without UIDs in both the pre-and post-SOX periods.

Focusing next on the board characteristics, we find that the boards of firms with UIDs are larger, more independent, and more co-opted than the boards of firms without UIDs in both the pre- and post-SOX periods. The average tenure of nonexecutive directors in boards of firms with UIDs is also lower than that of nonexecutive directors in boards of firms without UIDs in both the pre- and post-SOX periods.[10] With respect to the CEO characteristics, we find that while CEOs in firms with UIDs have shorter tenure than those in firms without UIDs in both periods, the incidence of CEOs being chairman of the board is similar between the two types of firms.

D. Characteristics of Newly-Appointed Directors

Panel B of Table II compares characteristics of newly appointed UIDs (SIDs) during the pre- and post-SOX periods. Columns (1) and (2) show that UIDs appointed in the post-SOX period are older and are more likely to have executive experience, financial expertise, and a MBA degree compared to those appointed in the pre-SOX period. Columns (3) and (4) show that SIDs appointed post-SOX are more likely to be older, female, and hold an MBA degree compared to those appointed in the pre-SOX period. The proportion of SIDs who have CEO, executive, and

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[10] The differences in average tenure and the proportion of co-opted boards between the two groups, however, could be simply due to the definition of UIDs used in the analysis.

same industry experience, or financial expertise increases significantly after the passage of SOX. Interestingly, the proportion of SIDs connected to the CEO decreases in the post-regulation era. We follow Fracassi and Tate (2012) in defining social ties between directors and the CEO.

As expected, we find that newly-appointed SIDs have more CEO and executive experience relative to newly-appointed UIDs. The SIDs also have more same industry experience. While about 27.6% (32.2%) of the SIDs have worked for or is working in a Fortune 500 firm during the pre-SOX (post-SOX) period, the corresponding number for UIDs is 22.6% (28.5%). Although UIDs lack executive experience, they are more likely to have financial expertise: about 15.2% (32.8%) of UIDs have financial expertise compared to 14.9% (29.9%) of SIDs in the pre-SOX (post-SOX) period. In addition, we find that compared to SIDs, UIDs are less likely to have social connections with the CEO, both pre- and post-SOX.

II. Appointment-Level Analyses

In this section we evaluate two competing views on the effectiveness of UIDs on corporate boards by conducting appointment-level analyses. The positive view on the effectiveness of UIDs suggests that in the post-SOX era, firms face increasing pressure to appoint better quality UIDs. Given increasing pressure on corporate boards, UIDs may also be required to familiarize themselves with various board issues and operations as quickly as possible after joining the boards. Furthermore, increased costs of being a director after the passage of SOX may weed out lower quality director candidates from the directorial labor markets. These arguments suggest that UIDs appointed in the post-SOX period are of higher quality and are more effective than those appointed in the pre-SOX period. In contrast, the negative view on the effectiveness of UIDs suggests the opposite. We perform six sets of tests to distinguish these two views: 1) the

likelihood of UID appointments, 2) the valuation effect of UID appointment announcements, 3) UIDs' board attendance record during the first three years of their service, 4) UIDs' committee assignments for the first three years of their directorship, 5) board seats in other firms during the first three years of UIDs' directorships, and 6) votes received by UIDs in director elections during the first three years of their service.

A. Determinants of UID Appointments

In Table III, we examine the determinants of UID appointments. Our dependent variable is an indicator that takes the value of one if an UID is appointed to the board, and zero if a SID is appointed. Our key independent variable of interest is an indicator, *SOX*, which equals one in the post-SOX period (2002 to 2010), and zero otherwise. We also include as explanatory variables several firm and board characteristics identified by prior literature as important factors that affect board function. All independent variables are lagged by one year. To control for the effect of the departure of SIDs on the likelihood of UID appointments, we include a binary variable equal to one if at least one SID has departed in the most recent two years, and zero otherwise.[11] Finally, we control for industry fixed effects.

In column (1), the coefficient estimate on *SOX* is positive and significant at the 5% level, confirming our earlier findings that compared to firms in the pre-SOX period, firms in the post-SOX period are more likely to appoint UIDs. We also find that smaller firms are more likely to appoint UIDs, consistent with the view that these firms have a more difficult time finding experienced seasoned directors willing to sit on their boards (Fahlenbrach, Low, and Stulz (2010)). In addition, firms with lower leverage and less independent boards are more likely to

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[11] Departures of UIDs account for less than 5% of independent director departures.

appoint UIDs. Further, firms that recently experienced a seasoned director departure are more likely to fill the position with another seasoned director. Although we find a positive and significant coefficient estimate on ROA, it becomes insignificant when we replace as the measure of firm size log (sales) with log (assets). The coefficients and significance of the other variables remain similar when we use log (assets) instead.

In column (2), we further divide the SOX period into two subperiods, 2002-2006 and 2007-2010, to examine whether the effect of the passage of SOX on UID appointment is permanent or temporary. We use 2006 as the cut-off year as 98% of our sample firms meet the requirement of having a majority (50%) of independent directors by 2006. We find that the increased appointments of UIDs occur mainly during the 2002 to 2006 period when the directorial labor market is likely to be particularly in disequilibrium. Therefore, the increased appointments of UIDs are mainly to fill the shortage in the directorial labor market immediately after the passage of SOX. The difference between the two coefficient estimates, however, is not statistically significant.

B. Announcement Effects of UID Appointments

We next examine how the market reacts to announcements of UIDs. If investors perceive UIDs as more effective directors than SIDs, we should observe a more positive stock price reaction to UID appointments compared to SID appointments. However, we should observe a less positive or a negative stock price reaction if investors perceive UIDs to be less effective directors than SIDs. We identify the initial public announcement dates of UID appointments from *Factiva*. We use as the announcement date the date that a news announcement first appears in *Factiva*. Out of 2,301 UID appointments, we are able to identify announcement dates for

1,507 appointments. After eliminating UID appointment announcements that have other confounding corporate events (e.g., M&A, dividend, share repurchase, earnings, and annual meeting announcements) from one day before to one day after the announcement date, we have a final sample of 613 uncontaminated UID appointments. For these 613 UID appointments, we follow Masulis, Wang, and Xie (2012) to create a matching sample of SID appointment announcements made by the same firms that elect UIDs within three years. Since the valuation effect of director appointment announcements can be significantly affected by various firm characteristics, this matching approach allows us to avoid results affected by differences in firm characteristics. When there are multiple matching SID appointment announcements, we choose the appointment whose announcement date is closest to that of the UID appointment. The exclusion of SID appointment announcements that have other confounding corporate events leaves us with 278 appointments of SIDs. After requiring non-missing values for the control variables, we are left with 535 announcements of UID appointments and 247 SID appointments.

The abnormal returns are calculated using a market model. We use the CRSP equally-weighted market return as the market portfolio return and estimate the market model parameters using days -280 to -61 relative to the news announcement (day 0). The daily abnormal return is cumulated to obtain the cumulative abnormal return (CAR) from day -1 to day $+1$.

Table IV presents the results of ordinary least squares (OLS) regressions in which the dependent variable is CAR (-1, 1). Our main independent variable of interest, *Unseasoned independent director*, is a binary variable that equals one if an UID is appointed, and zero if a SID is appointed. We use as the control variables those used in Defond, Hann, and Hu (2005) and Fich and Shivdasani (2006) and other director characteristics discussed in the previous section. In column (1), we find that the coefficient estimate on *Unseasoned independent director*

is -0.007, significant at the 1% level. This result suggests that all else being equal, the announcement returns for UID appointments are 0.7% lower than those for SID appointments. In column (2), we interact *Unseasoned independent director* with *SOX*. We find that the coefficient estimate on *Unseasoned independent director* is negative and significant at the 5% level (-0.022) but the coefficient estimate on the interaction term is positive and significant at the 10% level (0.019). These results suggest that the negative reaction to UID appointment announcements observed in column (1) is mainly driven by those made during the pre-SOX period and that this negative reaction is completely negated in the post-SOX period. The sum of the coefficient estimates on the UID indicator and the interaction term is indistinguishable from zero. Thus, in the post-SOX period, the announcement returns for UID appointments are similar to those for SID appointments.

C. Attendance Records, Committee Assignments, and Board Seats in Other Firms

In this subsection we follow each newly-appointed independent director for the first three years of their directorship and compare UIDs' board attendance records, committee membership assignments, and board seats held in other firms to those of SIDs. If UIDs are more (less) effective than SIDs, we would expect that they have less (more) board attendance problems, are assigned to more (fewer) important committees, and hold more (fewer) board seats in other firms due to strong (weak) demand for their director services. Our base regression is as follows:

$$y_{jit} = \alpha_i + \beta \textit{Unseasoned independent director}_{jit} + \gamma SOX_t + \mu \textit{Unseasoned independent}$$

$$\textit{director}_{jit} \times SOX_t + \psi X_{jit} + \eta Y_{it} + \varepsilon_{jit} , \qquad (1)$$

where *j, i,* and *t* denote the director, firm, and year, respectively. Depending on the specification, y_{jit} is the indicator for board meeting attendance, the indicator for committee assignments, or the

number of directorships held by the director in other firms. α_i is either industry or firm fixed effects, *Unseasoned independent director$_{jit}$* is a binary variable indicating whether director j is an UID in firm i in year t, SOX_t is a binary variable indicating whether the director-firm-year observation is in the post-SOX (2002 or thereafter) period, X_{jit} is a vector of control variables for director attributes, Y_{it} is a vector of control variables for firm and board characteristics, and ε_{jit} is an error term. We use as control variables those used in Yermack (2004) and Adams and Ferreira (2009). We also control for the change in SID presence on the board by including binary variables indicating the departure of SIDs in the recent two years and the appointment of another SID in the year. For the sake of brevity, the tables report only the coefficients and *p*-values on the variables measuring director characteristics and the change in SID presence on the board. Since our specification includes *SOX*, we do not include year fixed effects. Our results remain qualitatively the same when we exclude *SOX* and include year fixed effects instead. Standard errors are adjusted for heteroskedasticity and for clustering at the directorship level.

