Why do firms appoint CEOs as outside directors? ☆

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ABSTRACT

Companies actively seek to appoint outside CEOs to their boards. Consistent with our matching theory of outside CEO board appointments, we show that such appointments have a certification benefit for the appointing firm. CEOs are more likely to join boards of large established firms that are geographically close, pursue similar financial and investment policies, and have comparable governance to their own firms. The first outside CEO director appointment has a higher stock-price reaction than the appointment of another outside director. Except for a decrease in operating performance following the appointment of an interlocked director, CEO directors do not affect the appointing firm's operating performance, decision-making, and CEO compensation.

1. Introduction

Lorsch and Maciver (1989) write that 'CEOs are the most desired board members' (p. 19). Large, well-known companies tend to have active CEOs as outside members on their boards. For instance, the 2008 board of Procter and Gamble has four outside directors who are CEOs. Further, there is evidence that the stock market reacts more positively to the appointment of CEOs as outside directors than to the appointment of other outside directors (see Fich, 2005). Despite this apparent attractiveness of CEOs as outside board members, there is no comprehensive investigation of how CEOs and boards are matched and what makes these directors especially valuable to the corporations that appoint them. In this paper, we use data from 1988 to 2005 on more than 10,000 firms to investigate what makes CEOs desirable as outside directors.

We start by investigating the matching of CEOs to boards. We show that the typical public company has no CEO outside director on its board. Direct compensation is not used to equate the supply and the demand for CEO outside directors. In particular, they do not receive more direct compensation than other board members who attend the same meetings. The high demand for their services as outside directors allows CEOs to take their pick of board seats, and they will naturally choose boards that offer them the best total compensation package for the

amount of effort required and for the risk involved.[1] We find strong support for this view of how CEOs are matched to boards. CEOs sit on boards of bigger firms where they receive indirect compensation in the form of greater prestige and/or business opportunities. Furthermore, CEOs are less likely to accept appointments to boards of younger and smaller firms that pay less and pose a bigger reputational risk.[2] CEOs are also more likely to join boards of firms that are similar in their financial and investment policies and governance structures to the firms they lead. Such firms are easier to understand from the CEO directors' perspective. Finally, CEOs are more likely to accept appointments from firms that are geographically close since the opportunity cost of their time is high.

Because of their current position, CEOs have an unusual amount of authority and experience. Therefore, once appointed, a CEO outside director could be valuable to the appointing firm because she can monitor and advise the incumbent management in a way that the typical outside director is not able to. We call this hypothesis the performance hypothesis. With this hypothesis, we expect the operating performance and the decision-making of a firm to improve upon the appointment of a CEO outside director to its board.

It is also possible that if a firm succeeds in recruiting a CEO to its board, it shows to the outside world that a business leader whose human capital is especially reputation-sensitive thinks highly enough of the firm to join its board. We call this hypothesis the certification hypothesis. Such certification could have value for the appointing firm even if the CEO outside director has little tangible impact on the firm after her appointment since the appointment might primarily certify the current market value of the firm.

The performance hypothesis and the certification hypothesis have implications for the stock-price reaction to director appointment announcements. Endogenous models of board appointments generally suggest that, everything else equal, outside directors are appointed when the firm's performance is poor enough that the bargaining power of the CEO is weak (see, e.g., Adams, Hermalin, and Weisbach, forthcoming). With this type of model, the appointment of an outside director could be bad news about the firm and have a negative announcement return. However, the appointment of an outside CEO director is potentially different because a CEO would be less likely to accept an appointment with a firm that has problems. Therefore, the appointment of a CEO director should have a higher stock-price reaction than the appointment of another outside director. We find that this prediction holds for the first outside CEO

appointment to a board but not for additional appointments. Furthermore, we find that when a board has a CEO director, appointments of outside directors do not have a negative stock-price reaction. This evidence suggests that not only the appointment but also the mere presence of a CEO outside director leads investors to a more positive view of the firm and of new appointments of other outside directors.

We further test whether there is support in favor of the performance hypothesis by investigating changes in the firm's operating performance upon appointment of a CEO director. To address endogeneity concerns, we use a matched-firm approach, a difference-in-difference approach, and an instrumental variable (IV) approach. We fail to reject the null hypothesis that the appointment of a CEO outside director has no impact on operating performance except in the case of interlocks where the appointment is followed by significantly poorer performance.

Next, we examine whether CEO directors are associated with better board decision-making. First, we find little evidence of improved CEO turnover decisions, but we find some evidence that interlocks make the CEO more comfortable in her position. Second, firms with CEO outside directors do not make better acquisitions, where the quality of an acquisition is measured by the firm's abnormal return at the time of the acquisition announcement. Finally, we find no evidence that CEO outside directors affect how the appointing firm's CEO is compensated.

For many of our tests, we fail to reject the null hypothesis that outside CEO directors have no effect on the outcome variable. A valid concern is whether the failure to find statistically significant results means there are no such effects or the effects exist, but the standard errors are so large as to obscure them. The validity of this concern is reduced by the fact that we use very large samples and that we are able to find strong effects for the much smaller sample of interlocked CEO directors.

Several papers examine issues related to the appointment of CEOs to boards as outside directors. Fich (2005) examines director appointments to the boards of Fortune 1000 firms from 1997 to 1999. He finds positive announcement returns when a CEO director appointment is announced for his sample, but he does not distinguish between the first time a firm appoints a CEO to its board versus subsequent CEO director appointments. He reports increases in operating performance after the appointment of a CEO director, but does not address endogeneity concerns. Booth and Deli (1996) find that CEOs of firms with more growth opportunities hold fewer outside directorships. Also, CEOs hold more outside directorships as they transfer decision rights to their eventual successors. Faleye (2007) provides results where managerial compensation is affected by the presence of outside CEOs on the board. We do not find this result when we control for unobservable firm characteristics through fixed effects. In addition to using a much broader sample and a longer time-series, we contribute to this literature by developing and testing a theory of how CEOs are matched to boards, thereby providing an explanation of why CEO directors are so highly sought after.

Our paper adds to the literature relating characteristics of the board to firm performance and corporate

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[1] See, for instance, the quote from a CEO interviewed by Mace (1986): 'As head of my company I get a considerable number of invitations to serve as an outside board member […] I just can't take on any more. But when I suggest one or more of our key vice presidents, the matter is dropped, and neither the vice presidents nor I ever hear from them again. […] Now, some companies have to accept less – they just don't draw the top names. But you'd be surprised at how, whatever their position, they always shoot for the top man.'

[2] Linck, Netter, and Yang (2009) provide evidence of higher director pay in larger firms.

decisions.[3] Recent papers emphasize the importance of going beyond broad board characteristics and analyze specific types of directors and their roles for firm outcomes.[4,5] An important motivation for distinguishing among types of directors is that there is wide variation in the expertise and independence of outside directors. We focus on arguably the most desired directors who are considered by many, at least in practice, to be the most likely to have an impact on the appointing firm.

The paper proceeds as follows. In Section 2, we examine in more detail the economics of how CEOs and boards are matched. In Section 3, we describe how we collect our sample. In Section 4, we investigate how the characteristics of the appointing firm affect the probability that an outside CEO is appointed to the board and how these characteristics compare with those of the appointee firm before and after the appointment. In Section 5, we present results on the stock-price reaction to announcements of board appointments in our sample. In Section 6, we investigate performance changes, managerial turnover, acquisition decisions, and CEO compensation. We conclude in Section 7.

2. The economics of CEO board appointments

2.1. Supply of CEO directors

In our sample, the typical board does not have a CEO outside director. Why are there so few CEOs on boards if they are more highly prized than other outside directors? Board memberships are time consuming and the opportunity cost of the time of CEOs is high.[6] CEOs who serve on outside boards are therefore likely to be CEOs who have more flexibility in the use of their time. We would expect CEOs of well-established firms who have delegated more of their functions to younger executives to be more willing to serve on boards (e.g., Booth and Deli, 1996; Vancil, 1987). Consequently, CEOs on boards are likely to be working at older and more mature firms. Further, CEOs who have poor incentives at their firms to maximize

shareholder wealth may also be more willing to serve on boards (see Perry and Peyer, 2005).

CEO directors would find it especially costly to be associated with firms that have poor performance compared to other types of directors. Such firms require more work for directors and pose greater risks for them. Linck, Netter, and Yang (2009) provide some evidence that the willingness of executives to serve as directors is negatively related to the workload and to the risk of the position. Fich and Shivdasani (2007) show that directors' reputation suffers when they sit on the boards of firms involved in corporate scandals. Importantly, the reputation of a CEO not only affects her success on the labor market but it also directly affects her ability to perform her job (e.g., Harford, 2003; Yermack, 2004). We would expect her authority within her own firm to suffer if she is associated with failure, which would make it harder for her to lead her firm. CEOs may also want to avoid firms with high information asymmetry and firms that they do not understand. Finally, CEOs may also stay away from firms with greater uncertainty simply because noticeable bad outcomes are more likely for such firms.[7]

CEOs may find it worthwhile to be on boards that provide them with contacts and/or information that could help them in their current position or provide them with business opportunities. For instance, the board of a financial institution could provide them with valuable knowledge and contacts in dealing with financial institutions in general and in accessing the capital markets (Perry and Peyer, 2005). CEOs may also seek appointments to prestigious boards, i.e., boards of firms of similar or larger size relative to their own or firms that have a reputation for having a 'strong' board, in order to enhance their own status and reputation.

2.2. Demand for CEOs as outside directors

Adams and Ferreira (2007) emphasize the importance of the advisory role of the board of directors. Because of their current position, CEOs have an unusual amount of authority and experience and could thus be ideal for monitoring or advising the incumbent CEO. They could also be viewed as uniquely independent directors because they are able to deal with the CEO of the appointing firm as peers and, hence, could stand up to the CEO in a way that the typical outside director cannot. Small, growth firms with high advisory needs would benefit from having CEO directors on their board. Firms with misaligned managerial incentives and firms where information asymmetry makes monitoring by outside governance mechanisms difficult would also benefit most from CEO directors. With all these advantages of CEO directors, it is not surprising that firms want CEO directors for their ability to monitor and advise. However, because CEO directors curb their power, some incumbent CEOs may not want their boards to have such strong voices

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[3] E.g., Weisbach (1988), Yermack (1996), and Huson, Malatesta, and Parrino (2004) [CEO turnover], Hermalin and Weisbach (1991), Bhagat and Black (2001), and Perry and Shivdasani (2005) [Accounting performance], Byrd and Hickman (1992), Cotter, Shivdasani, and Zenner (1997), Harford (2003), and Moeller (2005) [Mergers and acquisitions]. Adams, Hermalin, and Weisbach (2008) review the recent literature on boards.

[4] E.g., Agrawal and Knoeber (2001), Booth and Deli (1999), Güner, Malmendier, and Tate (2008), and Masulis and Mobbs (2008).

[5] Some papers examine how interlocking directorships affect compensation. For example, Hallock (1997) examines interlocked boards and finds that cash compensation is higher for CEOs who lead employee-interlocked firms, but not firms with current CEO reciprocal interlocks. Graham and Wu (2007) provide additional corroborative evidence on the effects of interlocked compensation committees using a change in the tax code which prohibits tax deductibility for non-performance compensation in excess of $1 million.

[6] Lorsch and Maciver (1989) report that lack of time is the single most cited reason for declining a board position, and Lipton and Lorsch (1992) suggest that individual directors devote at least 100 hours a year to fulfill their duties as directors.

[7] Note that none of these arguments apply to retired CEOs. We therefore do not investigate the determinants of appointments of retired CEOs and their impact in this paper.

(Hermalin and Weisbach, 1998; Shivdasani and Yermack, 1999).

Consistent with Hermalin and Weisbach (1988), firms with younger, inexperienced CEOs could benefit from an outside CEO on the board. Complementing this idea, smaller and younger firms with more uncertain growth options could desire prestigious directors to certify that they are on the right path. Firms with low insider ownership may need additional certification to help signal their prospects to the outside markets. Finally, firms which suffer from information asymmetry may also benefit more from the certification effect.

