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Recruiting the CEO from the Board: Determinants and Consequences

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Abstract

We investigate an increasingly prevalent CEO succession strategy: recruiting CEOs from the board of directors (director–CEOs). Director–CEOs might be hired in a planned succession because they combine outsiders' new perspectives with insiders' firm-specific knowledge. Alternatively, directors may be recruited when the board is unprepared for a leadership change. We find that unplanned successions, in which director–CEOs are appointed as a "quick-fix" solution, result in a negative market reaction, deterioration in performance, and ill-fitting candidates with shorter tenures. Conversely, firms recruiting director–CEOs in planned successions perform similarly to other firms. We find no evidence that poor firm quality drives these results.

I. Introduction

The stakes are high when it comes to finding a new chief executive officer (CEO). Thus, boards consistently identify succession planning as one of their most important tasks (PWC (2013)). Replacing the CEO is not an infrequent event, and many boards face this decision throughout their tenure.[1] When replacing the CEO, boards have two primary alternatives: either hiring an employee of the company (insider) or searching for a replacement outside of the company ranks (outsider). Accordingly, CEO succession literature has extensively examined the choice between promoting an insider and appointing an outsider, as well as the effect of the succession choice on stock returns and accounting-based

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[1] In fact, Booz & Co. (2011) reports that the CEO turnover rate among the largest 250 companies was, on average, just over 14% per annum between 2000 and 2011. Similarly, according to Ernst & Young (2014), 35% of Standard & Poor's 1500 firms have experienced a CEO change in the last 5 years.

performance (e.g., Parrino (1997), Huson, Malatesta, and Parrino (2004), Agrawal, Knoeber, and Tsoulouhas (2006), and Borokhovich, Parrino, and Trapani (1996)). In this paper, we examine a third category of CEO appointments that has likely been lumped together with outside CEOs by prior literature: appointing the CEO from the pool of current independent directors (director–CEO appointments).

Using a large sample of CEO succession events obtained from BoardEx for the period 2001–2015, we first examine whether director–CEO appointments are prevalent enough to justify grouping them as a separate category. It is important to note that we only study cases in which director–CEOs are appointed as permanent, rather than interim, CEOs. We find that 8% of CEO appointments in our sample represent director–CEO appointments. Our data also reveal an upward trend in the rate of director–CEO hires, from 2% in 2001 to 11% in 2015, peaking at 14% in 2011. These appointments have been recently discussed in the popular press, suggesting that director–CEO appointments are significant and becoming more prevalent.[2]

Given the increasing number of director–CEO hires and the impact of succession decisions on firm performance, we seek to investigate two questions pertaining to director–CEO appointments. The first examines under which circumstances firms tend to recruit director–CEOs. The second explores how the post-succession performance of firms hiring director–CEOs compares to that of other successions.

To examine these questions, we propose two hypotheses. The best choice hypothesis conjectures that firms appoint directors to the role of CEO because director–CEOs are the best candidates, combining the advantages of outsiders and insiders. Since independent directors' primary employment is not with the focal company, they may bring a fresh perspective and can drive significant changes in strategy and a firm's operation (Bailey and Helfat (2003), Zhang and Rajagopalan (2010)). In addition, as insiders, they understand the company's culture and are familiar with internal and external stakeholders. This reasoning is often reflected in director–CEO appointment announcements. For example, "as an independent board member of long standing, Mark understands our business" (Baldwin Technology's announcement appointing Mark T. Becker (2010)) or "Scott has been a Conexant director for the past five years, so he is intimately familiar with the issues facing our company" (Conexant Systems' announcement appointing D. Scott Mercer (2008)).[3] This context-specific knowledge represents a significant advantage over outside candidates because outsiders' knowledge or experience may not be transferable due to idiosyncratic differences that exist between companies. Hiring a director also involves less uncertainty and lower hiring risk because the board has already established a working relationship with the director–CEO and knows more about the director's competencies relative to the competencies of external candidates. Hence, firms appointing director–CEOs will perform at least as well as firms with other CEO successions.

In contrast, the emergency choice hypothesis conjectures that independent directors might be appointed as CEOs when the board is unprepared for a

[2]For example, Nash, *AOL.Com Editors,* Nov. 4, 2010; Lublin, *Wall Street Journal*, Apr. 6, 2015.
[3]Appendix A contains more examples of director–CEO appointment announcements.