C.1. Attendance Records

Table V reports estimates from logit models with industry fixed effects (columns (1) and (2)) and from linear probability models (LPM) with firm fixed effects (columns (3) and (4)), where the dependent variable is equal to one if a director attends less than 75% of board meetings during a fiscal year and zero otherwise.[12] We follow attendance records of newly appointed directors for the first three years of their appointments. We find that in general, directors are less

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[12] We include firm fixed effects only in the LPM because the presence of a large number of fixed effects in the logit model would lead to an incidental parameters problem (Wooldridge (2002, pp. 484)).

likely to miss board meetings in the post-SOX period. In particular, newly-appointed UIDs and SIDs are equally likely to miss board meetings both in the pre- and post-SOX periods.[13]

C.2. Committee Assignments

In this subsection we examine the committee assignments of the newly appointed directors during the first three years of their appointments. We separately examine their membership on monitoring and advisory committees. Following Faleye, Hoitash, and Hoitash (2011) we include as monitoring committees the audit, nominating/governance, and compensation committees, and as advisory committees the finance, investment, strategy, acquisitions, science and technology, and executive committees.

The results on monitoring committee assignments are reported in Panel A of Table VI. The dependent variable is an indicator that takes the value of one if a director is a member of one of the monitoring committees in a given year, and zero otherwise. We include the number of a firm's monitoring committees in a given year as an additional control variable because firms are more likely to have nominating committees in the post-SOX period (Linck, Netter, and Yang (2009)). The results using logit regressions with industry fixed effects are reported in columns (1) and (2) and those using the LPM with firm fixed effects are reported in columns (3) and (4).

In columns (1) and (3), we find that UIDs and SIDs are equally likely to be appointed to a monitoring committee over the full period. In columns (2) and (4), we add an interaction term between *Unseasoned independent director* and *SOX*. Although the coefficient estimates on

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[13] The LPM specification with firm fixed effects may lack power in predicting attendance problems. Out of 1,301 (4,228) UIDs in the pre- (post-) SOX period, only 29 (59) have attendance problems. Similarly, out of 6,487 (16,868) SIDs in the pre- (post-) SOX period, only 208 (242) have attendance problems. We identify starting months of directors who have attendance problems from BoardEx and compare with annual meeting dates of RiskMetrics. We exclude 51 SIDs and 8 UIDs who joined the board between annual meeting dates from the analysis.

Unseasoned independent director and its interaction with *SOX* in column (2) are not significant, they are significantly negative and positive, respectively, in column (4). Thus, during the pre-SOX period, UIDs are less likely to be appointed to monitoring committees compared to SIDs. However, the likelihood of UIDs being appointed to monitoring committees increases during the post-SOX period such that UIDs and SIDs are equally likely to be appointed to monitoring committees in the post-SOX period (*p*-value on the test of whether the sum of the coefficients on *Unseasoned independent director* and its interaction with *SOX* is equal to zero is 0.478 in column (4)). These results that UIDs' responsibility in the post-SOX boardroom increases relative to the pre-SOX period are not surprising in light of the results in Panel B of Table II which shows that the percent of UIDs with financial expertise doubles in the post-SOX period and that newly-appointed UIDs are more likely to be financial experts compared to newly-appointed SIDs.

We next turn our attention to advisory committee assignments of newly-appointed directors. We focus only on firms that have advisory committee. In Panel B of Table VI the dependent variable is an indicator that takes the value of one if a director is a member of one of the advisory committees in a given year, and zero otherwise. The control variables are the same as those in Panel A of Table VI except that we replace the number of monitoring committees with the number of advisory committees. Reflecting the fact that UIDs lack boardroom expertise relative to SIDs and thus, may be less able to advise the CEOs, we find that UIDs are less likely to serve on the advisory committees than SIDs. In columns (1) and (3), we find that UIDs on average are less likely to serve on an advisory committee for the full period. In columns (2) and (4), where we separately look advisory committee assignments in the pre- and post-SOX periods, we find

that UIDs are relatively under-represented on advisory committees both in the pre- and post-SOX periods than SIDs.

C.3. Number of Directorships in Other Firms

Next, we examine the number of board seats in other firms held by UIDs and SIDs to measure market demand for them. Prior literature suggests that the number of outsider directorships is positively related to the market demand for directors' talent (Gilson (1990), Kaplan and Reishus (1990), Booth and Deli (1996), Brickley, Linck, and Coles (1999), Ferris, Jagannathan, and Pritchard (2003)).

Table VII presents the results. The dependent variable is the number of directorships in other firms held by directors in the first three years of their appointment. We include the number of directorships at the time of appointment as a control variable to take into account the fact that SIDs sit on more boards than UIDs at the time of appointment. In columns (1) and (3), the coefficient estimate on *Unseasoned independent director* is significantly negative at the 1% level. In columns (2) and (4), the coefficient estimate on *Unseasoned independent director* is significantly negative but the coefficient estimate on its interaction with *SOX* is significantly positive. Thus, although UIDs hold fewer directorships in other firms in the pre-SOX period than SIDs, their directorships in the post-SOX period increase significantly compared to their directorships in the pre-SOX period. However, UIDs continue to hold fewer board seats compared to SIDs in the post-SOX period since the sum of the coefficient estimates on *Unseasoned independent director* and its interaction with *SOX* is significantly different from zero (*p*-value = 0.00).

C.4. Votes Received in Director Election During the Post-SOX Period

In this subsection we examine votes received by UIDs and SIDs in director elections during the first three years of their service. Cai, Garner, and Walkiling (2009) show that directors' performance is positively associated with votes that they receive in elections. We obtain our sample of newly-appointed independent directors with election results by matching independent directors in the ISS Voting Analytics database with our sample of independent directors identified from RiskMetrics. We limit our attention to the first three years of director service, starting from the year they are elected as the board members. Our final sample consists of 7,585 director-firm-year observations from 2003 to 2008.[14]

Table VIII presents the results. The regression specification is similar to that used in Cai, Garner, and Walkiling (2009).[15] We use the excess percent "for" votes as the dependent variable. The excess percent "for" vote is computed by subtracting the firm's average percent of "for" votes, which is estimated by dividing the number of "for" votes by the sum of "for" and "withhold" votes, from a director's percent of "for" votes to control for firm-level effects. . We find that UID candidates receive more votes than SID candidates for election in the post-SOX, reflecting shareholders' positive perception of the overall performance of UIDs.

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[14] The Voting Analytics database begins election coverage in 2003.

[15] The residual is estimated from the following logit regression: ISS recommendation= Industry-adjusted ROA$_{t-1}$+ Proportion of outside directors + Board size + Directors' ownership + Confidential voting + Unequal voting + Majority voting + Vote-no campaign + Incumbent director (indicator) + Attend less than 75% of meetings (indicator) + Director's ownership + Director's tenure + Director's age + Year and industry dummies. Unlike Cai, Garner, and Walkling (2009), we do not include the governance index (Gompers, Ishii, and Metrick, 2003) as some of the component data is unavailable for the later part of our sample period. Our results do not change when we include the entrenchment index (Bebchuk, Cohen, and Ferrell, 2009).

D. Summary and Implications of Appointment-Level Results

In sum, our results using appointment-level data show that in the pre-SOX period, appointments of UIDs have worse market reactions compared to appointments of SIDs but these worse market reactions disappear in the post-SOX period. We also find that UIDs are less likely to be appointed to both the monitoring and advisory committees in the pre-SOX period compared to SIDs. However, the underrepresentation of UIDs on the monitoring committees in the pre-SOX period improves in the post-SOX period while their underrepresentation on the advisory committees in the pre-SOX period continues in the post-SOX period, possibly due to their lack of boardroom experience. Reflecting the increased positive perception of UIDs by the stock market and the appointing firms, UIDs' directorships in other firms in the post-SOX period increase significantly compared to those in in other firms in the pre-SOX period.

There are two possible explanations for why the stock markets and appointing firms no longer discount UIDs as much relative to SIDs after the passage of SOX. It could be the case that due to the tight labor market conditions post-SOX, there are fewer SIDs for the board and committee positions, so the firms have no choice but to fill the empty positions with inexperienced UIDs.[16] Alternatively, UIDs who join the boardroom during the post-SOX period may be more competitive than their peers in the pre-SOX period, reducing the market demand gap between seasoned and unseasoned directors. To understand which explanation is more likely, we now turn our attention to firm-level analysis to measure the impact of UID presence on corporate governance outcomes and firm value.

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[16] This explanation, however, does not explain why the market reaction to appointments of UIDs is similar to appointments of SIDs post-SOX.

III. Analyses Using Firm-Level Data

To examine how the presence of UIDs on boards affects major governance outcomes and firm value, we estimate the following regression:

$$y_{it} = \alpha_i + \beta \textit{Unseasoned independent director}_{it} + \gamma SOX_t + \mu \textit{Unseasoned independent}$$

$$\textit{director}_{it} \times SOX_t + \psi X_{it\text{-}1} + \varepsilon_{it} , \qquad\qquad (2)$$

where i and t denote firm and year, respectively. Depending on the specification, y_{it} is an indicator for forced CEO turnover, log (CEO pay), M&A announcement returns, and Tobin's q. α_i is either industry or firm fixed effects, *Unseasoned independent director$_{it}$* is a binary variable indicating whether a firm has at least one UID on the board, SOX_t is a binary variable indicating the post-SOX period (2002 or thereafter), $X_{it\text{-}1}$ is a vector of control variables, and ε_{it} is an error term. To ensure that *Unseasoned independent director* does not simply capture a changing board structure when a new director is appointed, we include various board characteristics such as average tenure of nonexecutive directors (Huang (2013)), the proportion of co-opted independent directors (Coles, Daniel, and Naveen (2014)), and directors' stock ownership. Although we do not explicitly control for the change in board characteristics, we expect firm fixed effects regressions to take into account within-firm changes in these board characteristics. We also include indicators for the departures and appointments of SIDs. In specifications that include *Unseasoned independent director*, we do not include year fixed effects. Our results remain qualitatively the same when we exclude *SOX* and include year fixed effects instead.