2.3. Matching of CEOs and boards

Many firms would benefit from having CEO outside directors. Many CEOs will choose not to be outside directors. Firms that seek to recruit CEOs to their boards offer a package of benefits to potential CEO outside directors. The package of benefits contains direct compensation, a workload, and other non-monetary attributes. The direct compensation included in that package does not depend on whether the director is a CEO or not, except possibly that the CEO may belong to more remunerative subcommittees.[8] When offered a seat on a board, the CEO has to evaluate this package of benefits and decide whether it is good enough for her to join the board.

The package of benefits is generally better for larger and more established firms because these firms offer higher direct compensation, there is less information asymmetry about them, they are less volatile and hence less prone to crises, and there is more prestige in being associated with them. CEOs are also expected to prefer firms that are close to where they are located since this would decrease the time they would have to devote to their director position. Because of the effort needed to familiarize themselves with the appointing firm and for ease of understanding, CEOs would likely choose firms they can easily relate to and understand. In equilibrium, the supply of CEO directors is likely to determine whether a board gets to have a CEO director.

3. Data

We use seven different databases to construct our sample. The director appointments and the director data come from Compact Disclosure. Compact Disclosure also provides us with information on firm headquarters, director and officer stock ownership, identity of CEOs and directors, and CEO cash compensation data. We further obtain accounting data from Compustat, stock and option compensation data from Standard and Poor's

(S&P) Execucomp, institutional ownership data from the Thomson 13F database, and data on anti-takeover provisions from the Investor Responsibility Research Center (IRRC) governance database. The IRRC board database is used to gather information on gray directors and nominating committees. Finally, the Center for Research in Security Prices (CRSP) provides stock returns information. Definitions of the variables are in Appendix A, Table A1.
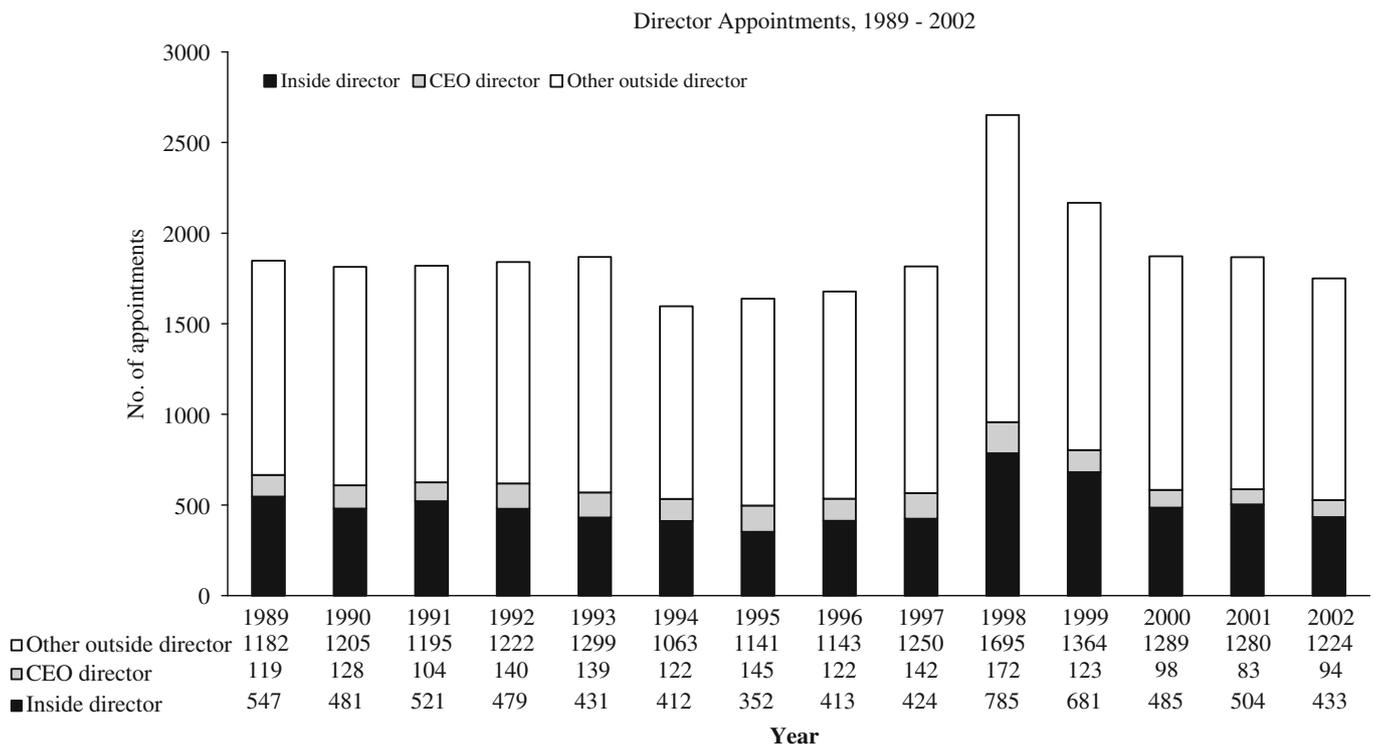
We construct the initial sample of new outside CEO director appointments from data provided by Compact Disclosure. We download the list of officers and directors from all monthly Compact Disclosure CDs between January 1988 and May 2006, and update this list whenever the proxy date or date of the 10-K in Compact Disclosure changes from one year to the next. Since we need to identify whether a director is also an executive of another firm, we further match executives and directors across firms by name and year of birth. After matching to Compustat, the matched Compact Disclosure-Compustat database contains 87,000 firm-year observations from 12,788 firms with board structure information.

We define a new director appointment to take place when a director appears for the first time on the list of directors in a firm's proxy statement. Therefore, we cannot determine new appointments in the first year a firm appears in our sample. There are 77,124 new director appointments in 10,456 firms. We check whether the newly appointed director is currently an active CEO of another firm covered in the Compact Disclosure universe. We identify inside directors from the list of officers in the 10-K reported by Compact Disclosure. The remaining directors are classified as other outside directors. Of the 77,124 appointments, 3,954 (5.13%) are current CEOs within our sample.

We further employ the following filters. As our tests require firm data prior to and subsequent to the appointment, we restrict the sample to appointments between 1989 and 2002 and to appointing firms with board information for at least two more consecutive years after the appointment. We restrict our sample of appointing firms to public firms on CRSP and firms with data on book value of assets from Compustat in the fiscal years just prior to and subsequent to the appointment. We also delete observations in which the appointing firm and the appointee firm have a parent-spinoff relation as it is common for the CEO of the parent to be appointed to the spinoff's board. Finally, we delete firms with more than five new director appointments per year, as they have likely suffered from a corporate control event. The final sample consists of 26,231 appointments from 5,400 firms. There are 1,731 (6.6%) appointed directors who are CEOs of other firms covered in the Compact Disclosure universe at the time of the appointment. Another 6,948 (26.5%) new appointments are employees of the appointing firm and the rest of the newly appointed directors are other outside directors.[9]

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[8] We have seen no evidence in the current literature and in practice on differences in director pay among different subsets of directors. The Corporate Library provides information on director base pay (the annual cash retainer) in their Board Analyst Data for approximately 1,500 firms for the years 2000–2002. Other outside directors receive a mean annual retainer of $21,400, while outside CEO directors receive an annual retainer of $21,200. The median for both groups is $20,000.

[9] Our data allow us to identify affiliated directors with reciprocal interlocks with the incumbent CEO, but we cannot identify directors with affiliations such as business relationships. We match our data to the IRRC director database that contains a classification of affiliated

Director Appointments, 1989 - 2002

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
□Other outside director	1182	1205	1195	1222	1299	1063	1141	1143	1250	1695	1364	1289	1280	1224
□CEO director	119	128	104	140	139	122	145	122	142	172	123	98	83	94
■Inside director	547	481	521	479	431	412	352	413	424	785	681	485	504	433

Year

Fig. 1. Distribution of director appointments from 1989 to 2002. The sample consists of 26,231 director appointments between 1989 and 2002. Appointments are classified as follows. If the newly appointed director works for the company, he is an inside director. If the newly appointed director is currently the CEO of another company, he is classified as CEO director. All other appointments are outside director appointments. The number of directors appointed each year in each category is given at the bottom of the figure.

Fig. 1 shows the number of appointments per year and how these appointments are divided among inside directors, CEO outside directors, and other outside directors. Except for 1998, there is little variation in the number of appointments. There is some decrease in the number of CEO appointments in the last 3 years of the sample. The number of appointments of insiders is noticeably higher in 1998 and 1999.

Though we focus on appointments, it is informative to report the composition of boards and number of CEO outside directors in the cross-section. Taking the year 1996, which is the middle year in our sample, we have 4,801 firms with 37,913 directorships. Of these, 26.95% are inside directors and 73.05% are outside directors. There are 1,753 (4.62%) CEO outside directors. Existing studies that focus on larger firms find a higher fraction of CEOs on boards.[10] Out of the 4,801 CEOs, only 1,039 (21.6%) hold one or more outside director appointments.

4. Determinants of outside CEO board appointments

4.1. Director appointments and firm characteristics

We compare the characteristics of firms making different types of director appointments in Table 1. We find that the comparisons are generally consistent with our theory of matching of CEOs to boards. Firms appointing outside CEO directors are larger, older, pay dividends, and have lower sales growth. Consequently, CEOs join established firms. There is some evidence that CEOs are more likely to join better performing firms, as proxied by return on assets (ROA), Tobin's Q, and stock market returns. We also find that CEOs cluster on boards: a CEO director is more likely to join a firm if it already has CEOs sitting on its board. Generally, the management of firms appointing CEO directors has weaker incentives to maximize shareholder wealth. In particular, firms appointing CEO directors have lower CEO and director and officer (D&O) ownership, although CEO dollar equity incentives, measured using the methodology outlined in Core and Guay (2002), are not different across appointing firms. Finally, the CEO of the appointing firm is older when the firm makes a CEO director appointment instead of a non-CEO outside director appointment.

CEO directors are older than inside directors, but of the same age as other outside directors at the time of appointment. CEO directors have more additional board seats than either inside or other outside directors. Strikingly, CEO directors come from firms that are quite similar in size and age to the appointing firm. The bottom panel of

Table 1

Summary statistics by type of director appointments.

   The table shows means and medians of key variables for a sample of 26,231 director appointments between 1989 and 2002. Medians are not shown for indicator variables. The summary statistics are reported for three different types of director appointments. Columns 1 and 2 show means and medians for appointments of outside directors who are currently CEOs of other firms, columns 3 and 4 for appointments of inside directors, and columns 5 and 6 for appointments of other outside directors. Dollar values are in millions of 2005 dollars. The information is taken just prior to the appointment. When comparing the appointing firm and appointee firm, only directors who are currently executives (other than CEO) of other firms are included in the calculation of the statistics for 'Other outside director.' Two-sample t-tests (Wilcoxon–Mann–Whitney tests) are conducted to test whether the means (medians) of CEO director appointments are significantly different from inside director appointments and other outside director appointments. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