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leadership change. It is possible that a board may not have planned for a CEO's departure and has not groomed an inside candidate. The sudden need to deal with a succession might not allow enough time for the board to conduct a thorough search for an external successor. Hence, even though director–CEOs may not have the requisite skills and abilities to lead the organization effectively, the board might choose to appoint a director–CEO because there are no better candidates available at the time. If the board has been rushed into appointing the director–CEO, the selected CEO might not be the best possible candidate in the long term. Furthermore, because the appointment was unplanned, a director–CEO is less likely to be properly groomed for the top position. Prior literature shows that appointments of inside successors who were not groomed to be CEOs result in lower performance, as these candidates lack specific training and the experience of leading an organization (Shen and Cannella (2003), Zhang and Rajagopalan (2003)). Moreover, unanticipated and poorly managed successions have a negative impact on shareholder wealth (Beatty and Zajac (1987), Worrell and Davidson (1987)). Therefore, if director–CEOs are appointed when the board is caught off guard, these appointments will be associated with poor performance because director–CEOs may not be a good fit.

We start our analysis by exploring the circumstances surrounding director–CEO appointments. We find that the majority of director–CEOs are recruited following good performance (i.e., a positive return on assets (ROA)) and that only 8% of director–CEO appointments follow turnovers that can be classified as outright forced. Biographical data collected from proxy statements reveal that 61% of director–CEOs were employed by other firms prior to their appointment; 11% were retired; and 28% were private investors, consultants, or unemployed. When we contrast the qualifications of director–CEOs with those of other CEOs, we observe that 19% of director–CEOs have prior CEO experience, which is significantly higher than the 12% we observe for other CEOs. Yet, director–CEOs have relatively less firm- and industry-specific knowledge.

Next, we examine factors determining director–CEO appointments. We find that, on average, firms recruiting director–CEOs are smaller; however, we do not find any significant differences in other company characteristics, including firm performance. Director–CEOs are less likely to be appointed in companies with an heir apparent or with talented insiders, who could readily assume the role of CEO. These firms also have more limited access to external CEO talent, as they tend to be located in areas with fewer firms in the vicinity. We find that director–CEOs are more likely to replace younger CEOs with shorter tenures, suggesting that the frequency of director–CEO appointments is higher following an unexpected CEO departure. Interestingly, boards with at least one director linked to a large shareholder have a greater likelihood of hiring director–CEOs. In fact, our data show that 10% of director–CEOs have a current or prior affiliation with a large shareholder. In 36% of these cases, a director–CEO is affiliated with an activist hedge fund. Overall, our results suggest that firms with limited inside and outside talent that experience an unexpected CEO departure are more likely to appoint a director–CEO, which is consistent with the emergency choice hypothesis.

We then proceed to test our hypotheses by investigating the impact of director–CEO appointments on firm performance. In particular, we analyze CEO

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appointment announcement returns and post-appointment operating and stock performance.

We find a negative and significant market reaction for a sample of director–CEO appointments, which suggests that the market does not approve of these appointments. Furthermore, the market reaction to director–CEO appointments is significantly more negative than a randomly selected sample of other CEO appointments. It is puzzling why boards would appoint a director–CEO while knowing that the market will view the appointment negatively. We conjecture that not all director–CEO appointments follow the same succession process, wherein some are the result of a planned succession and others are not. Therefore, we use the age of the outgoing CEO and information on the circumstances surrounding the CEO's departure to classify the sample of director–CEO appointments into those that are more or less likely to be unplanned. Based on our partition, 56% of director–CEO appointments are classified as unplanned. We find that a negative market reaction is limited to the unplanned director–CEO successions, supporting the emergency choice hypothesis. In addition, the market reaction to the unplanned director–CEO appointments is similar in sign and magnitude to the market reaction generated by the appointments of interim CEOs, which are clear outcomes of poor successions (Ballinger and Marcel (2010)). In contrast, we document insignificant announcement returns for the planned director–CEO appointments, which are not significantly different from the announcement returns for the appointments of other CEOs. These results suggest that the market views the planned director–CEO appointments similarly to other CEO appointments, which is consistent with the best choice hypothesis. Yet, these results do not suggest that the market perceives these appointments as superior.

As recognized by prior literature, it is notoriously difficult to interpret the CEO appointment announcement returns due to potential confounding factors. Therefore, to test our hypotheses further, we examine post-appointment changes in operating performance that are more directly attributable to the new CEO. In line with the negative market reaction, our analysis of changes in ROA reveals weaker post-appointment performance for director–CEO successions. Importantly, we find that the negative effect of director–CEOs on operating performance is entirely driven by the unplanned director–CEO appointments, which is in line with the emergency choice hypothesis. Furthermore, our results for firms with planned director–CEO appointments are consistent with the best choice hypothesis and show that the performance of these firms is comparable to that of firms with other CEO successions. In addition, we find that a portfolio of firms with unplanned director–CEO appointments earns significantly negative abnormal returns, providing further support for the emergency choice hypothesis. In contrast, post-appointment abnormal returns of the planned director–CEO appointments are not significantly different from zero at any conventional level.