A. Forced CEO Turnover

The first corporate event we examine is the likelihood of forced CEO turnover. If UIDs are ineffective monitors and their presence weakens a board's oversight, we expect the sensitivity of

CEO turnover to performance to be lower for firms whose boards have UIDs. However, if the enactment of SOX improves the quality of UIDs, we expect turnover-performance sensitivity to become stronger in the post-SOX period. Out of 14,837 firm-year observations, 343 (2.31%) experience forced CEO turnover.[17]

Table IX presents the results of logit and LPM regressions in which the dependent variable is an indicator that takes the value of one if a forced CEO turnover event occurs in a given year and zero otherwise. Our key explanatory variables of interest are *UID board* and its interaction with past stock performance.[18] *UID board* is an indicator variable that equals one if there is at least one UID on the board and zero otherwise. In columns (1) and (2) we estimate logit models with year and industry fixed effects, and in columns (3) and (4) we estimate LPMs with year and firm fixed effects. Consistent with prior literature, we find that CEOs are more likely to be replaced following poor stock return performance. We also find that the sensitivity of forced CEO turnover to performance of firms with UIDs on the board is statistically indistinguishable from that of firms with only SIDs on the board for the full sample period (columns (1) and (3)). When we include a triple interaction term between *SOX*, *UID board*, and past stock returns, we find that the coefficient estimate on this interaction term is significantly negative, indicating that compared to the pre-SOX period, UID presence in the post-SOX period increases the sensitivity of turnover to performance (columns (2) and (4)). The *p*-values for the test that the sum of the coefficient estimates on the interaction between *UID board* and past stock returns and the interaction of this interaction term with *SOX* is equal to zero are 0.220 and 0.032 in columns (2)

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[17] The identification of forced CEO turnover is described in Jenter and Kanaan (2011) and Peters and Wagner (2012). We thank Jenter Dirk, Florian Peters, and Alexander Wagner for sharing their CEO turnover data.

[18] Powers (2005) and Ai and Norton (2003) highlight the problems of interpreting the marginal effects on the interaction term when the model is nonlinear. Therefore, we only show the coefficients and its associated significance.

and (4), respectively. These results indicate that the turnover-performance sensitivity of firms with at least one UID on their board during the post-SOX period is similar to or even higher than that of firms with only SIDs.

In untabulated tests, we reestimate regressions (1) and (3) separately for the pre- and post-SOX periods. We find that our inference does not change: during the pre-SOX period, boards with UIDs are equally effective as boards with only SIDs and during the post-SOX period, boards with UIDs are equally effective or even more effective compared to boards with only SIDs. Thus, there is no indication that boards with UIDs are ineffective in dismissing CEOs for their poor performance compared to boards with SIDs only.

B. CEO Compensation

We next examine CEO compensation to check whether a board with UID presence is ineffective in curtailing CEOs' self-serving behavior. We merge the RiskMetrics sample with the ExecuComp database to obtain information on CEO compensation. CEO total compensation (ExecuComp variable: TDC1) includes stock options granted, cash compensation, restricted stock grants, other annual compensation, long-term incentive payouts, and all other compensation. We use the log of CEO total compensation as the dependent variable. We control for several firm and CEO characteristics following prior literature on CEO compensation (e.g., Core, Holthausen, and Larcker (1999)).[19]

Columns (1) and (2) of Table X report estimates from regressions including industry fixed effects. In column (1), the coefficient estimate on *UID board* is negative and significant at the

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[19] We eliminate 13 firm-year observations of Apple and Fossil, which are identified by Guthrie, Sokolowsky, and Wan (2010) as outliers that influence analysis on the effect of board reforms on CEO pay.

1% level, suggesting that during the full sample period, boards with an UID pay CEOs less than boards with SIDs only. When we include the interaction between *UID board* and *SOX* in the regression (column (2)), the coefficient estimate on *UID board* becomes insignificantly positive, while the coefficient estimate on the interaction term is negative and significant at the 5% level. The *p*-value for the test of whether the sum of the coefficient estimates on *UID board* and its interaction with *SOX* is significantly different from zero is 0.001. Thus, UID presence in the post-SOX period is associated with lower levels of CEO pay compared to firms with SIDs only, but in the pre-SOX period, both types of firms have same level of CEO compensation.

In column (3), we replace *UID board* with two indicators: the indicator for firms with UIDs on their compensation committees, and the indicator for firms that have UIDs on their boards, but not on their compensation committees. We also include interaction terms between these indicators and *SOX*. About 13% of firm-year observations have at least one UID on their compensation committee. We find that only the coefficient estimate on the interaction term between the indicator for firms with UIDs on their compensation committees and *SOX* is significantly negative, suggesting that the negative effect of UIDs on CEO compensation in the post-SOX period stems mostly from the UIDs sitting on the compensation committees.

In columns (4) and (5), we replace industry fixed effects with firm fixed effects. Again, we do not find boards with UIDs being worse monitors than boards with only SIDs. Although the interaction term between *UID board* and *SOX* is insignificant in column (5), there is some weak evidence that CEO compensation in the post-SOX period is lower for firms with UIDs on their board than those with SIDs only (the *p*-value for the test of whether the sum of the coefficients on *UID board* and its interaction with *SOX* is significantly different from zero is 0.079).

C. M&A Decisions

To investigate whether the presence of UIDs on the board affects the quality of firms' investment decisions, we examine their M&A decisions. We study M&A activity because managerial objectives play an important role in firm acquisition decisions, and it has a significant effect on shareholder wealth. Our initial sample of M&As comes from Thomson Financial's Security Data Corporation (SDC) M&A database. Our final sample includes all completed M&As that meet the following selection criteria (Moeller, Schlingemann, and Stulz (2004), Masulis, Wang, and Xie (2007)): 1) the deal value disclosed by SDC is more than $1 million and at least 1% of the acquirer's market value of equity at the fiscal year-end prior to deal announcement, 2) the acquirer's financial and stock return data are available in COMPUSTAT and CRSP, respectively, and 3) the acquirer controls less than 5% of target shares prior to deal announcement and owns 100% of its shares after the acquisition. We ensure that there are no other acquisitions by the same acquirer are announced on the same day. Our final sample consists of 3,811 M&As made by firms covered in RiskMetrics over the 1998-2010 period.

Table XI report results of regressing acquirer announcement CAR (-1, 1) on *UID board*, *SOX*, the interaction term between *UID board* and *SOX*, various acquirer- and deal-specific characteristics used in Moeller, Schlingemann, and Stulz (2004) and Masulis, Wang, and Xie (2007), and year and industry fixed effects. In column (1), we find that the coefficient estimate on *UID board* is negative but insignificant. In column (2), we add *SOX* and its interaction with *UID board*. We find that while the coefficient estimate on *UID board* is significantly negative (-0.007), the coefficient estimate on the interaction term is significantly positive (0.009). Thus, the negative effect of the presence of UIDs on the board in the pre-SOX period is reversed in the post-SOX period. We also find that the sum of the coefficient estimates on *UID board* and its

interaction with *SOX* is statistically indistinguishable from zero (*p*-value=0.435), suggesting that during the post-SOX period M&A performance of firms with UIDs on the board are of equal quality to those by firms with only SIDs on the board.

D. Firm Value

In this subsection we investigate how the presence of UIDs on the board affects firm value. Table XII reports the results from regressions of log (Tobin's *q*) on *UID board*, *SOX*, the interaction term between *UID board* and *SOX*, and control variables. We also control for firm fixed effects.

In column (1), we find that *UID board* is insignificantly associated with Tobin's *q*. In columns (2), we add *SOX* and its interaction with *UID board*. *UID board* is still insignificantly associated with Tobin's *q* but the coefficient estimate on the interaction term is positive and significant at the 5% level. These results suggest that relative to the pre-SOX period, firms with an UID have a higher Tobin's *q* in the post-SOX period. The *p*-values for the test of whether the sum of the coefficient estimates on *UID board* and its interaction with *SOX* is significantly different from zero in columns (2). Thus, it appears that during the post-SOX period, firms with an UID perform better than firms without an UID. These findings are largely consistent with our earlier findings that boards with UIDs in the post-SOX period are at least as effective as boards with only SIDs.

E. Additional Tests

E.1. Board Composition around Appointments of UIDs and SIDs

One potential concern about using *UID board* as one of our key explanatory variables is that it simply captures the changes in other board attributes when an UID is appointed, especially in the post-SOX period where UIDs are appointed to comply with the SOX regulations of board independence. Although we control for various board characteristics in the regressions, to further alleviate this concern, in this subsection we explicitly examine the changes in board structures when an UID is appointed. We calculate the change in board structure from the year prior to the UID appointment to the year of appointment. Table XIII presents the average and median changes in board characteristics. Columns (1) and (2) show the changes in board composition in the pre-SOX period and columns (3) and (4) show the changes in board composition in the post-SOX period. The last two columns show tests of differences between the two periods. As expected, the average tenure of nonexecutive directors decreases and the proportion of co-opted independent directors on the board increases in both periods. We also find that the appointments of UIDs are associated with increases in board independence and board size in both periods. Importantly, we do not find much evidence that board structure improves relatively more upon the appointment of UIDs in the post-SOX period. The tests of difference between the two periods show that board independence increases more in the pre-SOX period compared to the post-SOX period. Furthermore, board size increases more in the post-SOX period upon an UID appointment compared to the pre-SOX period. These results suggest that our findings of more effective monitoring by boards with UIDs in the post-SOX period is mainly due to the appointment of higher quality UIDs post-SOX and not because of the changes in other board characteristics during the same period.