Variable	CEO director (N=1,731)		Inside director (N=6,948)		Other outside director (N=17,552)	
	Mean	Median	Mean	Median	Mean	Median
Appointing firm characteristics						
Assets	7757	1577	3719***	367***	3791***	436***
Market capitalization	4558	1154	2103***	245***	2185***	295***
Firm age	29.99	28.00	19.45***	13.00***	20.67***	15.00***
Dividend payout ratio	0.12	0.10	0.10***	0.04***	0.10***	0.05***
Dividend payer indicator	0.64	–	0.45***	–	0.46***	–
R&D expenditures	0.05	0.00	0.04	0.00***	0.05	0.00***
Capital expenditures	0.08	0.06	0.08	0.05***	0.08	0.05***
Capital intensity	0.48	0.23	0.45	0.20***	0.52**	0.21***
Sales growth	1.15	1.08	1.21***	1.09***	1.20***	1.09**
ROA	0.13	0.14	0.10***	0.12***	0.09***	0.12***
Tobin's Q	1.83	1.36	1.82	1.26***	1.86	1.27***
Stock returns	0.20	0.13	0.16**	0.06***	0.18	0.08***
Appointing firm board structure						
Board size	10.13	10.00	8.99***	8.00***	9.15***	8.00***
Proportion of CEO directors	0.08	0.00	0.04***	0.00***	0.05***	0.00***
Proportion of inside directors	0.24	0.20	0.32***	0.27***	0.29***	0.25***
Appointing firm governance and compensation policies						
CEO age	54.46	55.00	54.61	55.00	53.82***	54.00***
D&O ownership (%)	10.96	4.47	19.84***	12.77***	18.09***	10.85***
Institutional blockholder indicator	0.68	–	0.62***	–	0.63***	–
Top 5 institutions holdings (%)	20.79	19.61	18.40***	17.20***	18.83***	17.71***
CEO salary (Compact D)	1.55	1.00	1.05***	0.58***	1.06***	0.62***
CEO total compensation	5.31	3.01	5.06	2.32***	4.95	2.33***
CEO dollar equity incentives	0.77	0.20	0.94	0.24***	0.82	0.20
CEO share ownership (%)	1.21	0.18	3.00***	0.40***	2.46***	0.30***
CEO is chairman of board	0.72	–	0.61***	–	0.63***	–
CEO sits on nominating committee	0.35	–	0.58***	–	0.53***	–
Appointee characteristics						
Age of director	53.97	54.00	49.44***	50.00***	53.90	54.00
No. of other board seats	1.75	1.00	0.15***	0.00***	0.56***	0.00***
Comparing appointing firm and appointee firm						
Assets appointee firm > appointing firm	0.50	–			0.77***	–
Market cap appointee firm > appointing firm	0.53	–			0.77***	–
Firm age appointee firm > appointing firm	0.46	–			0.58***	–
Distance between headquarters (miles)	424.72	122.80			584.49***	272.25***
Relative distance (<1: closer than expected)	0.38	0.12			0.51***	0.26***
Same two-digit SIC industry	0.13	–			0.14	–
CEO on appointee's board prior appointment	0.04	–			0.03*	–

Table 1 shows that assets, market capitalization, and firm age are approximately equal for appointing and appointee firms. As a comparison, in the last two columns of the last panel, we also examine the appointment of outside directors who are non-CEO executives working at firms covered in our database. The last two columns of the last panel shows that non-CEO executives who are appointed outside directors come from much larger and more established firms than the appointing firm. For example, 77% of the non-CEO executives work at bigger firms than the firms which appoint them as directors. These statistics suggest that prestige plays a considerable role for the appointment of a director. If a non-CEO is appointed director, he needs to come from a significantly larger organization to make up for the fact that he is not the top person in that organization (e.g., Mace, 1986).

Note that the median distance between the headquarters of the appointee and appointing firm for CEO directors is only 123 miles.[11] The relative distance measure shows that this is not an effect of an unusual

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[11] We obtain headquarter zip codes of both firms from Compact Disclosure and latitude and longitude data from the U.S. Census Bureau's Gazetteer Place and Zip Code Database. To calculate the distance between the headquarters of the appointing and appointee firms, we follow Coval and Moskowitz (1999).

concentration of firms in large metropolitan areas.[12] The mean relative distance is 0.38, while the median is 0.12. CEOs appear to accept directorships if the cost of traveling is low. The low distance is also consistent with CEOs of the appointee firm and appointing firm belonging to the same social circles. However, there are relatively few direct interlocking directorships in our sample of appointments. Table 1 shows that only 4% of the appointing firm CEOs are already sitting on the appointee's board prior to the appointment. Also, only 13% of the appointing firms and appointee firms operate in the same industry, which can potentially be explained by concerns about sharing sensitive business information with close competitors.

4.2. Regression model of director appointment type

The firm characteristics comparisons in Table 1 provide an incomplete assessment of the determinants of CEO director appointments because many of these firm characteristics are highly correlated. To assess more directly the statistical and economic significance of the role of specific firm characteristics in the appointment of CEO directors, we use a multinomial regression model where the dependent variable is equal to zero if an insider is appointed, equal to one if an outside CEO is appointed, and equal to two if a non-CEO outside director is appointed. The results are presented in Table 2.[13]

The regression analysis confirms the results from Table 1. CEOs are appointed at established firms that have more assets, pay dividends, and are older. These firms also invest more in terms of capital expenditures and research and development (R&D) expenditures. A CEO is more likely to be appointed to a firm that already has a high proportion of CEO directors. The clustering of CEOs on boards is consistent with the view that CEOs seek prestigious boards. CEO appointments are less likely for larger boards. A CEO is more likely to be appointed if a former CEO director left. This result suggests that an outside CEO stays on the board for some period after stepping down as CEO. It is worthwhile to note that out of the 1,731 CEO director appointments, a CEO director replaces an outgoing CEO director in only 110 of the cases. Consequently, a CEO director appointment is generally the appointment of an additional CEO director to the board.[14] The appointment of an outside CEO as director is much more likely when insiders have a smaller stake in the firm.

CEO ownership and CEO directors could be substitutes. With greater ownership, a CEO bears more of the consequences of his actions (see Jensen and Meckling, 1976), so that monitoring and certification of the CEO are less useful.

Shivdasani and Yermack (1999) find that when the CEO is on the nominating committee, the probability of appointing an independent outside director is reduced. In unreported results, we find evidence consistent with theirs; a firm is less likely to appoint an outside CEO director if the current CEO is on the nominating committee. This evidence suggests that more entrenched CEOs are leery of having outside CEOs on their board.

4.3. Similarity and convergence of appointing and appointee firm policies

CEO directors are concerned about the workload and reputation risks of director appointments. We would expect that both workload and risks would be less if they join boards of firms that they understand and are familiar with. Therefore, CEO directors are likely to join firms with similar policies as their own firm. However, they might be more likely to join such boards for other reasons as well. First, recent literature (for instance, Bertrand and Schoar, 2003) shows that preferences of executives can influence a wide variety of firm policies. Further, Richardson, Tuna, and Wysocki (2003) find that firms who share common directors pursue similar corporate policies. Consequently, CEOs might prefer firms with similar policies because they believe that such policies are simply better. If this is the case, we would expect CEO directors to push for even more similarity in policies after their appointment, which would lead to convergence in policies between the two firms. Second, appointing firms could prefer CEOs of firms that have similar policies; such CEOs are likely to be more valuable because they understand better what the firm is doing.

We compare several policy variables both before and after the director appointment. We measure corporate policy variables prior to the appointment during the event year -2 and compare them to their average over event years $+1$ and $+2$.[15] Both appointing and appointee firms are required to remain in the database before and after the appointment. For specific years to be included, we require that the CEO director stays with the board of the appointing firm and also as CEO of his own firm for the full year. This is to ensure that the CEO director can exert his influence on the appointing firm and his own firm. Our sample for this section contains 1007 appointments of CEO directors.

For each corporate policy, we calculate a relative distance measure, which is defined as the ratio of the absolute difference between the appointing firm and appointee firm to the average absolute difference between the appointing firm and a group of benchmark firms. We match each appointee firm with a group of firms that

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[12] We calculate the average distance of the appointing firm to all other firms in our matched Compact Disclosure-Compustat sample. The relative distance is defined as the ratio of the distance between the appointing firm and the appointee firm to the average distance. Therefore, a ratio that is less than one implies that the appointing firm is closer to the appointee firm than to the average firm in the sample.

[13] In unreported results, we obtain similar conclusions when using a probit model with the dependent variable equal to one when a CEO director is appointed, and zero otherwise.

[14] Only 6% of the CEO director appointments are preceded by at least one CEO director leaving the board, 17% are preceded by a former CEO director leaving, 25% are preceded by an insider leaving, and 60% are preceded by other outside directors leaving. The percentages do not add up to 100% since each appointment can be associated with different types of director departures.

[15] We obtain similar results when we examine the average of years -2 and -3 versus the average of years $+1$, $+2$, and $+3$.

Table 2
Determinants of CEO director appointments.

The table reports results from a multinomial logit regression of the determinants of director appointments. The dependent variable is equal to zero if an inside director is appointed, one if a CEO director is appointed, and two for all other outside director appointments. Coefficients in column 1 (column 2) are changes in the odds ratio of appointing a CEO director vs. an inside director (other outside director vs. an inside director). Column 3 contains the p-values of a χ^2 test of statistical equality of the odds ratios in columns 1 and 2. Standard errors are corrected for heteroskedasticity and are clustered at the firm level. p-Values are reported in parentheses. The regression contains year and industry fixed effects, and indicator variables indicating missing R&D expenditures and missing D&O ownership (not reported). Industry classification is based on the Fama-French 48-industry classification. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	Director appointment of		Test of equality
	CEO director vs. inside director	Other outside director vs. inside director	
Proportion of CEO directors	1.735***	0.238	0.000***
	(0.000)	(0.265)	
Proportion of inside directors	0.224	0.234*	0.961
	(0.348)	(0.062)	
Proportion of former CEO directors	1.435***	−0.031	0.000***
	(0.000)	(0.884)	
Board size	−0.030**	−0.003	0.014**
	(0.015)	(0.657)	
No. of CEO directors who left	−0.034	−0.021	0.880
	(0.758)	(0.812)	
No. of inside directors who left	−0.463***	−0.354***	0.031**
	(0.000)	(0.000)	
No. of former CEO directors who left	0.328***	0.147**	0.007***
	(0.000)	(0.018)	
No. of other outside directors who left	0.104***	0.185***	0.003***
	(0.004)	(0.000)	
Change in no. of board seats	−0.175***	−0.084***	0.000***
	(0.000)	(0.000)	
D&O ownership (%)	−0.918***	−0.269**	0.004***
	(0.000)	(0.012)	
Log(Assets)	0.202***	0.009	0.001***
	(0.000)	(0.492)	
Log(Firm age)	0.184***	0.085***	0.032**
	(0.000)	(0.001)	
Dividend payer indicator	0.182**	−0.019	0.008***
	(0.030)	(0.682)	
R&D expenditures	1.312***	0.022	0.002***
	(0.004)	(0.922)	
Capital expenditures	0.991**	−0.157	0.006***
	(0.031)	(0.518)	
Capital intensity	−0.137**	0.067**	0.001***
	(0.023)	(0.011)	
Sales growth	−0.134*	−0.022	0.114
	(0.068)	(0.537)	
ROA	−0.154	−0.195*	0.840
	(0.474)	(0.054)	
Stock returns	0.098*	0.038	0.249
	(0.091)	(0.198)	
Log(CEO age)	−1.159***	−0.775***	0.040**
	(0.000)	(0.000)	
Institutional blockholder indicator	0.109*	0.032	0.192
	(0.094)	(0.364)	
Observations	25048		
Pseudo R^2	0.046		

falls within $\pm 30\%$ of the book value of assets of the appointee's own firm in the year prior to the appointment.[16]

More precisely, we calculate for each appointment i:

$$\text{Relative Distance}_i = \frac{ABS(Policy_{E_i} - Policy_{A_i})}{1/M \sum_{j \neq i} ABS(Policy_{A_i} - Policy_j)},$$

where $ABS(.)$ is the absolute value function, $Policy_A$ is the corporate policy of the appointing firm, $Policy_E$ is the corporate policy of the appointee firm, $j = 1,\ldots,M$ indexes the total number of firms in the benchmark group, and $Policy_j$ is the corporate policy of benchmark firm j. We then determine whether the median relative distance is

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[16] Ideally, we would like a comparison sample of firms with CEOs who would be available as director candidates and who work in firms that are considered valid alternatives by the nominating committee of the appointing firm. While we know some of the characteristics that make it likely for CEOs to have more director appointments, we do not know whether particular CEOs are indeed available or willing to serve as directors.

Table 3
Similarity and convergence in corporate policies of appointing and appointee firms.