The emergency choice hypothesis conjectures that when a board is caught off guard, it will appoint a director–CEO as an emergency solution because it might not have a better alternative available. Therefore, we should expect director–CEOs in the unplanned category to be less qualified than director–CEOs in the planned category. Consistent with this intuition, we find that director–CEOs in the planned category have a more comprehensive set of skills to lead the organization

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compared to director–CEOs in the unplanned category. Specifically, director–CEOs in the planned successions tend to have more firm-specific and industry knowledge and are more likely to hold full-time executive positions prior to becoming CEOs. In contrast, emergency director–CEOs are more likely to be private investors, consultants, venture capitalists, retired, or unemployed, indicating that a director–CEO's availability to step in quickly as CEO could be a factor in the appointment decision. Furthermore, if boards appoint director–CEOs as short-term solutions until they can groom or find a better-suited CEO, we expect director–CEOs to have shorter tenures ex post. Indeed, we find that director–CEOs in the unplanned category have shorter tenures as CEOs compared to other CEOs.

Taken together, our results suggest that the impact of director–CEO successions on firm performance depends on the circumstances leading to director–CEO appointments. We find that firms appointing director–CEOs as part of a planned succession perform similarly to firms appointing other CEOs. In contrast, director–CEOs who are appointed as emergency solutions when the board is under pressure to act quickly underperform relative to other CEOs.

Our results suggest that the unplanned director–CEO appointments lead to worse performance due to poorly managed CEO successions. Alternatively, it is possible that the deterioration in performance can be explained by the ex-ante poor quality of firms appointing director–CEOs. For example, troubled firms with dismal prospects might be forced to recruit director–CEOs because they cannot attract other candidates. To account for firm characteristics potentially omitted from our analysis, we employ two-stage least squares estimation and continue to observe that director–CEOs in the unplanned category are associated with inferior post-appointment performance. These results support a causal interpretation of our finding that the unplanned director–CEO appointments lead to worse performance.

Our paper makes the following contributions to the literature. First, we contribute to the CEO succession literature that distinguishes between two types of CEO succession options (outside and inside (e.g., Huson et al. (2004), Borokhovich et al. (1996), and Farrell and Whidbee (2003))) by identifying an increasingly prevalent third succession strategy: appointing a director–CEO. Our results highlight that the antecedents and post-succession performance of firms with director–CEO appointments differ from those with other CEO appointments. Second, we contribute to the literature examining the impact of CEO successions on firm performance (e.g., Denis and Denis (1995), Warner, Watts, and Wruck (1988), and Furtado and Rozeff (1987)). Our results show that hiring a director–CEO for the sake of a quick resolution has a negative impact on firm performance. Furthermore, our findings of shorter tenures for emergency director–CEOs suggest that a quick-fix solution leads to even more time and resources being dedicated to the succession process in the future and cannot substitute for succession planning. Third, our paper is related to recent work by Fahlenbrach, Minton, and Pan (2011) that examines the determinants and implications of retaining former CEOs on the board. Fahlenbrach et al. (2011) find that ex-CEOs serving as inside directors can return as CEOs of last resort when performance is rapidly deteriorating and there is a need for a quick CEO replacement. In contrast, we examine the decision to hire an independent director who has not been previously employed

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by the firm. We find that director–CEOs are less likely to be hired when ex-CEOs stay on the board. Furthermore, our results show that unlike ex-CEOs, who are often rehired following poor performance, independent directors are not likely to be appointed when performance is weak.

The remainder of this paper is organized as follows: Section II describes the sample construction. Section III depicts the characteristics of director–CEOs. Section IV examines the determinants of director–CEO appointments. Section V analyzes the market reaction surrounding director–CEO appointments. Section VI presents empirical evidence of the association between director–CEO appointments and post-appointment firm performance. Section VII examines director–CEO qualifications and ex post CEO tenure. Section VIII concludes.

II. Sample

We compose our sample of CEO appointments using BoardEx, which provides detailed information on directors and top executives, such as age, position, tenure, and their affiliation with the firm. We merge the sample of CEO appointments with Compustat and the Center for Research in Security Prices (CRSP) to obtain accounting information and stock prices. We identify 2,599 firms with non-missing data that experienced 3,955 CEO appointments during the years 2001–2015. We present descriptive statistics of firm characteristics in Panel A of Table 1. The median firm in our sample has FIRM_SIZE of \$0.55 billion, MARKET_TO_BOOK ratio of 1.47, and an ROA of 6%.

We partition CEO appointments into two categories. We classify independent outside directors who are appointed to the CEO position as director–CEO appointments. The rest of the CEO appointees are classified as other CEOs. The other CEO category includes CEO appointees who are (or were) employed by the firm (including ex-CEOs who stayed on the board) and CEO appointees previously unaffiliated with the firm.