Overall, the results show that UIDs' positive and increasing role in corporate decisions in the post-SOX period is not attributed to any changes in board composition that may be caused by the governance reform.

E.2. Multiple UIDs

One may argue that the presence of only one UID on the board is unlikely to make much difference in board functioning. To address this concern, we repeat all the firm-level analyses in Section III by replacing *UID board* with a binary variable indicating whether boards have at least two UIDs. In untabulated tests, we find that our main conclusion does not change: UIDs are not worse directors than SIDs, especially in the post-SOX period.

IV. Summary and Conclusion

In this study we provide new insights into the effect of governance reform on a firm's decision to recruit independent directors and how these directors affect board functioning and firm policy. Although unseasoned independent directors (UIDs) are a key source of directorial labor supply in the post-SOX era, the studies on their effects on board quality are extremely thin. We provide evidence that UID presence in the post-SOX boardrooms has a positive effect on overall board quality.

More specifically, we find that although investors on average react negatively to UID appointments in the pre-SOX period, this negative reaction is completely negated in the post-SOX period. We also find that although UIDs are less likely to be appointed to the monitoring committees in the pre-SOX period compared to seasoned independent directors, the likelihood of UIDs being appointed to the monitoring committees significantly increases after the passage of

SOX, suggesting their increasingly important role in a firm's decision-making process. UIDs are also more likely to receive directorships in other firms in the post-SOX period.

Next we find that UID presence on the board increases the sensitivity of CEO turnover to performance in the post-SOX period. CEO pay in the post-regulation period is lower for firms with UIDs on the board than for firms whose boards consist entirely of seasoned independent directors, particularly when UIDs sit on the compensation committee. Although UID presence on the board in the pre-SOX period does not prevent the management from making poor M&A decisions, M&A performance of firms with UIDs improves after the passage of SOX as measured by merger announcement effects. Finally, we find that during the post-SOX period, the firms with UIDs outperform those with only seasoned independent directors when performance is measured by Tobin's q.

Overall, we find little evidence supporting the view that the influx of UIDs post-SOX weakens the quality of board monitoring and advice. Previous studies on the effect of SOX on governance reform present evidence supporting the negative view of SOX, which holds that SOX has disrupted the mechanisms through which firms optimally choose board directors. In contrast to this view, we find that the influx of UIDs post-SOX does not hamper board effectiveness and their presence even appears to improve board performance.

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Table I
Sample Distribution

The table shows the yearly distribution of firm-year observations and independent director appointments in our samples. Our sample consists of 17,100 firm-year observations covered in RiskMetrics and 10,371 independent director appointments made by sample firms during the period 1998-2010. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. All other independent directors are considered as seasoned independent directors (SIDs). Panel A shows the distribution of firm-year observations by year and the number and percentage of firms with UIDs. The last two columns report annual average percentage of independent directors who are UIDs in our sample firms. Panel B shows the distribution of UID and SID appointments by year.

Panel A. Distribution of Firms with an UID and Fraction of UIDs on the Board

Year	No. of firms (a)	No. of firms with at least one UID (b)	(b) / (a): %	Average percentage of independent directors who are UIDs	Average percentage of independent directors who are UIDs, conditional on UID presence
1998	1,404	359	25.57	5.76	23.64
1999	1,375	365	26.55	6.05	22.71
2000	1,426	412	28.89	6.79	22.54
2001	1,244	341	27.41	5.92	20.39
2002	1,274	388	30.46	6.65	20.66
2003	1,283	446	34.76	7.24	19.86
2004	1,251	495	39.57	8.22	19.96
2005	1,219	485	39.79	8.09	19.41
2006	1,120	436	38.93	7.59	18.98
2007	1,319	430	32.60	5.90	17.56
2008	1,376	447	32.49	5.63	16.98
2009	1,396	474	33.95	6.10	17.50
2010	1,413	457	32.34	5.68	17.44
1998-2010	17,100	5,535	32.37	6.54	19.48
Annual average during the pre-SOX (1998-2001)	1,362	369	27.10	6.13	22.32
Annual average during the post-SOX (2002-2010)	1,295	451	34.99	6.79	18.71
Test of difference between pre- and post-SOX (p-value)	-	-	Pearson chi-square test: (0.000)	two-tailed t-test: (0.002)	two-tailed t-test: (0.000)

Panel B. Distribution of Independent Director Appointments

Year	No. of newly appointed independent directors	No. of newly appointed SIDs (%)	No. of newly appointed UIDs (%)
1998	769	595 (77.37)	174 (22.63)
1999	746	592 (79.36)	154 (20.64)
2000	769	618 (80.36)	151 (19.64)
2001	748	595 (79.55)	153 (20.45)
2002	761	588 (77.27)	173 (22.73)
2003	902	690 (76.50)	212 (23.50)
2004	919	667 (72.58)	252 (27.42)
2005	803	632 (78.70)	171 (21.30)
2006	696	552 (79.31)	144 (20.69)
2007	944	727 (77.01)	217 (22.99)
2008	827	652 (78.84)	175 (21.16)
2009	763	590 (77.33)	173 (22.67)
2010	724	572 (79.01)	152 (20.99)
1998-2010	10,371	8,070 (77.81)	2,301 (22.19)
Annual average during the pre-SOX (1998-2001)	758	600 (79.16)	158 (20.84)
Annual average during the post-SOX (2002-2010)	815	630 (77.26)	185 (22.74)

Table II
Summary Statistics

The table shows summary statistics for the sample of our firm-year observations (Panel A) and independent directors appointed by sample firms between 1998 and 2010 (Panel B). Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. All other independent directors are considered as seasoned independent directors (SIDs). The Appendix provides a detailed description of the variables. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Summary Statistics for Firm-year Observations

	Pre-SOX		Post-SOX			
	Firms with UIDs	Firms without UIDs	Firms with UIDs	Firms without UIDs	Test of difference	
	Mean	Mean	Mean	Mean	*t*-tests	
	(1)	(2)	(3)	(4)	(1)-(3)	(2)-(4)
Firm characteristics						
Sales ($ billions)	2.891	4.135***	4.193	5.502***	-4.403***	-2.020***
Firm age (years)	22.724	25.84***	27.127	27.86*	0.008***	0.005***
Return volatility	0.031	0.028***	0.023	0.023	0.024***	0.016***
Leverage	0.237	0.233	0.213	0.217	0.008***	0.005***
R&D/assets	0.032	0.03	0.024	0.025	0.013***	0.009***
ROA	0.147	0.146	0.134	0.137	-0.038***	-0.073***
Stock performance	0.049	0.011	0.087	0.084	0.409**	0.293**
Tobin's *q*	2.323	2.266**	1.914	1.973	-0.062***	-0.074***
Institutional blockholder (indicator)	0.888	0.871	0.950	0.945**	-1.302***	-1.367***
Board characteristics						
Board size	9.708	9.506**	9.590	9.288***	0.118	0.218***
Proportion of independent directors	0.648	0.603***	0.745	0.729***	-0.097***	-0.126***
Average tenure of nonexecutive directors	6.841	8.550***	7.370	8.649***	-0.529***	-0.099
Proportion of co-opted independent directors	0.318	0.274***	0.369	0.319***	-0.051***	-0.045***
Directors' stock ownership (%)	1.324	1.243	1.367	1.275	-0.043	-0.032
Departure of seasoned directors (indicator)	0.525	0.499	0.509	0.479***	0.016	0.020**
Arrival of seasoned directors (indicator)	0.335	0.313	0.354	0.364	-0.019	-0.051***
CEO characteristics						
CEO-chair duality (indicator)	0.659	0.686	0.574	0.583	0.085***	0.103***
CEO tenure (years)	6.705	8.398***	7.413	8.077***	-0.708***	0.321**

Panel B. Summary Statistics for Newly Appointed Independent Directors

	UIDs		SIDs		Test of difference	
	Pre-SOX	Post-SOX	Pre-SOX	Post-SOX		
	Mean	Mean	Mean	Mean	*t*-tests	
	(1)	(2)	(3)	(4)	(1)-(3)	(2)-(4)
Director's age (years)	53.987	55.680***	54.624	55.605***	-0.637*	0.075***
Female director (indicator)	0.277	0.250	0.119	0.147***	0.158***	0.103***
Director with CEO experience (indicator)	0.000	0.000	0.242	0.293***	-0.242***	-0.293***
Director with executive experience (indicator)	0.226	0.285**	0.276	0.322***	-0.050*	-0.037***
Director with same industry experience (indicator)	0.060	0.083	0.089	0.127***	-0.029*	-0.044***
Director with financial expertise (indicator)	0.152	0.328***	0.149	0.299***	0.003	0.029***
Director with legal expertise (indicator)	0.112	0.107	0.083	0.093	0.029*	0.014
Director with a MBA degree (indicator)	0.237	0.294**	0.298	0.343***	-0.061**	-0.049***
Director with Ph.D. (indicator)	0.152	0.125	0.123	0.089***	0.029*	0.036***
Director graduated from Ivy League (indicator)	0.429	0.412	0.477	0.460	-0.048**	-0.048
Director with ties to the CEO (indicator)	0.074	0.060	0.141	0.112***	-0.067***	-0.052***