The table compares the policies of the appointing firm and the appointee firm before and after the appointment of a CEO director. The sample is based on approximately 1,000 appointments of CEO directors. Columns 1, 2, 3, 5, 6, and 7 present median values for the policy variables of the appointing firm, the appointee firm, and the average size-matched firm. Matching firms are those firms with book assets that are +/−30% of the appointee firm's book assets. Variables before the appointment are measured in event year −2, relative to the director appointment. Variables after the appointment are averaged over event years +1 and +2. Statistical significance of a Wilcoxon signed ranked sum test of whether the appointing firm is significantly different from the appointee firm and the average matched firm is reported immediately following the median values. For each variable, we also calculate a relative distance measure as the ratio of the absolute difference between the policy of the appointing firm and the appointee firm divided by the average absolute difference between the appointing firm and the size-matched control group firms. The median relative distances are presented in columns 4 and 8. Statistical significance of a non-parametric signed rank test indicating whether the relative distance is different from one is reported immediately following the median values. Column 9 reports the p-value of a Wilcoxon signed rank sum test which tests the null hypothesis of no difference in the relative distance measures before and after the new director appointment. Missing values for R&D and D&O ownership are not substituted with zero in this table. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	Before				After				Change (relative distance)
	Appointing firm (1)	Appointee firm (2)	Average matched firm (3)	Relative distance (4)	Appointing firm (5)	Appointee firm (6)	Average matched firm (7)	Relative distance (8)	p-Value (9)
Financial and investment policies									
Book leverage	0.22	0.22	0.26***	0.79***	0.24	0.24	0.26***	0.75***	0.04**
Market leverage	0.16	0.15	0.21***	0.74***	0.16	0.15	0.21***	0.75***	0.84
Short-term leverage	0.03	0.03***	0.05***	0.69***	0.03	0.03***	0.05***	0.66***	0.07*
Cash holdings	0.05	0.05	0.09***	0.69***	0.05	0.04**	0.08***	0.66***	0.67
Dividend payout	0.12	0.11***	0.12	0.72***	0.12	0.10***	0.12	0.70***	0.46
Capital intensity	0.24	0.25	0.54***	0.43***	0.24	0.24	0.52***	0.44***	0.08*
R&D expenditures	0.04	0.05	0.05	0.64***	0.04	0.04	0.04	0.64***	0.32
Capital expenditures	0.07	0.06	0.08***	0.64***	0.06	0.06	0.07***	0.70***	0.02**
SG&A	0.21	0.21	0.23**	0.77***	0.22	0.21	0.23***	0.72***	0.29
Sales growth	1.08	1.10***	1.19***	0.61***	1.06	1.08***	1.11***	0.66***	0.05**
ROA	0.15	0.17***	0.14***	0.79***	0.14	0.15***	0.12***	0.80***	0.02**
Tobin's Q	1.28	1.39***	1.55***	0.73***	1.32	1.36***	1.54**	0.72***	0.17
Governance and compensation policies									
G index	10.00	10.00	9.24***	0.73***	11.00	10.00	9.46***	0.77***	0.24
Board size	11.00	10.00***	10.27**	0.76***	11.00	10.50***	10.38***	0.73***	0.87
Proportion inside directors	0.20	0.20	0.27***	0.71***	0.17	0.18***	0.27***	0.64***	0.03**
D&O ownership (%)	3.08	3.48	12.22***	0.41***	2.93	3.33	11.38***	0.37***	0.14
CEO salary (CompactD)	1.20	1.13***	1.19***	0.73***	1.54	1.48	1.49***	0.71***	0.93
CEO salary (Execucomp)	1.40	1.43*	1.50***	0.69***	1.69	1.67	1.74***	0.76***	0.14
CEO total compensation	3.61	3.13*	4.10	0.71***	6.02	5.08*	6.23	0.65***	0.41
CEO dollar equity incentives	0.26	0.25*	0.76***	0.30***	0.37	0.39	1.09***	0.32***	0.12
CEO share ownership (%)	0.14	0.17	2.17***	0.11***	0.13	0.19***	2.00***	0.09***	0.06*

significantly different from one using a signed rank test. A relative distance that is significantly less than one implies that the appointing firm and appointee firm are more similar than the average firm from the control group.

Table 3 provides medians of the various corporate and governance policies we examine. The table shows that most of the policies of the appointing firm (columns 1 and 5) are significantly different from those of the average matched firm (columns 3 and 7), both pre- and post-appointment. In contrast, the null hypothesis of no difference in characteristics cannot be rejected for many characteristics when we compare the appointing firm and the appointee firm (columns 2 and 6). The CEO outside directors come from firms that are more similar to the appointing firms than to the benchmark firms.[17] The notable exception is that CEO outside directors come from firms that perform better in terms of ROA, Tobin's Q, and sales growth than the appointing firm. We would expect CEOs of better performing firms to have greater certification value for the appointing firm, but this evidence could also result from selection if CEOs of firms that have poorer performance conclude that they do not have the time to take on director positions.

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[17] Chen (2007) also finds that appointing firm and appointee firm have similar investment and financial policies.

Table 4
Director appointment announcement returns.

The table reports market-model adjusted announcement returns for the announcement of appointments of a random sample of 500 CEO directors and 500 other outside directors. Appointments are excluded if there is no announcement, or if there are simultaneous announcements of mergers and acquisitions, proxy fights, and news of other restructurings. We also exclude announcements that stem from weekly news sources. These restrictions leave us with 271 appointments of CEO directors and 206 appointments of other outside directors. The cumulative abnormal announcement return is calculated over the event window ($-1,+1$), where $t=0$ is the date of the announcement of the appointment. The abnormal returns are calculated from a market model using the CRSP equal-weighted market return. The parameters of the market model are estimated using data from days -280 to -61 relative to the announcement date. Three sets of results are reported. The first panel shows results for all appointments; the next panel shows results for appointments to boards without any CEO directors, and the last panel shows results for appointments to boards in which there is at least one CEO director prior to the appointment. Column 1 shows cumulative abnormal returns (CARs) for the sample of CEO directors and column 2 shows CARs for the sample of other outside directors. p-Values indicating the significance of the CARs are in parentheses immediately below the CAR. Column 3 (column 4) shows p-values for the mean (median) difference across the two groups. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	CEO director	Other outside director	p-Value (mean)	p-Value (median)
All appointments				
N	271	206		
Mean CAR	0.281 (0.22)	−0.427 (0.17)	0.06*	
Median CAR	0.065 (0.41)	−0.218 (0.18)		0.08*
No outside CEO prior to appointment				
N	113	139		
Mean CAR	0.231 (0.57)	−0.783* (0.06)	0.08*	
Median CAR	0.195 (0.55)	−0.346* (0.05)		0.07*
One or more outside CEOs prior to appointment				
N	158	67		
Mean CAR	0.318 (0.24)	0.316 (0.48)	0.99	
Median CAR	−0.130 (0.59)	0.192 (0.64)		0.94

Columns 4 and 8 provide the relative distance measure and its statistical significance before and after the appointment, respectively. The results strongly corroborate our findings of similarities between the appointing and appointee firms. For all investment, financial, and governance policies, we find that the appointing and appointee firms are much closer than if the CEO outside director were chosen randomly from a size-matched control group.

In column 9, we show the p-value from a Wilcoxon signed rank test which tests the null hypothesis of no difference in the relative distance measure before and after the new director appointment. A statistically significant decrease in the relative distance measure would indicate convergence in the policies between the appointing firm and appointee firm. Of all the investment and financial policies we examine, we find statistically significant changes for six of the policies, out of which only two policies—book leverage and short-term leverage—show evidence of convergence, while the other four policies become less similar. For the governance variables, we find evidence of convergence for the proportion of inside directors and for CEO share ownership. Overall, few firm characteristics show evidence of convergence. The results are not consistent with CEO outside directors influencing appointing firm policies to become more similar to their own, but rather with CEOs accepting directorships at firms that are similar to their own.

5. Stock-price reaction to director appointments

From our sample of 26,231 director appointments, we randomly select 500 CEO director appointments and 500 other outside director appointments and search for the precise announcement date of the appointment using Dow Jones Interactive News Service and Factiva. Out of the 1,000 appointments, we are able to find the announcement dates for 635 appointments (356 CEO outside director appointments and 279 other outside director appointments).[18] The fact that firms appear to announce more often the appointment of a CEO outside director than the appointment of a non-CEO outside director is consistent with the view that appointments of CEO outside directors are viewed as more significant than appointments of other outside directors. We further exclude announcements of appointments that happen at the same time as announcements of confounding events, such as mergers and acquisitions, proxy fights, and other restructurings. These restrictions leave us with 271 appointments of CEO directors and 206 appointments of other outside directors.[19]

The abnormal returns are calculated based on a market model using the equal-weighted CRSP market portfolio, where the parameters of the market model are estimated using daily data from days -280 to -61 prior to the event. We calculate the cumulative abnormal returns over the event window (-1 day, $+1$ day), where day zero is the director appointment announcement date.

Table 4 shows three sets of results by type of director. The first panel shows mean and median cumulative

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[18] Shivdasani and Yermack (1999) find 626 announcement dates out of 1,012 appointments for 341 Fortune 500 firms from 1994 to 1996. The percentage of announcement dates for the appointments in their sample is therefore 61.86%, which is slightly less than the 63.50% in our sample.

[19] Out of these remaining appointments with announcement dates, 23% of the announcements first appear in the proxy statements. For these cases, we use the date the proxy statement was sent out to investors as the announcement date. Our results are not sensitive to alternative treatments for this group such as omitting them.

abnormal announcement returns for the entire sample, the middle panel shows results for director appointments in firms that do not have an outside CEO director prior to the appointment, and the last panel shows results for director appointments in firms that have at least one outside CEO director prior to the appointment.

When we consider all appointments, we find a significant difference in the mean and median abnormal returns between announcements of CEO outside director appointments and other outside director appointments. This result is driven by the first-time appointments of CEO directors. When we restrict the sample to the cases where there are no CEO outside directors before the appointment, we find a larger mean difference of 1.01%. Furthermore, in that case, the mean and median abnormal returns for appointments of non-CEO outside directors are significantly negative. Finally, there is no abnormal return difference between CEO outside director appointments and non-CEO outside director appointments for firms that already have a CEO director. This evidence shows that there is a benefit to firms from recruiting a CEO outside director instead of another outside director when firms have no CEO outside director on the board, but that the market is indifferent between CEO outside director appointments and other outside director appointments once a firm has a CEO outside director.

When board composition is determined endogenously, appointments of outside directors can be bad news for the appointing firm if they reveal to the market that the bargaining position of the CEO has weakened, presumably because of difficulties inside the firm that could lead to poor performance (e.g., Hermalin and Weisbach, 1998). If this effect is more pronounced than any potential gains from better oversight, the stock-price reaction for outside director appointments could be negative, which we observe in our data for firms without a CEO director. The higher abnormal return for CEO director appointments than for other director appointments when there is no CEO outside director on the board can be consistent with the performance hypothesis if investors believe that an outside director appointment is bad news but a CEO outside director appointment more than offsets the bad news through better monitoring and advice. Alternatively, if investors believe that a CEO outside director appointment is not bad news because the CEO cares about keeping her reputation and would not join the board of a company that is not what it seems, the evidence is consistent with the certification hypothesis.

In addition, we also find that the mere presence of a CEO director on the board leads investors to a more positive view of the firm. We find that the abnormal return associated with the announcement of an outside director is significantly higher when the firm has a CEO on its board, relative to when the firm does not have a CEO director on its board. The mean difference is 1.10% and has a p-value of 0.07. The median difference, however, has only a p-value of 0.11.

Since the event study results support both the performance and certification hypotheses, we now turn to direct tests of the performance hypothesis.

6. CEO director appointments, firm performance, and corporate decisions

6.1. Changes in firm performance

The performance hypothesis predicts an increase in operating firm performance after the appointment of a CEO outside director. We use the sample of 26,231 appointments, and calculate performance changes around the event year (year 0), the year of the director appointment. Performance is measured using return on assets (ROA).[20] To control for industry and time effects, we calculate the industry-adjusted ROA, which is the difference between the ROA and the median industry ROA, where industry is defined by the two-digit Standard Industrial Classification (SIC) code. Changes in performance could simply be associated with firm characteristics pre-appointment rather than result from the appointment of a CEO director. Therefore, to reduce this source of endogeneity, we also calculate, as suggested by Barber and Lyon (1996), size, performance, and industry-adjusted ROA. Size, performance, and industry-adjusted ROA is defined as the difference between the unadjusted ROA and the ROA of a control firm that is from the same industry with ROA within $\pm 10\%$ and closest in size to the appointing firm.