Table III
Determinants of Unseasoned Independent Director Appointments

The sample consists of 10,088 independent director appointments from 1998 to 2010 that have non-missing values for control variables. The dependent variable is an indicator that takes the value of one if an unseasoned independent director is appointed to the board and zero if a seasoned independent director is appointed. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. All other independent directors are considered as seasoned independent directors (SIDs). The Appendix provides a detailed description of the variables. *P*-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	(1)	(2)
SOX (indicator)	0.147**	
	(0.020)	
SOX from 2002 to 2006 (indicator)		0.158**
		(0.018)
SOX from 2007 to 2010 (indicator)		0.125
		(0.105)
Log (sales)	-0.165***	-0.164***
	(0.000)	(0.000)
Log (firm age)	-0.004	-0.003
	(0.916)	(0.935)
Return volatility	0.131	0.228
	(0.958)	(0.928)
Leverage	-0.307*	-0.314*
	(0.089)	(0.084)
R&D/assets	0.280	0.275
	(0.714)	(0.719)
ROA	0.851**	0.858**
	(0.028)	(0.027)
Stock performance	-0.007	-0.009
	(0.894)	(0.865)
Tobin's q	-0.037	-0.037
	(0.133)	(0.129)
Board size	-0.011	-0.011
	(0.466)	(0.460)
Proportion of independent directors	-0.382*	-0.355
	(0.068)	(0.106)
Average tenure of nonexecutive directors	0.015	0.015
	(0.128)	(0.126)
Proportion of co-opted independent directors	0.209	0.206
	(0.339)	(0.345)
Directors' stock ownership	-0.003	-0.003
	(0.669)	(0.685)
Departure of seasoned directors (indicator)	-0.117**	-0.119**
	(0.028)	(0.026)
Institutional blockholder (indicator)	0.069	0.071
	(0.487)	(0.472)
CEO-chair duality (indicator)	0.044	0.040
	(0.446)	(0.497)
Log (CEO tenure)	0.006	0.007
	(0.927)	(0.905)
Industry fixed effects	Y	Y
No. of observations	10,088	10,088
Pseudo R^2	0.021	0.021

Table IV
Cumulative Abnormal Returns (CARs) around the Announcement Date of Independent Director Appointments

The sample consists of 782 uncontaminated announcements of unseasoned independent director (UID) appointments and seasoned independent director (SID) appointments made by the same firms within three years of the UID appointment that have non-missing values for control variables. UIDs are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. The dependent variable is the cumulative abnormal return (CAR) from day -1 to day +1, where day 0 is the announcement date. The abnormal returns are calculated using a market model. We use the CRSP equally-weighted market return as the market portfolio return and estimate the parameters of the market model using data from days -280 to -61 relative to the announcement date. The Appendix provides a detailed description of the variables. *P*-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	(1)	(2)
Unseasoned independent director (indicator): a	-0.007**	-0.022**
	(0.016)	(0.016)
SOX (indicator): b		-0.009
		(0.245)
a×b		0.019*
		(0.051)
Log (director's age)	-0.002	0.001
	(0.890)	(0.963)
Female director (indicator)	-0.004	-0.004
	(0.352)	(0.292)
Director with finance expertise (indicator)	0.002	0.001
	(0.591)	(0.841)
Director with executive experience (indicator)	0.002	0.001
	(0.624)	(0.742)
Director with same industry experience (indicator)	0.013**	0.012*
	(0.029)	(0.058)
Director with legal expertise (indicator)	0.003	0.003
	(0.554)	(0.488)
Director graduated from Ivy League (indicator)	0.001	0.001
	(0.689)	(0.755)
Director with MBA (indicator)	0.002	0.002
	(0.543)	(0.584)
Director with Ph.D. (indicator)	0.003	0.003
	(0.658)	(0.647)
Departure of seasoned directors (indicator)	-0.004	-0.004
	(0.259)	(0.185)
Additional control variables		Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets , ROA, Stock performance, Tobin's *q*, CEO-chair duality (indicator), Log (CEO tenure), Institutional blockholder (indicator), Board size, % of independent directors, Average tenure of nonexecutive directors, % of co-opted independent directors, Directors' stock ownership
P-value for the test of a + (a×b) = 0		0.316
Year fixed effects	Y	N
Industry fixed effects	Y	Y
No. of observations	782	782
Adj. R^2	0.079	0.062

Table V
Likelihood of Missing Board Meeting

The table examines board attendance records of newly-appointed independent directors between 1997 and 2007. We follow each newly-appointed director for the first three years of her service. The dependent variable is an indicator that takes the value of one if a director attends less than 75% of board meetings during a fiscal year, and zero otherwise. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. The Appendix provides a detailed description of the variables. P-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the directorship level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	Logit		LPM	
	(1)	(2)	(3)	(4)
Unseasoned independent director (indicator): a	-0.128	-0.318	-0.002	-0.007
	(0.369)	(0.171)	(0.440)	(0.170)
SOX (indicator): b		-0.680***		-0.009***
		(0.000)		(0.007)
a×b		0.308		0.007
		(0.271)		(0.222)
Log (director's age)	-0.672**	-0.753***	-0.016**	-0.019***
	(0.011)	(0.006)	(0.019)	(0.007)
Female director (indicator)	-0.118	-0.125	-0.003	-0.004
	(0.395)	(0.367)	(0.127)	(0.105)
Director's tenure	0.535***	0.438***	0.009***	0.008***
	(0.000)	(0.000)	(0.000)	(0.000)
No. of directorships at the time of appointment	-0.012	-0.007	-0.000	-0.000
	(0.879)	(0.926)	(0.889)	(0.969)
No. of other directorships	0.056	0.067	0.000	0.000
	(0.451)	(0.366)	(0.849)	(0.795)
Director with finance expertise (indicator)	-0.634***	-0.693***	-0.008***	-0.008***
	(0.000)	(0.000)	(0.000)	(0.000)
Director with executive experience (indicator)	0.045	0.025	-0.001	-0.001
	(0.733)	(0.850)	(0.762)	(0.656)
Director with same industry experience (indicator)	-0.249	-0.293	-0.004	-0.004
	(0.212)	(0.140)	(0.213)	(0.181)
Director with legal expertise (indicator)	0.023	0.000	0.000	0.000
	(0.904)	(1.000)	(0.928)	(0.972)
Director graduated from Ivy League (indicator)	0.143	0.124	0.002	0.002
	(0.226)	(0.289)	(0.385)	(0.426)
Director with MBA (indicator)	-0.406***	-0.430***	-0.005***	-0.006***
	(0.004)	(0.002)	(0.007)	(0.004)
Director with Ph.D. (indicator)	-0.005	-0.009	-0.003	-0.003
	(0.977)	(0.959)	(0.381)	(0.366)
Departure of seasoned directors (indicator)	0.216**	0.270***	0.004**	0.005***
	(0.037)	(0.009)	(0.043)	(0.009)
Arrival of new seasoned directors (indicator)	-0.225**	-0.224**	-0.003	-0.003
	(0.041)	(0.042)	(0.124)	(0.115)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Tobin's q, Institutional blockholder (indicator), Board size, % of independent directors, Average tenure of nonexecutive directors, % of co-opted independent directors, Directors' stock ownership			
P-value for the test of a + (a×b) = 0	-	0.962	-	0.914
Year fixed effects	Y	N	Y	N
Industry fixed effects	Y	Y	N	N
Firm fixed effects	N	N	Y	Y
No. of observations	27,902	27,902	28,291	28,291
Pseudo R^2 /Adj. R^2	0.079	0.069	0.042	0.040

Table VI
Likelihood of Board Committee Assignments

The table examines committee assignments of newly-appointed independent directors between 1997 and 2007. We follow each newly-appointed director for the first three years of her service. In Panel A, the dependent variable is an indicator that takes the value of if a director is a member of one of the monitoring committees (audit, compensation, nominating/governance committee) in a given year, and zero otherwise. In Panel B, the dependent variable is an indicator that takes the value of if a director is a member of one of the advisory committees (finance, investment, strategy, science and technology, and executive committees) in a given year, and zero otherwise. We exclude firms that do not have any advisory committees. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. The Appendix provides a detailed description of the variables. P-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the directorship level. ***, **, and * indicates are significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Likelihood of Monitoring Committee Assignments

Independent variables	Logit		LPM	
	(1)	(2)	(3)	(4)
Unseasoned independent director (indicator): a	-0.058	-0.138	-0.003	-0.026*
	(0.353)	(0.157)	(0.694)	(0.063)
SOX (indicator): b		0.142***		0.019**
		(0.010)		(0.018)
a×b		0.121		0.032**
		(0.281)		(0.039)
No. of monitoring committees	0.796***	0.817***	0.096***	0.103***
	(0.000)	(0.000)	(0.000)	(0.000)
Log (director's age)	0.307*	0.318**	0.063***	0.058***
	(0.055)	(0.046)	(0.002)	(0.004)
Female director (indicator)	0.065	0.068	0.009	0.009
	(0.294)	(0.270)	(0.173)	(0.179)
Director's tenure	1.252***	1.220***	0.144***	0.141***
	(0.000)	(0.000)	(0.000)	(0.000)
No. of directorships at the time of appointment	0.015	0.008	0.005	0.004
	(0.766)	(0.875)	(0.175)	(0.222)
No. of other directorships	0.071	0.074	0.004	0.004
	(0.153)	(0.133)	(0.271)	(0.197)
Director with finance expertise (indicator)	0.412***	0.418***	0.047***	0.048***
	(0.000)	(0.000)	(0.000)	(0.000)
Director with executive experience (indicator)	0.136***	0.136***	0.009	0.008
	(0.009)	(0.009)	(0.129)	(0.139)
Director with same industry experience (indicator)	0.124	0.121	0.007	0.006
	(0.142)	(0.150)	(0.441)	(0.509)
Director with legal expertise (indicator)	-0.067	-0.066	-0.006	-0.006
	(0.380)	(0.389)	(0.510)	(0.516)
Director graduated from Ivy League (indicator)	-0.004	-0.004	0.002	0.002
	(0.934)	(0.938)	(0.662)	(0.664)
Director with MBA (indicator)	0.139***	0.139***	0.016***	0.015***
	(0.008)	(0.007)	(0.005)	(0.009)
Director with Ph.D. (indicator)	-0.245***	-0.245***	-0.035***	-0.035***
	(0.002)	(0.002)	(0.000)	(0.000)
Departure of seasoned directors (indicator)	-0.071*	-0.070*	-0.015***	-0.012**
	(0.090)	(0.094)	(0.003)	(0.019)
Arrival of new seasoned directors (indicator)	-0.224***	-0.225***	-0.044***	-0.045***
	(0.000)	(0.000)	(0.000)	(0.000)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Tobin's *q,* Institutional blockholder (indicator), Board size, % of independent directors, Average tenure of nonexecutive directors, % of co-opted independent directors, Directors' stock ownership			
P-value for the test of a + (a×b) = 0	-	0.812	-	0.478
Year fixed effects	Y	N	Y	N
Industry fixed effects	Y	Y	N	N

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	N	N	Y	Y
Firm fixed effects	N	N	Y	Y
No. of observations	28,348	28,348	28,348	28,348
Pseudo R^2/Adj. R^2	0.248	0.245	0.289	0.286

Panel B: Likelihood of Advisory Committee Assignments

	Logit		LPM	
Independent variables	(1)	(2)	(3)	(4)
Unseasoned independent director (indicator): a	-0.329***	-0.181	-0.101***	-0.107***
	(0.000)	(0.264)	(0.000)	(0.001)
SOX (indicator): b		0.218***		0.053***
		(0.001)		(0.001)
a×b		-0.170		0.006
		(0.318)		(0.853)
No. of advisory committees	0.381***	0.399***	0.052***	0.057***
	(0.000)	(0.000)	(0.000)	(0.000)
Log (director's age)	-0.133	-0.161	-0.002	0.009
	(0.539)	(0.453)	(0.964)	(0.866)
Female director (indicator)	-0.462***	-0.458***	-0.105***	-0.104***
	(0.000)	(0.000)	(0.000)	(0.000)
Director's tenure	0.067***	0.068***	0.016***	0.016***
	(0.001)	(0.001)	(0.000)	(0.000)
No. of directorships at the time of appointment	0.161***	0.164***	0.040***	0.041***
	(0.000)	(0.000)	(0.000)	(0.000)
No. of other directorships	0.406***	0.393***	0.080***	0.077***
	(0.000)	(0.000)	(0.000)	(0.000)
Director with finance expertise (indicator)	0.069	0.080	0.011	0.014
	(0.312)	(0.240)	(0.451)	(0.320)
Director with executive experience (indicator)	0.219***	0.220***	0.046***	0.047***
	(0.001)	(0.001)	(0.001)	(0.001)
Director with same industry experience (indicator)	-0.023	-0.026	0.002	0.002
	(0.823)	(0.804)	(0.934)	(0.929)
Director with legal expertise (indicator)	0.047	0.053	-0.008	-0.008
	(0.633)	(0.595)	(0.699)	(0.707)
Director graduated from Ivy League (indicator)	0.114*	0.120**	0.033**	0.036***
	(0.058)	(0.044)	(0.011)	(0.007)
Director with MBA (indicator)	0.100	0.107	0.016	0.016
	(0.133)	(0.107)	(0.270)	(0.274)
Director with Ph.D. (indicator)	-0.119	-0.110	-0.025	-0.025
	(0.227)	(0.262)	(0.231)	(0.241)
Departure of seasoned directors (indicator)	0.001	0.016	0.002	0.002
	(0.979)	(0.731)	(0.865)	(0.808)
Arrival of new seasoned directors (indicator)	-0.177***	-0.174***	-0.018**	-0.019**
	(0.000)	(0.000)	(0.031)	(0.024)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Tobin's q, Institutional blockholder (indicator), Board size, % of independent directors, Average tenure of nonexecutive directors, % of co-opted independent directors, Directors' stock ownership			
P-value for the test of a + (a×b) = 0	-	0.000	-	0.000
Year fixed effects	Y	N	Y	N
Industry fixed effects	Y	Y	N	N
Firm fixed effects	N	N	Y	Y
No. of observations	13,621	13,621	13,621	13,621
Pseudo R^2/Adj. R^2	0.134	0.132	0.218	0.214

Table VII
Regression of Number of Other Directorships Held by Directors on Explanatory Variables

The table examines the number of other board seats held by newly-appointed independent directors between 1997 and 2007. We follow each newly-appointed director for the first three years of her service. The dependent variable is the number of directorships in other RiskMetrics firms held by directors in the first three years of their appointment. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. The Appendix provides a detailed description of the variables. *P*-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the directorship level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	OLS		LPM	
	(1)	(2)	(3)	(4)
Unseasoned independent director (indicator): a	-0.108***	-0.149***	-0.097***	-0.147***
	(0.000)	(0.000)	(0.000)	(0.000)
SOX (indicator): b		-0.041***		-0.048***
		(0.000)		(0.002)
a×b		0.051***		0.062***
		(0.002)		(0.003)
Log (director's age)	0.176***	0.183***	0.211***	0.219***
	(0.000)	(0.000)	(0.000)	(0.000)
Female director (indicator)	0.030**	0.030**	0.027*	0.027*
	(0.038)	(0.032)	(0.066)	(0.061)
Director's tenure	0.051***	0.044***	0.051***	0.046***
	(0.000)	(0.000)	(0.000)	(0.000)
No. of directorships at the time of appointment	0.838***	0.837***	0.828***	0.828***
	(0.000)	(0.000)	(0.000)	(0.000)
Director with finance expertise (indicator)	0.057***	0.056***	0.062***	0.059***
	(0.000)	(0.000)	(0.000)	(0.000)
Director with executive experience (indicator)	0.028**	0.028**	0.008	0.009
	(0.031)	(0.032)	(0.550)	(0.514)
Director with same industry experience (indicator)	0.023	0.022	0.013	0.012
	(0.253)	(0.278)	(0.523)	(0.554)
Director with legal expertise (indicator)	0.024	0.024	0.030	0.030
	(0.200)	(0.210)	(0.125)	(0.135)
Director graduated from Ivy League (indicator)	0.029**	0.028**	0.020	0.019
	(0.013)	(0.019)	(0.117)	(0.135)
Director with MBA (indicator)	0.025*	0.023*	0.034**	0.033**
	(0.059)	(0.090)	(0.013)	(0.017)
Director with Ph.D. (indicator)	0.021	0.020	0.013	0.010
	(0.263)	(0.297)	(0.539)	(0.608)
Departure of seasoned directors (indicator)	-0.004	-0.004	-0.006	-0.006
	(0.673)	(0.636)	(0.559)	(0.578)
Arrival of new seasoned directors (indicator)	-0.002	-0.002	-0.004	-0.007
	(0.864)	(0.819)	(0.635)	(0.404)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Tobin's *q,* Institutional blockholder (indicator), Board size, % of independent directors, Average tenure of nonexecutive directors, % of co-opted independent directors, Directors' stock ownership			
P-value for the test of a + (a×b) = 0	-	0.000	-	0.000
Year fixed effects	Y	N	Y	N
Industry fixed effects	Y	Y	N	N
Firm fixed effects	N	N	Y	Y
No. of observations	28,348	28,348	28,348	28,348
Adj. R^2	0.736	0.734	0.745	0.743

Table VIII
Director-Level Determinants of Director Election Outcomes During Post-SOX period

The table examines the election outcomes of newly-appointed independent directors between 2003 and 2008. We follow each newly-appointed director for the first three years of her service. The sample consists of 7,585 director-firm-year observations. We obtain the initial sample of independent director appointments from RiskMetrics and combine it with the ISS Voting Analytics database. The dependent variable is the excess percent "for" votes, which is computed by subtracting a firm's average percent of "for" votes from a director's percent of "for" votes. A firm-level average percent "for" votes is the number of "for" votes divided by the sum of "for and "withhold" votes within each firm. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. The Appendix provides a detailed description of the variables. *P*-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the directorship level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	(1)
Unseasoned independent director (indicator)	0.360***
	(0.001)
Incumbent director (indicator)	-0.174
	(0.264)
Attend less than 75% of meetings (indicator)	-7.935***
	(0.000)
Residual of ISS recommendation	0.827***
	(0.000)
Director's stock ownership (%)	-0.081**
	(0.047)
Vote-no (indicator)	-1.926***
	(0.002)
Director's tenure	-0.385***
	(0.000)
Female (indicator)	-0.131
	(0.271)
No. of other directorships	-0.068
	(0.117)
Log (director's age)	0.161
	(0.642)
Director with finance expertise (indicator)	0.187*
	(0.055)
Director with executive experience (indicator)	-0.010
	(0.918)
Director with same industry experience (indicator)	0.106
	(0.466)
Director with legal expertise (indicator)	-0.082
	(0.536)
Director graduated from Ivy League (indicator)	-0.003
	(0.976)
Director with MBA (indicator)	0.040
	(0.693)
Director with Ph.D. (indicator)	0.112
	(0.411)
Constant	1.598
	(0.813)
Year fixed effects	Y
Industry fixed effects	Y
No. of observations	7,585
Adj. R^2	0.137