Analyzing the change in performance around director appointment events is attractive because it provides an estimate of the impact of the director on performance that is not affected by time-invariant firm characteristics. However, performance changes could occur around all outside director appointments and be independent of the type of director appointed. In that case, finding a significant change in performance around CEO director appointments could lead us to wrongly attribute the change to the CEO director, when it should in fact be attributed to the appointment of any outside director. To solve this issue, we employ a difference-in-difference (diff-in-diff) approach, in which we compare the change in performance around the CEO-director appointment with the change in performance around the appointment of other outside directors.

The diff-in-diff results of the operating performance change are presented in Table 5. Panel A shows that firms appointing CEOs to their boards have better industry-adjusted performance prior to the appointment than firms that appoint other outside directors. The difference is an economically large 3.23%. This result is consistent with the prediction that CEOs are attracted to boards of firms that are performing well. We also find that firms that appoint non-CEO outside directors underperform their

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[20] Performance before the appointment is calculated as the average over event years -2 and -3. Performance after the appointment is calculated as the average over event years $+1$ through $+3$. For an event year to be included in the sample, the appointed directors have to remain with the appointing firm for the whole year. If firms appoint different types of directors in the same year, we do not include these appointments in the analysis. In unreported results, we restrict the sample further to cases with only one new appointment per annual meeting. Our results remain largely the same.

Table 5
Firm performance around CEO director appointments – differences-in-differences.

The table reports changes in firm performance around CEO director appointments using the difference-in-difference methodology. ROA, defined as the ratio of operating income before depreciation to lagged book value of assets, is the measure of firm performance. In Panel A, ROA is industry-adjusted by taking the difference between appointing firm ROA and the median industry ROA, where the median industry ROA is calculated based on all firms in the same two-digit SIC industry. In Panel B, ROA is adjusted for size, performance, and industry by taking the difference between the unadjusted ROA and the ROA of a control firm. The control firm is the firm that is from the same two-digit SIC code with an ROA in event year -2 that is within $\pm$ 10% of the appointing firm and that is closest in size. Performance before the appointment is calculated as the average over event years -2 and -3. Performance after the appointment is calculated as the average over event years $+1$ through $+3$. The third row gives the difference in the performance before and after the appointment. Column 3 gives the difference in performance between the CEO directors and other outside directors. Each cell reports two numbers – the mean, and immediately below in brackets, the median. t-Tests and signed rank tests are used to determine whether the mean and median are significantly different from zero. Two-sample t-tests and Wilcoxon-Mann-Whitney tests are used to test whether the mean and median for other outside directors are significantly different from that for the CEO director sample. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	Type of appointment		Difference (3)
	CEO director (1)	Other outside director (2)	
Panel A: Industry-adjusted ROA			
Before	0.0211***	-0.0112***	0.0323***
	[0.0187]***	[0.0055]***	[0.0132]***
After	0.0195***	-0.0128***	0.0323***
	[0.0224]***	[0.0042]***	[0.0182]***
Difference	-0.0015	-0.0015	0.0000
	[-0.0008]	[-0.0012]***	[0.0004]
Panel B: Size, performance, industry-adjusted ROA			
Before	0.0030	0.0008	0.0022
	[0.0001]	[0.0003]***	[-0.0003]
After	0.0040	0.0076***	-0.0036
	[0.0062]**	[0.0026]***	[0.0036]
Difference	0.0009	0.0069***	-0.0060
	[0.0051]	[0.0013]***	[0.0037]

industry benchmark, which is supportive of the predictions of the theories of endogenous determination of board composition discussed earlier. Firms that appoint outside CEO directors continue to perform better than firms that appoint other outside directors after the appointment. But the change in firm performance around the appointment is economically small (-0.15%) and is not significantly different from zero for the group of CEO directors. There is no evidence that the performance change is different across the two groups of directors (the lower right cell of the panel).

The better performance of CEO-appointing firms highlights the importance of taking into account prior performance when examining the impact of CEO directors on operating performance. Panel B of the table shows results for size, performance, and industry-adjusted ROA. Once we control for prior performance, the differences in the level of performance before and after the appointment disappear when compared to Panel A. As before, there is no evidence that performance changes are different across the two groups.

In Table 6, we report multiple regressions of the change in performance around director appointments, where performance is measured using industry-adjusted ROA (columns 1 and 2) and size, performance, and industry-adjusted ROA (columns 3 and 4). Column 1 of Table 6 shows that firms that appoint a CEO director have a 1.10% larger change in performance and firms that appoint a non-CEO outside director have a 0.80% larger change in performance than firms that appoint inside directors (the

base group). In column 2, we separate the appointments of CEO outside directors into first-time CEO director appointments and others. Somewhat surprisingly in light of the results of Table 4, we find that the increase in performance documented in column 1 appears to be driven by firms that already have CEO outside directors prior to the appointment. However, none of the results of columns 1 and 2 are robust to our alternative size, performance, and industry-adjusted ROA specification (columns 3 and 4).

One econometric challenge of both the diff-in-diff approach and the performance regression is posed by the endogeneity of the CEO director appointment decision. CEO directors are not randomly allocated to firms, but systematically choose which firms to join. Matching based on prior performance and firm size helps take into account this issue. However, while our diff-in-diff results in Table 5 and our analysis of changes in performance in Table 6 potentially correct for time-invariant firm characteristics that could drive both the appointment decision and future performance, they cannot correct for reverse causality concerns. To address these concerns, we also estimate a two-stage least-squares instrumental variable regression in Table 6.

As we have argued, CEO directors prefer nearby firms as the opportunity cost of their time is very high; therefore, our instrument is the distance between the headquarters of the appointing firm and the appointee's location. To implement this test, we need a sample of non-CEO outside directors whose location can be determined. Directors who are non-CEO executives of other firms

Table 6

Multivariate analysis of operating performance change.

The table reports results from regressions of changes in ROA around different types of director appointments. Performance before the appointment is calculated as the average over event years −2 and −3. Performance after the appointment is calculated as the average over event years +1 through +3. *CEO director indicator (Other outside director indicator)* is an indicator variable equal to one if a CEO (non-CEO outsider) is appointed director. *First CEO director indicator* is an indicator variable indicating that the CEO director is the first CEO director appointed to the board, as determined by our sample, while *Not first CEO director indicator* indicates that the appointment of CEO director is preceded by other past CEO director appointments. *Assets* is an average value calculated over event years −3 and −2 and firm age is determined as of event year −1. The table reports five different specifications. The dependent variable in columns 1 and 2 is the change in industry-adjusted ROA. The dependent variable in columns 3 and 4 is the change in size, performance, and industry-adjusted ROA. The fifth column contains results from a two-stage least-squares-regression on the sample of CEO director appointments and non-CEO executive director appointments, where non-CEO executive directors are those who are currently executives (other than CEO) of other firms in the sample. In the first stage, *CEO director indicator* is instrumented with the distance between the headquarters of the appointing firm and appointee firm, where distance is measured in thousands of miles. Results are reported in the column labeled 'First stage.' The second stage is a regression of the change in operating performance on control variables and the instrumented *CEO director indicator* variable. Results are reported in the column labeled 'Second stage.' Standard errors are corrected for heteroskedasticity. *p*-Values are reported in parentheses. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

				Correcting for endogeneity		
	(1)	(2)	(3)	(4)	(5)	
					First stage	*Second stage*
Constant	−0.000	0.000	−0.008	−0.008	0.264***	0.017
	(0.957)	(0.976)	(0.307)	(0.333)	(0.000)	(0.481)
CEO director indicator	0.011*		−0.007			
	(0.053)		(0.358)			
First CEO director indicator		0.000		−0.015		
		(0.975)		(0.353)		
Not first CEO director indicator		0.016***		−0.003		
		(0.003)		(0.658)		
Distance between appointing and appointee firm					−0.079***	
					(0.000)	
CEO director indicator [Instrumented]						0.023
						(0.725)
Other outside director indicator	0.008**	0.008**	−0.000	−0.000		
	(0.010)	(0.010)	(0.937)	(0.939)		
Log(Assets)	−0.004***	−0.004***	−0.001	−0.001	0.026***	−0.006*
	(0.000)	(0.000)	(0.285)	(0.269)	(0.000)	(0.054)
Log(Firm age)	0.006***	0.006***	0.007***	0.007***	0.006	0.004
	(0.000)	(0.000)	(0.000)	(0.000)	(0.741)	(0.423)
Change in no. of board seats	0.001	0.001	0.003***	0.003***	−0.056***	0.002
	(0.260)	(0.256)	(0.005)	(0.005)	(0.000)	(0.631)
Methodology	*OLS*	*OLS*	*OLS*	*OLS*	*IV regression*	
Sample	*All appts*	*All appts*	*All appts*	*All appts*	*CEOs and exec*	
Adjustment to ROA	*Ind*	*Ind*	*Size, Perf, Ind*	*Size, Perf, Ind*	*Ind*	
Observations	14579	14579	12534	12534	1535	
Adjusted R^2	0.003	0.003	0.001	0.001	–	
Tests (H$_0$: CEO dir indicator is exogenous)						
Wu-Hausman Test (*F*-statistic)	–	–	–	–	0.100	
Durbin-Wu-Hausman Test (Chi-sq statistic)	–	–	–	–	0.100	

allow us to easily identify their locations based on the company they work for. Therefore, for this test, we include all outside director appointments of CEOs and executives from other firms. We instrument the appointment of a CEO outside director using the distance between the headquarters of the appointee and appointing firm.

Two conditions have to be fulfilled for the instrument to be valid. First, the instrument and the endogenous variable must be correlated after all other exogenous variables have been controlled for (relevancy condition). Second, the instrument should not be correlated with the error term of the second-stage equation (exclusion restriction). Our distance measure likely satisfies the relevancy condition. As discussed and shown in the univariate results in Section 3, the distance between appointing and appointee firms for a CEO outside director appointment is surprisingly small. One argument for the small distance is

that the time of a CEO is extremely valuable (in particular, more valuable than the time of another executive at a somewhat lower level). There are thus economic reasons to expect a strong negative relation between the appointment of CEO outside directors and our instrument.

The second condition for the validity of our instrument is that the distance between the headquarters of the appointee and appointing firm does not affect performance apart from the indirect effect through a CEO outside director appointment. The validity of this condition cannot be tested statistically without another instrument, but we consider it plausible that the exclusion restriction is maintained. One potential concern could be spillover effects when there is industry clustering of geographically close firms (e.g., Almazan, De Motta, Titman, and Uysal, 2010). However, recall from Table 1 that the appointing firms and appointee firms operate in

different industries 87% of the time. An additional concern may be the recent evidence by Pirinsky and Wang (2006) which suggests that stock returns of firms headquartered in the same geographic area move together. However, we do not study stock returns but accounting performance and Pirinsky and Wang (2006) explicitly acknowledge that the comovement is not explained by economic fundamentals.

Table 6, column 5 shows the results of the instrumental variable regression. Using two-stage least-squares, we estimate an OLS regression with the CEO-director indicator variable on the left-hand side in the first stage, and we use the predicted value from the first stage in the performance regression in the second stage. The results of the first stage show that the instrument is a strong negative predictor of the CEO-director appointment decision. The associated t-statistic is above 4.0, alleviating any concerns about weak instrument problems (e.g., Staiger and Stock, 1997). The results of the second stage show that there is no relation between the appointment of a CEO director and changes in firm performance around the appointment after correcting for endogeneity.

The tests discussed so far evaluate only the average effect of a CEO director appointment on operating performance. We now turn to an analysis of the cross-sectional variation of the impact of a CEO director appointment. We estimate regressions of the change in operating performance associated with a CEO director appointment on appointing and appointee firm characteristics. Because we know from the evidence in Table 2 that CEO directors are not randomly allocated to firms, we correct for selection using a Heckman selection model. In the first stage, we take the entire universe of approximately 1,500 appointments of executives as directors and model the probability that a CEO director is appointed (selection equation). In the second stage, we include the inverse Mills' ratio generated from the first stage and regress the performance change on firm characteristics for approximately 500 of those appointments that are outside CEOs. Model 1 takes into account the appointing firm characteristics only, while Model 2 also includes the appointee firm characteristics. Table 7 reports results.

Overall, there is little evidence in Table 7 that certain types of firms benefit from the appointment of CEO directors or that certain types of CEO directors are especially useful. If the performance hypothesis is valid, we would expect firms with advising and monitoring needs to improve their performance post-appointment more and we would expect better quality CEO directors to be more useful. The regression estimates are not supportive of such predictions. However, one result is striking: the indicator variable for CEO interlocks is strongly and significantly negative. If the CEO of the appointing firm already is a board member of the appointee firm, the appointment of the appointee's firm CEO as an outside director is followed by poor performance. This result shows that our tests have enough power to capture the impact of a CEO director appointment on performance, which makes it less likely that our failure to find an impact in general is due to a lack of power.

6.2. CEO turnover

Table 8 examines whether CEO turnover is affected by the presence of CEO directors. Previous work suggests that the sensitivity of CEO turnover to performance is too low (see, e.g., Murphy, 1999). If CEO outside directors are better monitors, we should see an increased sensitivity of CEO turnover to performance. CEO turnovers are obtained from the matched Compact Disclosure-Compustat sample. Since we are determining CEO turnover by comparing consecutive CEOs, we are not able to determine whether the CEO has changed for the first and last year the firm is in our database. There are 57,353 firm-year observations with 6,317 CEO turnover events.

We estimate probit regressions in Table 8. The base specification is similar to that of Kaplan and Minton (2006), except that they use the S&P 500 as a proxy for the market while we use the CRSP equal-weighted index since our sample includes many small firms. The dependent variable is an indicator variable equal to one the last year the CEO appears in the company's 10-K. Stock returns are measured over the fiscal year covered by this 10-K. The industry return is the median stock return of all firms in the same two-digit SIC code. Similar to Kaplan and Minton (2006), we decompose the firm stock return into the market component, the industry component, and the idiosyncratic component. The indicator variable 'CEO director present' is equal to one if there is at least one CEO director on the board. The indicator variable '% Inside director > med' is equal to one if the proportion of inside directors on the board is greater than the median proportion of inside directors, which is 27% in our sample.

Consistent with the previous literature (e.g., Warner, Watts, and Wruck, 1988; Jenter and Kanaan, 2008; Kaplan and Minton, 2006), the CEO of a firm that has poor stock market performance, controlling for market and industry performance, is more likely to lose her job. Similar to Jenter and Kanaan (2008), we find that poor market and poor industry performance also increase the probability of turnover although they are outside the influence of the CEO. We control for turnover due to retirement by including an indicator variable equal to one if the CEO is older than 60. The indicator variable is positive and strongly significant. We find that the presence of a CEO director on the board has no impact on the probability of the incumbent CEO losing her job, but the presence of more inside directors than typical reduces that probability. Columns 2 and 3 examine whether boards with CEO directors make the turnover-performance relation stronger as the performance hypothesis would have predicted. We see that CEO directors have no impact on the turnover-performance relation. However, surprisingly, we find in column 3 that there is increased performance-turnover sensitivity among firms with interlocked CEO directors. The coefficient on the interaction term of idiosyncratic stock returns and CEO interlock is significant and negative.[21]

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[21] Out of the 57,153 observations with non-missing information on interlocked boards, there is a CEO director for 15,248 observations and for 1,256 of these observations there is an interlocked board.

Table 7

Operating performance change for sample of CEO director appointments only.

The table reports results from regressions of changes in size, performance, and industry-adjusted ROA around CEO director appointments on explanatory variables. Size, performance, and industry-adjusted ROA is the difference between the unadjusted ROA and the ROA of a control firm. The control firm is the firm that is from the same two-digit SIC code with ROA in event year -2 that is within $\pm 10\%$ of the appointing firm and that is closest in size. Performance before the appointment is calculated as the average over event years -2 and -3. Performance after the appointment is calculated as the average over event years $+1$ through $+3$. A change in average performance is then taken. For most of the independent variables, an average value is calculated over event years -3 and -2, except firm age, CEO age, and director age, where the variables are taken as of event year -1. Because the subsample of CEO director appointments is not a random sample, we correct for sample selection bias using a two-stage Heckman model. The first stage is a probit regression modeling the probability that a CEO is appointed director (Selection equation). The sample consists of the roughly 1,500 CEOs and non-CEO executives for which we have the location of their firms' headquarters. The second stage regresses the change in performance on explanatory variables for the sample of CEO directors only, but includes the inverse Mills' ratio from the first stage to account for sample selection bias (Performance change equation). The regressions contain indicator variables for missing R&D expenditures and missing D&O ownership (not reported). Standard errors are corrected for heteroskedasticity. *p*-Values are reported in parentheses. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	(1)		(2)	
	Selection eq.	Perf change eq.	Selection eq.	Perf change eq.
Constant	0.024 (0.874)	0.032 (0.919)	−0.075 (0.620)	0.088 (0.768)
Director characteristics				
No. of other board seats by director		−0.001 (0.827)		−0.002 (0.704)
Log(Director age)		0.027 (0.663)		0.021 (0.732)
Nature of appointment				
No. of CEO directors who left	−0.822*** (0.000)		−0.815*** (0.000)	
No. of inside directors who left	−0.808*** (0.000)		−0.801*** (0.000)	
No. of other outside directors who left	−0.633*** (0.000)		−0.633*** (0.000)	
Change in no. of board seats	−0.704*** (0.000)		−0.702*** (0.000)	
No CEO director on board before		0.005 (0.769)		0.007 (0.726)
CEO director left indicator		−0.038 (0.169)		−0.034 (0.234)
Appointing firm characteristics				
Log(Assets)	0.121*** (0.000)	0.008 (0.146)	0.130*** (0.000)	0.007 (0.222)
Dividend payer	−0.092 (0.291)		−0.100 (0.261)	
Stock returns	0.029 (0.747)		0.025 (0.791)	
Log(Firm age)		0.015 (0.117)		0.019** (0.043)
Log(CEO age)		−0.071 (0.235)		−0.083 (0.171)
D&O ownership (%)		0.000 (0.997)		−0.000 (0.990)
Appointing firm CEO is chairman		0.021 (0.292)		0.020 (0.343)
R&D expenditures		−0.021 (0.908)		−0.048 (0.810)
Capital intensity		−0.025*** (0.006)		−0.022** (0.013)
Appointee firm characteristics				
Appointee firm D&O ownership (%)				0.000 (0.573)
Appointee firm stock returns				0.004 (0.853)
Comparing appointing and appointee firms				
Distance between appointing and appointee firms	−0.237*** (0.000)		−0.247*** (0.000)	
Appointing CEO on appointee's board prior to appointment				−0.035* (0.055)
Same two-digit SIC industry				−0.003 (0.942)
Appointing firm is smaller than appointee firm				0.007 (0.563)
Estimated rho	0.369	0.345		
χ^2 test	3.100*	3.104*		
Observations	1476	–	1442	–
No. of CEO director appointments	–	566	–	532

Table 8

CEO directors and CEO turnover.

The table presents results from probit regressions examining whether the CEO turnover is affected by the presence of CEO directors. CEO turnovers are obtained from the matched Compact Disclosure-Compustat sample. The dependent variable is an indicator variable equal to one in the last year where the CEO appears in the company's 10-K as such. Stock returns are measured over the fiscal year covered by this 10-K. *EW market return* is the CRSP equal-weighted market return, *Industry return* is the median stock return of all firms in the same two-digit SIC code, and *Firm stock return* is the buy-and-hold stock return over the fiscal year. *CEO director present* is an indicator variable which equals one if there is at least one CEO director on the board. *%Inside director > med* is an indicator variable which equals one if the proportion of inside directors on the board is greater than the median proportion in the sample. *Interlocked board* is an indicator variable indicating whether there is at least one direct reciprocal CEO interlock on the firm's board, i.e., CEO A sits on the board of CEO B's firm, and CEO B sits on the board of CEO A's firm. Columns 4 and 5 test for an asymmetry in the turnover-performance relation. *Negative performance* is equal to the industry-adjusted return if the industry-adjusted return is negative, and zero otherwise. Positive performance is defined accordingly. The table reports marginal effects. Standard errors are clustered at the firm level. *p*-Values are reported in parentheses. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

				Testing for asymmetry	
	(1)	(2)	(3)	(4)	(5)
EW market return	−0.048***	−0.048***	−0.048***	−0.055***	−0.056***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Industry return-EW market return	−0.073***	−0.073***	−0.074***	−0.085***	−0.085***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm stock return-Industry return	−0.033***	−0.032***	−0.031***		
	(0.000)	(0.000)	(0.000)		
Old CEO (=1 if CEO age >= 60)	0.081***	0.081***	0.081***	0.087***	0.087***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CEO director present	0.002	0.003	0.003	0.011***	0.011***
	(0.461)	(0.317)	(0.254)	(0.007)	(0.009)
(%Inside director > med) indicator	−0.011***	−0.011***	−0.011***	−0.010**	−0.010***
	(0.000)	(0.000)	(0.000)	(0.010)	(0.010)
CEO director present*Interlocked board			−0.006		0.006
			(0.488)		(0.585)
CEO director present*(Firm stock ret-industry ret)		−0.012	−0.010		
		(0.102)	(0.192)		
(%Inside director > med)*(Firm stock ret-industry ret)		0.002	0.002		
		(0.759)	(0.764)		
CEO director present*Interlocked board*(Firm stock ret-industry ret)			−0.063**		
			(0.022)		
				Performance=	
				Firm stock ret-Industry ret	
Negative performance				−0.155***	−0.154***
				(0.000)	(0.000)
Positive performance				0.000	0.000
				(0.957)	(0.974)
CEO director present*Negative performance				0.012	0.012
				(0.399)	(0.390)
CEO director present*Positive performance				−0.012*	−0.010
				(0.060)	(0.117)
(%Inside director > med)*Negative performance				0.024**	0.024*
				(0.046)	(0.050)
(%Inside director > med)*Positive performance				−0.002	−0.002
				(0.644)	(0.670)
CEO director present*Interlocked board*Negative performance				−0.000	
				(0.997)	
CEO director present*Interlocked board*Positive performance				−0.073*	
				(0.054)	
Observations	57353	57353	57153	57353	57153
Pseudo R^2	0.02	0.03	0.03	0.03	0.03

A difficulty with the interpretation of such a negative coefficient is that it could result from a CEO being less likely to leave when performance is good or from a CEO being more likely to leave when performance is poor. Only the latter explanation would be consistent with increased monitoring. We investigate the possibility of such an asymmetry in columns 4 and 5. We concentrate on measuring performance using stock returns net of industry returns since the significant coefficient is found

on the interaction term between interlocked board and stock performance net of industry returns. Column 5 shows that the negative coefficient on an interlocked board in column 3 is explained by the fact that a CEO is less likely to leave when performance is good. This evidence is consistent with the idea that life is more pleasant for the CEO with an interlocked board and that perhaps she is less willing to consider other positions in this case. Other than interlocked CEO directors,

we fail to reject the null hypothesis that CEO directors have any impact on board monitoring activities. Interestingly, we find that inside directors shield the CEO from bad stock performance, which is consistent with Weisbach (1988).

6.3. Acquisition decisions

In Table 9, we examine cumulative abnormal returns to announcements of mergers and acquisitions (M&A). Mergers are relatively rare events in the life of a firm, but a CEO outside director could be particularly important for such events. It is unlikely that the appointment announcement return or the operating performance change capture the expected contribution of the CEO director during a merger because of the low probability of a merger actually taking place during the term of the CEO director. Most of the benefit from having a CEO outside director when the firm makes an acquisition would therefore be reflected in the acquisition return. Consequently, if CEO directors provide good advice or monitor managers to prevent them from empire building, we would expect better merger announcement returns for firms with CEO outside directors on their board.