Table IX
Likelihood of Forced CEO Turnovers

The table examines the likelihood of forced CEO turnover for the sample of 14,837 firm-year observations covered in RiskMetrics for the period 1998-2009. The dependent variable is an indicator that takes the value of one if a forced CEO turnover occurs in a given year, and zero otherwise. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. UID board is an indicator variable that equals one if there is at least one UID on the board, and zero otherwise. The Appendix provides a detailed description of the variables. P-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	Logit		LPM	
	(1)	(2)	(3)	(4)
UID board (indicator): a	0.022	0.048	-0.001	-0.000
	(0.856)	(0.685)	(0.786)	(0.971)
Stock performance: b	-0.853***	-0.975***	-0.009**	-0.013**
	(0.000)	(0.001)	(0.019)	(0.017)
SOX (indicator): c		-0.273**		0.006
		(0.033)		(0.180)
a×b	-0.045	0.496	-0.008	0.004
	(0.889)	(0.249)	(0.212)	(0.663)
b×c		0.283		0.007
		(0.455)		(0.299)
a×b×c		-1.119*		-0.023*
		(0.090)		(0.079)
Board size	-0.002	-0.001	0.003**	0.003***
	(0.948)	(0.969)	(0.014)	(0.009)
Proportion of independent directors	0.326	-0.316	-0.034*	-0.049***
	(0.440)	(0.446)	(0.079)	(0.008)
Average tenure of nonexecutive directors	-0.016	-0.019	0.001	0.001
	(0.400)	(0.324)	(0.388)	(0.335)
Proportion of co-opted independent directors	0.302	0.288	0.026	0.027
	(0.489)	(0.510)	(0.136)	(0.117)
Directors' stock ownership	0.027*	0.021	0.001	0.001
	(0.050)	(0.119)	(0.151)	(0.161)
Departure of seasoned directors (indicator)	0.342***	0.377***	0.004	0.005
	(0.005)	(0.002)	(0.173)	(0.117)
Arrival of seasoned directors (indicator)	-0.031	-0.015	-0.004	-0.004
	(0.807)	(0.905)	(0.142)	(0.158)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Tobin's q, Institutional blockholder (indicator), CEO-chair duality (indicator), Log (CEO tenure)			
P-value for the test of (a×b) + (a×b×c) = 0	-	0.220	-	0.032
Year fixed effects	Y	N	Y	N
Industry fixed effects	Y	Y	N	N
Firm fixed effects	N	N	Y	Y
No. of observations	14,642	14,642	14,837	14,837
Pseudo R^2/Adj. R^2	0.089	0.071	0.010	0.009

Table X
OLS Regressions of CEO Compensation on Explanatory Variables

The table examines the determinants of CEO compensation. The sample consists of 15,315 firm-year observations covered in RiskMetrics and ExecuComp for the period 1998-2010. The dependent variable is the logarithm of CEO total pay. CEO total pay (ExecuComp variable: TDC1) includes stock options granted, cash compensation, restricted stock grants, other annual compensation, long term incentive payouts, and all other compensation. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. UID board is an indicator variable that equals one if there is at least one UID on the board, and zero otherwise. The Appendix provides a detailed description of the variables. P-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	(1)	(2)	(3)	(4)	(5)
UID board (indicator): a	-0.054***	0.005		-0.025	-0.000
	(0.004)	(0.877)		(0.105)	(0.994)
SOX (indicator): b		0.027	0.027		0.059***
		(0.220)	(0.217)		(0.006)
a×b		-0.075**			-0.029
		(0.042)			(0.334)
At least one UID sits on compensation committee (indicator): c			0.005		
			(0.914)		
At least one UID exists but does not sit on compensation committee (indicator): d			0.006		
			(0.893)		
c×b			-0.101**		
			(0.048)		
d×b			-0.057		
			(0.206)		
Board size	0.020***	0.019***	0.019***	0.011*	0.008
	(0.001)	(0.002)	(0.002)	(0.062)	(0.186)
Proportion of independent directors	0.561***	0.533***	0.531***	0.252***	0.320***
	(0.000)	(0.000)	(0.000)	(0.003)	(0.000)
Average tenure of nonexecutive directors	-0.018***	-0.018***	-0.019***	-0.007*	-0.008**
	(0.000)	(0.000)	(0.000)	(0.070)	(0.035)
Proportion of co-opted independent directors	-0.056	-0.052	-0.053	0.050	0.047
	(0.497)	(0.521)	(0.519)	(0.530)	(0.549)
Directors' stock ownership	-0.013***	-0.014***	-0.014***	-0.003	-0.004
	(0.000)	(0.000)	(0.000)	(0.351)	(0.248)
Departure of seasoned directors (indicator)	-0.032**	-0.030**	-0.030**	-0.014	-0.020*
	(0.038)	(0.043)	(0.044)	(0.264)	(0.097)
Arrival of seasoned directors (indicator)	-0.006	-0.002	-0.002	0.000	0.000
	(0.681)	(0.870)	(0.874)	(0.993)	(0.991)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Tobin's q, Institutional blockholder (indicator), CEO-chair duality (indicator), Log (CEO tenure)				
P-value for the test of a + (a×b) = 0	-	0.001	-	-	0.079
P-value for the test of c + (c×b) = 0	-	-	0.001	-	-
P-value for the test of d+ (d×b) = 0	-	-	0.031	-	-
Year fixed effects	Y	N	N	Y	N
Industry fixed effects	Y	Y	Y	N	N
Firm fixed effects	N	N	N	Y	Y
No. of observations	15,315	15,315	15,315	15,315	15,315
Adj. R^2	0.459	0.456	0.456	0.089	0.080

Table XI
OLS Regressions of Acquirers' Announcement Returns on Explanatory Variables

The table examines acquirers' returns around their M&A announcement dates. The sample consists of 3,811 M&As made by firms covered in RiskMetrics between 1998 and 2010. We obtain the initial sample of M&A firms from SDC. The dependent variable is the acquirer cumulative abnormal return (CAR) from day -1 to day +1, where day 0 is the announcement day. The abnormal returns are calculated using a market model. We use the CRSP equally-weighted market return as the market portfolio return and estimate the parameters of the market model using data from days -280 to -61. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. UID board is an indicator variable that equals one if there is at least one UID on the board, and zero otherwise. The Appendix provides a detailed description of the variables. *P*-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variables	CAR (-1,+1)	
	(1)	(2)
UID board (indicator): a	-0.001	-0.007*
	(0.700)	(0.062)
SOX: b		-0.003
		(0.329)
a×b		0.009**
		(0.048)
Relative deal size	-0.007	-0.006
	(0.247)	(0.311)
Diversify (indicator)	-0.005**	-0.005**
	(0.035)	(0.035)
All-cash deal	0.009***	0.009***
	(0.000)	(0.000)
Stock deal	-0.003	-0.002
	(0.448)	(0.600)
Public target	-0.037***	-0.037***
	(0.000)	(0.000)
Private target	-0.019**	-0.019**
	(0.011)	(0.013)
Subsidiary target	-0.013*	-0.013*
	(0.087)	(0.089)
Board size	-0.001**	-0.001**
	(0.039)	(0.040)
Proportion of independent directors	-0.001	-0.000
	(0.700)	(0.977)
Average tenure of nonexecutive directors	0.000	0.000
	(0.223)	(0.296)
Proportion of co-opted independent directors	-0.007	-0.006
	(0.418)	(0.462)
Directors' stock ownership	-0.000	-0.000
	(0.379)	(0.405)
Departure of seasoned directors (indicator)	-0.002	-0.003
	(0.259)	(0.139)
Arrival of seasoned directors (indicator)	0.002	0.002
	(0.256)	(0.327)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Tobin's *q,* Institutional blockholder (indicator), CEO-chair duality (indicator), Log (CEO tenure)	
P-value for the test of a + (a×b) = 0		0.435
Year fixed effects	Y	N
Industry fixed effects	Y	Y
No. of observations	3,811	3,811
Adj. R^2	0.051	0.050

Table XII
OLS Regressions of Firm Value (Tobin's *q*) on Explanatory Variables

The table examines the determinants of firm value. The sample consists of 16,741 firm-year observations covered in RiskMetrics for the period from 1998 to 2010. The dependent variable is the logarithm of Tobin's *q*. Unseasoned independent directors (UIDs) are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. UID board is an indicator variable that equals one if there is at least one UID on the board, and zero otherwise. The Appendix provides a detailed description of the variables. *P*-values, reported in parentheses, are based on standard errors adjusted for heteroskedasticity and clustering at the firm level. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

Independent variable	(1)	(2)
UID board (indicator): a	0.010	0.000
	(0.113)	(0.994)
SOX (indicator): b		-0.018*
		(0.056)
a×b		0.028**
		(0.042)
Board size	-0.007***	-0.009***
	(0.002)	(0.000)
Proportion of independent directors	-0.036	-0.098***
	(0.320)	(0.007)
Average tenure of nonexecutive directors	-0.000	-0.000
	(0.866)	(0.928)
Proportion of co-opted independent directors	-0.027	-0.016
	(0.356)	(0.589)
Directors' stock ownership	0.001	-0.001
	(0.673)	(0.477)
Departure of seasoned directors (indicator)	-0.008*	-0.009*
	(0.095)	(0.090)
Arrival of seasoned directors (indicator)	-0.001	0.007
	(0.889)	(0.133)
Additional control variables	Log (sales), Log (firm age), Return volatility, Leverage, R&D/assets, ROA, Stock performance, Institutional blockholder (indicator), CEO-chair duality (indicator), Log (CEO tenure)	
P-value for the test of a + (a×b) = 0	-	0.000
Year fixed effects	Y	N
Firm fixed effects	Y	Y
No. of observations	16,741	16,741
Adj. R^2	0.243	0.163

Table XIII

Comparison of Board Composition Around Unseasoned Independent Directors Appointments between Pre- and Post-SOX Periods

The table examines changes in board structure around the appointment of Unseasoned independent directors (UIDs) in the pre- and post-SOX periods. We calculate the change in board structure from the year prior to the appointment to the year of appointment. UIDs are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. All other independent directors are considered as seasoned independent directors (SIDs). The Appendix provides a detailed description of the variables. ***, **, and * indicates significance at the 1%, 5%, and 10% levels, respectively.