The sample consists of 10,686 completed M&A deals undertaken by firms in the matched Compact Disclosure-Compustat database. The M&A deals are obtained from the Securities Data Corporation (SDC) database. The cumulative abnormal returns of the acquirer are calculated over the event window (-1 day, $+1$ day), where day zero is the announcement date. The main independent variable of interest is the variable 'CEO director present,'

Table 9
CEO directors and merger performance.

The table reports OLS regressions of the cumulative abnormal announcement returns to mergers and acquisitions. The sample consists of 10,686 M&A deals undertaken by firms in the matched Compact Disclosure-Compustat samples. The M&A deals are from SDC. The dependent variable is the cumulative abnormal announcement return of the acquirer over event window ($-1,+1$). The abnormal returns are calculated from a market model, where the parameters of the market model are estimated using the CRSP equal-weighted market returns and data from days -280 to -61. *CEO director present* is an indicator variable which equals one if there is at least one CEO director on the board. *%Inside director $>$ med* is an indicator variable which equals one if the proportion of inside directors on the board is greater than the median proportion in the sample. *Interlocked board* is an indicator variable which equals one if there is at least one direct reciprocal CEO interlock on the firm's board. Standard errors are corrected for heteroskedasticity. *p*-Values are reported in parentheses. The regressions contain year fixed effects and Fama-French 48-industry fixed effects. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	(1)	(2)	(3)
Constant	0.010	0.033**	0.029*
	(0.431)	(0.022)	(0.073)
CEO director present	−0.007***	−0.001	−0.001
	(0.000)	(0.613)	(0.716)
(%Inside director $>$ med) indicator	0.004**	0.001	0.001
	(0.037)	(0.457)	(0.739)
CEO director present*Interlocked board			0.000
			(0.930)
Board size	−0.002***	0.000	0.000
	(0.000)	(0.605)	(0.259)
Log(Assets)		−0.005***	−0.006***
		(0.000)	(0.000)
Market leverage		0.019**	0.021***
		(0.014)	(0.007)
Tobin's Q		−0.003***	−0.003***
		(0.000)	(0.000)
Private target indicator		−0.002	−0.002
		(0.256)	(0.234)
Public target indicator		−0.032***	−0.033***
		(0.000)	(0.000)
Same industry indicator		0.002	0.001
		(0.366)	(0.506)
Tender offer indicator		0.025***	0.029***
		(0.000)	(0.000)
Hostile deal indicator		−0.011	−0.010
		(0.278)	(0.331)
Competed deal indicator		0.008	0.009
		(0.327)	(0.321)
100% Cash payment indicator		0.005***	0.005***
		(0.007)	(0.006)
100% Stock payment indicator		0.002	0.002
		(0.512)	(0.419)
Cash flow/lagged assets		−0.013*	−0.009
		(0.069)	(0.188)
Transaction value/Acq market value		0.017***	0.010**
		(0.006)	(0.039)
Observations	10686	10402	9692
Adjusted R^2	0.02	0.05	0.05

an indicator variable which equals one if the firm has at least one CEO director, and zero otherwise.

Column 1 of Table 9 shows that the acquisitions made by firms with large boards and boards with outside CEOs are worse acquisitions. However, once we control for firm and deal characteristics, board size and the presence of a CEO director no longer have any explanatory power. The coefficients on the firm and deal characteristics are similar to those reported in past studies (e.g., Moeller, Schlingemann, and Stulz, 2005). There is no evidence that acquisition performance is different when the CEO director is interlocked.

6.4. CEO compensation

Several authors argue that CEOs try to extract excess compensation from their firms if control mechanisms are weak (e.g., Bebchuk and Fried, 2004; Yermack, 2006). The board of directors plays a pivotal role in setting executive compensation. If CEO outside directors help monitor managers, we would expect total compensation not to be higher than what a benchmark compensation model predicts. If CEO outside directors and incentive compensation are substitute governance mechanisms, pay-for-performance sensitivity may be lower for firms that have outside CEOs on their boards.

We use two samples to examine CEO compensation. Compact Disclosure reports total CEO cash compensation (i.e., salary plus cash bonus), which enables us to use our matched Compact Disclosure-Compustat sample for the cash compensation regressions. We obtain total CEO compensation, which also includes stock and option grants in the current year, and dollar equity incentives (Core and Guay, 2002) for a smaller sample of firms from the Execucomp database. The dollar equity incentives measure reflects the dollar amount a CEO stands to lose if the stock price falls by one percent. Because compensation variables are heavily right-skewed, we use the logarithmic transformation of the compensation measures in our regressions. The main independent variable of interest is the indicator variable 'CEO director present' which equals one if the firm has at least one CEO director, and zero otherwise. The other control variables follow the

Table 10
CEO directors and executive compensation.

The table presents results from regressions of different measures of CEO compensation and pay-for-performance sensitivity. The sample is the matched Compact Disclosure-Compustat database. *CEO director present* is an indicator variable which equals one if there is at least one CEO director on the board. *%Inside director > med* is an indicator variable which equals one if the proportion of inside directors on the board is greater than the median proportion in the sample. *Interlocked board* is an indicator variable which equals one if there is at least one direct reciprocal CEO interlock on the firm's board. *Return volatility* is the standard deviation of the daily stock returns over the previous fiscal year. *CEO tenure* is the number of months the CEO has served as such. All accounting ratios are taken as of the previous fiscal year. Standard errors are clustered at the firm level. *p*-Values are reported in parentheses. All regressions contain year fixed effects. Industry fixed effects are based on Fama-French 48-industry classification. Statistical significance at the 1%, 5%, and 10% level is indicated by ***, **, and *, respectively.

	Log(CEO salary, Compact D)		Log(CEO salary, Execucomp)		Log(CEO total compensation)		Log(CEO dollar equity incentives)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	−2.663***	−1.212***	−2.457***	−1.054***	−2.938***	−0.653***	−7.440***	−4.139***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CEO director present	0.034***	0.015	0.024	0.004	0.079***	0.012	−0.060*	−0.020
	(0.001)	(0.166)	(0.255)	(0.866)	(0.000)	(0.588)	(0.079)	(0.501)
(% Inside director > med) indicator	−0.040***	−0.016*	−0.056**	0.009	−0.105***	0.034	0.264***	0.152***
	(0.000)	(0.062)	(0.018)	(0.749)	(0.000)	(0.114)	(0.000)	(0.000)
CEO director present*Interlocked board	0.052	0.001	−0.006	−0.021	−0.063	−0.018	0.115	0.004
	(0.116)	(0.961)	(0.889)	(0.514)	(0.258)	(0.720)	(0.186)	(0.946)
Board size	0.006**	−0.000	0.021***	0.004	0.001	0.007	−0.042***	−0.020***
	(0.014)	(0.934)	(0.001)	(0.544)	(0.914)	(0.121)	(0.000)	(0.002)
Log(Assets)	0.348***	0.179***	0.260***	0.075**	0.419***	0.119***	0.504***	0.148***
	(0.000)	(0.000)	(0.000)	(0.047)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	0.166***	0.239***	0.610***	0.540***	0.672***	0.748***	1.510***	1.191***
	(0.000)	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
Stock returns	0.061***	0.052***	0.117***	0.099***	0.099***	0.058***	0.123***	0.107***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin's Q	0.026***	0.010***	−0.033***	−0.033**	0.065***	0.018	0.214***	0.093***
	(0.000)	(0.001)	(0.008)	(0.015)	(0.000)	(0.176)	(0.000)	(0.000)
Return volatility	−0.737***	−0.818***	−4.907***	−4.163***	4.417***	−2.583**	−1.314	−5.183***
	(0.006)	(0.001)	(0.000)	(0.005)	(0.000)	(0.021)	(0.400)	(0.000)
Log(CEO tenure)			0.072***	0.073***	−0.008	−0.012	0.484***	0.377***
			(0.000)	(0.000)	(0.498)	(0.256)	(0.000)	(0.000)
Observations	54263	54263	16588	16588	16337	16337	16157	16157
Industry fixed effects	Yes	No	Yes	No	Yes	No	Yes	No
Firm fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Adjusted R^2	0.58	0.78	0.26	0.50	0.39	0.62	0.50	0.78
Within-firm R^2	–	0.19	–	0.05	–	0.14	–	0.27
p-Value (*F*-test)	–	0.00	–	0.00	–	0.00	–	0.00

previous literature (e.g., Core, Holthausen, and Larcker, 1999; Chhaochharia and Grinstein, 2009; Fahlenbrach, 2008). We estimate both industry-fixed effects regressions and firm-fixed effects regressions to mitigate concerns about unobservable firm characteristics driving both the presence of CEO directors and higher compensation. We also control for year-fixed effects.

Column 1 of Table 10 shows that in the larger sample, CEO cash compensation is about 3.4% higher if a CEO director is present. However, this result is not robust and disappears once we focus on either the smaller Execucomp sample (column 3) or firm-fixed effects regressions (columns 2 and 4). In columns 5 and 6, we estimate the impact of CEO outside directors on total compensation and find that these directors are associated with higher CEO total compensation, but only for the specification with industry fixed effects. Once we control for firm fixed effects, there is no impact of CEO outside directors. Columns 7 and 8 show the results for pay-for-performance sensitivity. There is some weak evidence from the industry-fixed effects regression that the presence of a CEO outside director lowers pay-for-performance sensitivity, but this effect is again not robust to the alternative firm-fixed effects specification.[22]

In all regressions, total compensation is not related to the presence of interlocked CEO outside directors. This is consistent with Hallock (1997) who finds that current CEO interlocks do not lead to higher pay. Our results are not consistent with the conclusions of Faleye (2007) that having CEO directors distorts incentives. His sample covers the period 1998–2005. He reports regressions with industry fixed effects. As seen in Table 10, there is evidence of such a distortion with industry fixed effects, but the evidence disappears in our sample for firm-fixed effects specifications.

7. Conclusion

CEOs are highly sought after as outside directors. However, it is unclear why this is so and what value, if any, CEO directors provide to firms. We set out to understand the determinants of CEO outside director appointments and the impact of these appointments on the appointing firm. We provide a theory of the matching of CEOs to boards as outside directors. With this theory, CEOs have their pick of boards and choose boards that have a favorable tradeoff between total expected compensation and workload. A significant component of their total expected compensation is the prestige and expected networking opportunities from sitting on a board. The opportunity cost of time for CEOs is high and they are reputation-sensitive. We therefore expect them to choose prestigious boards of large established firms whose

policies are similar to the policies of their own firm and that are located close to where they work. We find strong support for the predictions of our matching theory of board appointments for CEOs.

We find that the stock market reacts more favorably to the appointment of a CEO outside director than to the appointment of a non-CEO outside director when the firm has no outside CEO on its board. However, in all our tests, we fail to reject the null hypothesis that CEO directors have no impact on the firm after their appointment, except for appointments which lead to interlocked boards, in which case there is evidence of a negative impact for some but not all outcome measures. We do not detect a discernible impact of CEO outside directors on high-level corporate decisions that fall within the responsibility of the board of directors, such as CEO turnover, CEO compensation, and merger and acquisition decisions. Except for interlocks, none of our evidence is consistent with the concern expressed by some that CEO directors are cheerleaders of the sitting CEO and that they help entrench that CEO.

There are at least two ways to reconcile the appointment announcement returns with our evidence on operating performance and corporate decisions. One could argue that the stock-price impact of the first appointment of a CEO to a board is small enough that it could correspond to improvements in performance too small to be identified with the data and techniques available to us. Yet, even when we study extreme situations such as mergers and acquisitions, we do not find evidence that a CEO outside director has an impact. Alternatively, it could be that the appointment of a CEO outside director has truly no impact on operating performance or corporate policies but just helps certify the appointing company and its management. With the certification hypothesis, CEO outside directors differ from other directors because their status and reputation enable them to credibly certify the firms that appoint them. CEO outside directors may be sought after by many firms, but they choose strategically their board seats in large, mature firms that are sufficiently similar to their own to make them easier to understand, perhaps because they are worried about damage to their reputation should they be involved with a failing firm. Our results on the determinants of CEO director appointments confirm this matching process. As one interviewee of Mace (1986) put it, such outside directors with prestigious names and titles appear to be mostly 'attractive ornaments on the corporate Christmas tree'.[23] One possible explanation for the absence of an impact is that CEO directors are simply too busy with their day job to use their prestige, authority, and experience to have a substantial impact on the boards they sit on.

Appendix A. Definition of variables

The data appendix defines variables used in this study. All accounting variables and CEO compensation variables

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[22] The lack of significance is not due to the lack of within-firm time variation of the underlying variable (e.g., Zhou, 2001). First, we observe frequent entries and exits of CEO outside directors. For the bigger (smaller) sample, 28.9% (46.5%) of the firms changed their 'CEO director present' status. Second, we obtain similar results when we re-estimate the firm-fixed effects specifications on the subsample of firms with at least one change in the within-firm time-series for the indicator variable 'CEO director present.'

[23] Mace (1986, p. 107).

Table A1

Variable	Definition	Data source
Types of directors		
CEO director	Director is currently a CEO of another firm covered in the database	Compact Disclosure
Inside director	Director is currently an officer of the firm	Compact Disclosure
Other outside director	Director who is neither a CEO nor an inside director	Compact Disclosure
Firm characteristics		
Assets	Book value of assets (millions of 2005 $)	Compustat
Market capitalization	Market value of equity (millions of 2005 $)	Compustat
Firm age	Maximum(years in CRSP, years in Compustat)	CRSP, Compustat
Dividend payout ratio	Dividends paid to common and preferred shareholders/operating income before depreciation	Compustat
Dividend payer indicator	Indicator variable equal to one when firm pays dividend	Compustat
Book leverage	(Long-term debt+short-term debt)/assets	Compustat
Market leverage	(Long-term debt+short-term debt)/(assets – book equity+market value of equity)	Compustat
Short-term leverage	Short-term debt/assets	Compustat
Cash holdings	Cash/assets	Compustat
R&D expenditures	R&D expenditures/lagged assets. Missing values are substituted with zero, unless indicated	Compustat
Capital expenditures	Capital expenditures/lagged assets	Compustat
Capital intensity	Net property, plant, and equipment/sales	Compustat
SG&A	Selling, general, and admin. expenses/sales	Compustat
Sales growth	Current sales/lagged sales	Compustat
Return on assets (ROA)	Operating income before depreciation/lagged assets	Compustat
Tobin's Q	(Assets – book equity+market value of equity-deferred taxes)/assets	Compustat
Stock returns	Buy-and-hold returns over fiscal year	Compustat
Firm governance and compensation policies		
CEO age	–	Compact Disclosure
Director age	–	Compact Disclosure
G index	Gompers, Ishii, and Metrick's (2003) governance index	IRRC database
Board size	Number of directors on the board	Compact Disclosure
Proportion of inside directors	Number of inside directors/board size	Compact Disclosure
Proportion of CEO directors	Number of CEO directors/board size	
D&O ownership	% of common shares owned by managers and directors. Missing values substituted with zero, unless indicated	Compact Disclosure
Institutional blockholder indicator	Indicator variable equal to one when firm has at least one institutional shareholder holding more than 5% of its common shares	Thomson 13F
Top 5 institutions holdings	% of common shares owned by five biggest institutional shareholders	Thomson 13F
CEO salary (CompactD)	CEO Cash Salary+Cash Bonus (Millions of 2005 $)	Compact Disclosure
CEO salary (Execucomp)	CEO Cash Salary+Cash Bonus (millions of 2005 $)	Execucomp
CEO total compensation	CEO total compensation including value of stock and option grants (millions of 2005 $)	Execucomp
CEO dollar equity incentives	$ change in value of CEO stock and option portfolio for a 1% change in firm value (Millions of 2005 $)	Execucomp
CEO share ownership	% of shares held by CEO	Execucomp
CEO is chairman of board	Indicator variable equal to one when CEO is the chairman of the board	Compact Disclosure
CEO sits on nominating committee	Indicator variable equal to one when CEO sits on the nominating committee or the board does not have a nominating committee	IRRC database
CEO director present	Indicator variable equal to one when there is at least one CEO director on the board	Compact Disclosure
(%Inside director > med) indicator	Indicator variable equal to one when the proportion of inside directors is greater than the median proportion	Compact Disclosure
Interlocked board	Indicator variable equal to one if there is at least one direct reciprocal CEO interlock, i.e., CEO A sits on the board of CEO B and CEO B sits on the board of CEO A	Compact Disclosure

are winsorized at the 1% level in both tails. The last column of the appendix indicates the source of the underlying data (Table A1).

References

Adams, R., Ferreira, D., 2007. A theory of friendly boards. Journal of Finance 62, 217–250.

Adams, R., Hermalin, B., Weisbach, M. The role of boards of directors in corporate governance: a conceptual framework and survey. Journal of Economic Literature, forthcoming.

Agrawal, A., Knoeber, C., 2001. Do some outside directors play a political role? Journal of Law and Economics 44, 179–198

Almazan, A., De Motta, A., Titman, S., Uysal, V., 2010. Financial structure, acquisition opportunities, and firm locations. Journal of Finance 65, 529–563.

Barber, B., Lyon, J., 1996. Detecting abnormal operating performance: the empirical power and specification of test statistics. Journal of Financial Economics 41, 359–399.

Bebchuk, L., Fried, J., 2004. Pay without Performance: The Unfulfilled Promise of Executive Compensation. Harvard University Press, Cambridge, MA.

Bertrand, M., Schoar, A., 2003. Managing with style: the effect of managers on firm policies. Quarterly Journal of Economics 118, 1169–1208.

Bhagat, S., Black, B., 2001. The non-correlation between board independence and long-term firm performance. Journal of Corporation Law 27, 231–273.

Booth, J., Deli, D., 1996. Factors affecting the number of outside directorships held by CEOs. Journal of Financial Economics 40, 81–104.

Booth, J., Deli, D., 1999. On executives of financial institutions as outside directors. Journal of Corporate Finance 5, 227–250.

Byrd, J., Hickman, K., 1992. Do outside directors monitor managers? Evidence from tender offer bids. Journal of Financial Economics 32, 195–221.

Chen, D., 2007. The monitoring and advisory functions of corporate boards: theory and evidence. Unpublished Working Paper, Duke University.

Chhaochharia, V., Grinstein, Y., 2009. CEO compensation and board structure. Journal of Finance 64, 231–261.

Core, J., Guay, W., 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. Journal of Accounting Research 40, 613–630.

Core, J., Holthausen, R., Larcker, D., 1999. Corporate governance, chief executive officer compensation, and firm performance. Journal of Financial Economics 51, 371–406.

Cotter, J., Shivdasani, A., Zenner, M., 1997. Do independent directors enhance target shareholder wealth during tender offers? Journal of Financial Economics 43, 195–218

Coval, J., Moskowitz, T., 1999. Home bias at home: local equity preference in domestic portfolios. Journal of Finance 54, 2045–2073.

Fahlenbrach, R., 2008. Shareholder rights, boards, and CEO compensation. Review of Finance 13, 81–113.

Faleye, O., 2007. Looking out for their own? CEO directors and executive compensation. Unpublished Working Paper, Northeastern University.

Fich, E., 2005. Are some outside directors better than others? Evidence from director appointments by Fortune 1000 firms. Journal of Business 78, 1943–1971.

Fich, E., Shivdasani, A., 2007. Financial fraud, director reputation, and shareholder wealth. Journal of Financial Economics 86, 306–336.

Gompers, P., Ishii, J., Metrick, A., 2003. Corporate governance and equity prices. Quarterly Journal of Economics 118, 107–155.

Graham, J., Wu, Y., 2007. Executive compensation, interlocked compensation committees, and the 162(M) cap on tax deductibility. Unpublished Working Paper, Duke University.

Güner, B., Malmendier, U., Tate, G., 2008. Financial expertise of directors. Journal of Financial Economics 88, 323–354.

Hallock, K., 1997. Reciprocally interlocking boards of directors and executive compensation. Journal of Financial and Quantitative Analysis 32, 331–344.

Harford, J., 2003. Takeover bids and target directors' incentives: the impact of a bid on directors' wealth and board seats. Journal of Financial Economics 69, 51–83.

Hermalin, B., Weisbach, M., 1988. The determinants of board composition. RAND Journal of Economics 19, 589–606.

Hermalin, B., Weisbach, M., 1991. The effects of board composition and direct incentives on firm performance. Financial Management 20, 101–112.

Hermalin, B., Weisbach, M., 1998. Endogenously chosen boards of directors and their monitoring of the CEO. American Economic Review 88, 96–118.

Huson, M., Malatesta, P., Parrino, R., 2004. Managerial succession and firm performance. Journal of Financial Economics 74, 237–275.

Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. Journal of Financial Economics 3, 305–360.

Jenter, D., Kanaan, F., 2008. CEO turnover and relative performance evaluation. Unpublished Working Paper, Massachusetts Institute of Technology.

Kaplan, S., Minton, B., 2006. How has CEO turnover changed? Increasingly performance sensitive boards and increasingly uneasy CEOs. Unpublished Working Paper, Ohio State University.

Linck, J., Netter, J., Yang, T., 2009. Effects and unintended consequences of the Sarbanes–Oxley Act on corporate boards. Review of Financial Studies 9, 3287–3328.

Lipton, M., Lorsch, J., 1992. A modest proposal for improved corporate governance. Business Lawyer 48, 59–77.

Lorsch, J., Maciver, E., 1989. Pawns or Potentates: The Reality of America's Corporate Boards. Harvard Business School Press, Cambridge, MA.

Mace, M., 1986. Directors: Myth and Reality. Harvard Business School Press, Cambridge, MA.

Masulis, R., Mobbs, S., 2008. Are all inside directors the same? CEO entrenchment or board enhancement. Unpublished Working Paper, Vanderbilt University.

Moeller, S., Schlingemann, F., Stulz, R., 2005. Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave. Journal of Finance 60, 757–782.

Moeller, T., 2005. Let's make a deal! How shareholder control impacts merger payoffs. Journal of Financial Economics 76, 167–190.

Murphy, K., 1999. Executive compensation. In: Ashenfelter, O., Card, D. (Eds.), Handbook of Labor Economics. Elsevier Science, North-Holland, Amsterdam, pp. 2485–2563.

Perry, T., Peyer, U., 2005. Board seat accumulation by executives: a shareholder's perspective. Journal of Finance 60, 2083–2123.

Perry, T., Shivdasani, A., 2005. Do boards affect performance? Evidence from corporate restructuring. Journal of Business 78, 1403–1431.

Pirinsky, C., Wang, Q., 2006. Does corporate headquarters location matter for stock returns? Journal of Finance 61, 1991–2015

Richardson, S., Tuna, I., Wysocki, P., 2003. Accounting for taste: board member preferences and corporate policy choices. Unpublished Working Paper, University of Pennsylvania.

Shivdasani, A., Yermack, D., 1999. CEO involvement in the selection of new board members: an empirical analysis. Journal of Finance 54, 1829–1853.

Staiger, D., Stock, J., 1997. Instrumental variables regression with weak instruments. Econometrica 65, 557–586.

Vancil, R., 1987. Passing the Baton: Managing the Process of CEO Succession. Harvard Business School Press, Cambridge, MA.

Warner, J., Watts, R., Wruck, K., 1988. Stock prices and top management changes. Journal of Financial Economics 20, 461–492.

Weisbach, M., 1988. Outside directors and CEO turnover. Journal of Financial Economics 20, 431–460.

Yermack, D., 1996. Higher market valuation of companies with a small board of directors. Journal of Financial Economics 40, 185–211.

Yermack, D., 2004. Remuneration, retention, and reputation incentives for outside directors. Journal of Finance 59, 2281–2308.

Yermack, D., 2006. Golden handshakes: separation pay for retired and dismissed CEOs. Journal of Accounting and Economics 41, 237–256.

Zhou, X., 2001. Understanding the determinants of managerial ownership and the link between ownership and performance: comment. Journal of Financial Economics 62, 559–571.