	Pre-SOX		Post-SOX		Test of difference	
	Mean	Median	Mean	Median	T-test	Wilcoxon z-test
	(1)	(2)	(3)	(4)	(1)-(3)	(2)-(4)
Δ Average tenure of nonexecutive directors	-1.229***	-0.750***	-1.127***	-0.696	-0.102	-0.124
Δ Proportion of independent co-opted directors	0.062***	0.097***	0.080***	0.091	-0.018	-0.016
Δ Proportion of independent directors	0.066***	0.046***	0.048***	0.028	0.018***	0.004***
Δ Proportion of busy independent directors	-0.005	0.000**	-0.012***	0.000***	0.007	0.005
Δ Proportion of female independent directors	0.032***	0.000***	0.026***	0.000***	0.006	-0.001
Δ Board size	0.463***	0.000***	0.623***	1.000***	-0.160**	-0.121**
Δ Directors' ownership	0.020	0.005***	-0.024	-0.000	0.044	-0.025**

Appendix

This appendix provides a detailed description of the construction of all the variables used in the tables.

Variable	Description	Source
Director Characteristics		
Attend less than 75% of meetings (indicator)	One if a director attends less than 75% of board meetings during a fiscal year, and zero otherwise	RiskMetrics
Director graduated from Ivy League schools (indicator)	One if an independent director attended an Ivy League school (Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, University of Pennsylvania, and Yale University) at any academic level, and zero otherwise (Custodio, Ferreira, and Matos, 2013)	BoardEx
Director with CEO experience (indicator)	One if an independent director is CEO or has served as CEO in publicly traded firms prior to the current directorship, and zero otherwise. We do not consider division CEOs or CEOs of subsidiaries.	RiskMetrics, BoardEx
Director with executive experience (indicator)	One if an independent director has worked or is working for fortune 500 firms, and zero otherwise	RiskMetrics, BoardEx
Director with financial expertise (indicator)	One if a director has 1) a CPA or a CFA, 2) a job title that is related to financial management (e.g. CFO, treasurer, or banking, finance, investment or accounting title (such as a controller) at present or in prior years, or 3) worked for companies with SIC codes 6000-6999 at present or in prior years, and zero otherwise	RiskMetrics, BoardEx
Director with legal expertise (indicator)	One if a director has a job title that is related to legal expertise (e.g. attorney, counsel or other law-related profession title at present or in prior years, or holding a law degree, and zero otherwise	RiskMetrics, BoardEx
Director with MBA (indicator)	One if an independent director has a MBA degree, and zero otherwise	BoardEx
Director with Ph.D. (indicator)	One if an independent director holds Ph.D., and zero otherwise	BoardEx
Director with same industry experience (indicator)	One if a director has worked or is working for a publicly-listed firm that has the same two-digit SIC code as the current firm she serves as an executive officer, and zero otherwise	RiskMetrics, BoardEx
Director with ties to the CEO (indicator)	One if an independent director has any one of ties to the CEO 1) directors who share external directorships in the same firm with the CEO, 2) directors who were employed by the same firm for at least one year as the CEO prior to joining the current company, 3) directors who share the same nonprofessional memberships in organizations as the CEO (A director and CEO must be officers or directors in the organization to be considered as connected), and 4) directors who attended and graduated the same educational institutions as the CEO within one year of each other (Fracassi and Tate (2012))	BoardEx
Director's age (years)	Director's age	RiskMetrics
Director's stock ownership (%)	The number of shares held by the director divided by the number of shares outstanding	RiskMetrics
Director's tenure (years)	Number of years that the director has served on the board	RiskMetrics
Female director (indicator)	One if a director is female, and zero if a director is	RiskMetrics

	male	
Log (director's age)	Log (director's age)	
No. of directorships at the time of appointment	Number of other directorships when a director was appointed for the first time	RiskMetrics
No. of other directorships	Number of directorships in other RiskMetrics firms	RiskMetrics
Residual of ISS recommendation	The residual estimated from the following logit regression: ISS recommendation = Industry-adjusted ROA + Proportion of outside directors + Board size + Directors' ownership + Confidential voting + Unequal voting + Majority voting + Vote-no campaign + Incumbent director (indicator) + Attend less than 75% of meetings (indicator) + Director's ownership + Director's tenure + Director's age + Year and industry dummies	
Unseasoned independent director (UID, indicator)	UIDs are first-time directors who have never been a director on the board of a private or public for-profit U.S. company. We consider a director to be an UID during the first three years of her first independent directorship. Directors with inside director experience prior to assuming their first independent directorship are not considered UIDs. If directors assume additional independent directorships within the first three years of their service, they are still considered UIDs at the other firms.	RiskMetrics, BoardEx
Vote-no (indicator)	One if a director at a firm receives a vote-no campaign in the year prior to the shareholder meeting, and zero otherwise	ISS Voting Analytics
Firm Characteristics		
Firm age	Max (years in CRSP, years in Compustat)	Compustat, CRSP
Institutional block holder (indicator)	One if a firm has at least one institutional shareholder holding more than 5% of its common shares, and zero otherwise	Thompson13F
Leverage	(Long-term debt + short-term debt)/assets	Compustat
Log (firm age)	Log (firm age)	Compustat, CRSP
Log (sales)	Log of the inflation-adjusted sales. Average consumer price index is obtained from the US Bureau of Labor Statistics and it value is normalized to be one for the year 1995.	Compustat
R&D/assets	Max (0, R&D expenditures)/total assets	Compustat
Return volatility	Standard deviation of a firm's daily stock returns during a fiscal year	CRSP
ROA	Operating income before depreciation scaled by book value of total assets	Compustat
SOX (indicator)	One if observations fall in the post-SOX (2002 or thereafter) period, and zero otherwise	RiskMetrics
Stock performance	Firm's buy-and-hold return for the year net of the CRSP value-weighted index return.	CRSP
Tobin's q	(Total assets-book equity + market value of equity)/total assets at the fiscal year end	Compustat
UID board (indicator)	One if a firm has at least one UID on the board, and zero otherwise	RiskMetrics

Board Characteristics

Δ Average tenure of nonexecutive directors	Change in average tenure of nonexecutive directors before and after the new appointment of an independent director	
Δ Proportion of busy independent directors	Change in the ratio of the number of busy independent directors to the total number of directors before and after the new appointment of an independent director. A busy independent director is defined to having three or more other directorships in the RiskMetrics universe of firms. (Fich and Shivdasani (2006), Masulis, Wang, and Xie (2012)).	RiskMetrics
Δ Proportion of co-opted independent directors	Change in the proportion of co-opted independent directors before and after the new appointment of an independent director. Co-opted directors are those who joined the board after the CEO assumed office (Coles, Daniel, Naveen (2014)).	RiskMetrics
Arrival of seasoned directors (indicator)	One if a firm appoints at least one seasoned independent director in a given year, and zero otherwise	RiskMetrics
Average tenure of nonexecutive directors	Average tenure of nonexecutive directors (Huang (2013))	RiskMetrics
Board size	Number of directors sitting on a board	RiskMetrics
Departure of seasoned directors (indicator)	One if at least one seasoned independent director has departed a board in recent two years, and zero otherwise	RiskMetrics
Director ownership (%)	Percent of common shares outstanding held by independent directors on the board at year-end	RiskMetrics
No. of advisory committees	Number of committees as having titles of finance, investment, strategy, acquisitions, science and technology, and executive	BoardEx
No. of monitoring committees	Number of three principal monitoring committees (audit, compensation, and nominating/governance)	RiskMetrics
Proportion of co-opted independent directors	The ratio of the number of co-opted independent directors to the total number of directors. Co-opted directors are those who joined the board after the CEO assumed office (Coles, Daniel, Naveen (2014)).	RiskMetrics
Proportion of independent directors	The ratio of the number of independent directors to the total number of directors	RiskMetrics

CEO Characteristics

CEO compensation	Inflation-adjusted ExecuComp variable (TDC1) that includes salary, bonus, restricted stock awards, stock option grants, long-term incentive payouts, and all others Average consumer price index is obtained from the US Bureau of Labor Statistics and it value is normalized to be one for the year 1995.	ExecuComp
CEO-chairman duality (indicator)	One if the CEO is also the chairman of the board, and zero otherwise	RiskMetrics
Forced CEO turnover	Forced CEO turnovers obtained from Jenter and Kanaan (2011) for the period from 1998 to 2001 and Peters and Wagner (2012) for the period from 2001 to 2006. The identification of forced CEO turnover is described in Jenter and Kanaan (2011) and Peters and Wagner (2012)	

Log (1+CEO tenure)	Log (1+the number of years the CEO has served as CEO). Corrections have been made for missing or incorrect information based on the list from Guthrie, Sokolowsky, and Wan (2010). For CEOs of firms that are not covered by ExecuComp, we manually identify the year a CEO assumes the position from a firm's proxy statements and other various internet sources.	ExecuComp

Deal Characteristics

All-cash deal (indicator)	One for entirely cash-financed deals, and zero otherwise	SDC Platinum
Diversify (indicator)	One if the acquirer and the target are not in the same Fama-French (1997) 48 industry, and zero otherwise	SDC Platinum
Private target (indicator)	One for private targets, and zero otherwise	SDC Platinum
Public target (indicator)	One for public targets, and zero otherwise	SDC Platinum
Relative deal size	Deal value / acquirer's market value of total assets	SDC Platinum, Compustat
Stock deal (indicator)	One if the deal is at least partially finance by stock, and zero otherwise	SDC Platinum
Subsidiary target (indicator)	One for subsidiary targets, and zero otherwise	SDC Platinum