Our sample excludes appointments to an interim CEO position. Following the prior literature, we define an appointment as interim if the CEO is designated in BoardEx as the "interim CEO" or the "acting CEO" (Ballinger and Marcel (2010), Mooney, Semadeni, and Kesner (2017)). In addition, for director–CEO appointments, we manually read all director–CEO appointment announcements and verify that they represent permanent appointments. Our results are similar if we define interim CEOs as CEOs with tenures of less than 6 months or less than 1 year.

Panel B of Table 1 provides the annual distribution of CEO appointments. For the overall sample period, director–CEOs represent 8% (317).[4] The frequency of director–CEO appointments has increased, from 2% in 2001 to 11% in 2015, peaking at 14% in 2011.

Panel C of Table 1 breaks down our sample by industry and shows that director–CEO appointments are not concentrated in specific industries. We observe that firms in utilities (3%) are least likely to appoint a director–CEO and that firms in telecommunication services (14%) are most likely to do so.

[4]The data on director–CEO appointments are available from the authors.

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TABLE 1
Descriptive Statistics

Table 1 presents descriptive statistics, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. Panel A presents firm characteristics. Variables are measured at the year-end prior to the CEO appointment. Panel B reports the number of CEO appointments, stratified by year. Panel C reports the number of CEO appointments, stratified by 12 Fama–French industry categories. Variable definitions are given in Appendix B.

	Mean	P25	Median	P75
	1	2	3	4
Panel A. Firm Characteristics				
FIRM_SIZE (in billions)	5.92	0.12	0.55	2.41
#_OF_SEGMENTS	2.44	1.00	2.00	4.00
MARKET_TO_BOOK	2.14	1.11	1.47	2.25
STOCK_RETURN	−0.02	−0.35	−0.11	0.15
ROA	0.02	0.00	0.06	0.09
		Total No. of Appointments	No. of Director–CEOs	Percentage of Director–CEOs
Panel B. CEO Appointments by Year				
2001		125	2	2%
2002		123	1	1%
2003		123	1	1%
2004		252	6	2%
2005		347	25	7%
2006		383	25	7%
2007		345	26	8%
2008		377	41	11%
2009		287	27	9%
2010		247	23	9%
2011		266	36	14%
2012		275	30	11%
2013		276	23	8%
2014		266	23	9%
2015		263	28	11%
Full sample		3,955	317	8%
Panel C. CEO Appointments by Industry				
Food, tobacco, textiles, apparel, leather, and toys		197	12	6%
Cars, TVs, furniture, and household appliances		96	6	6%
Machinery, trucks, planes, paper, and commercial printing		399	26	7%
Oil, gas, coal extraction, and products		171	12	7%
Chemicals and applied products		114	9	8%
Computers, software, and electronic equipment		923	96	10%
Telephone and television transmission		88	12	14%
Utilities		139	4	3%
Wholesale, retail, and some services		469	25	5%
Healthcare, medical equipment, and drugs		541	46	8%
Financials		292	12	4%
Mines, construction, building materials, transportation, and entertainment		523	57	11%
Full sample		3,955	317	8%

III. Director–CEO Appointments

We start our analysis by obtaining information on the circumstances surrounding the departure of each outgoing CEO, using a Factiva news search. Whereas the majority of firms give vague statements about the true reasons for the CEO's departure, it is possible to classify some CEO departures with more certainty. For example, following Fee, Hadlock, and Pierce (2013), we classify turnovers as outright forced if Factiva reported that the CEO was ousted, forced out, fired, removed, dismissed, or pressured to resign. Panel A of Table 2

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TABLE 2
Director–CEO Appointments

Table 2 describes director–CEO appointments, based on the sample of 317 director–CEO appointments that occurred from 2001 to 2015. Panel A reports reasons for departure of the preceding CEO. Panel B presents descriptive statistics of director–CEOs' board service and prior employment.

	Percentage of Appointments
Panel A. Reasons for Departure of the Preceding CEO	
Retirement	19%
Transition to the board or a different executive position in the firm	18%
To pursue other interests	10%
Outright forced	8%
Replacement of an interim CEO	6%
Due to another job	3%
Due to personal reasons	3%
Due to health reasons	2%
Unclassified	31%
Panel B. Director–CEOs' Board Service and Prior Employment	
Board Service	
Chairman of the board	17%
Member of the audit committee	55%
Member of the compensation committee	52%
Member of the nominating committee	39%
Prior Employment	
CEO of a public firm	7%
Executive of a public firm	10%
CEO of a private firm	16%
Executive of a private firm	16%
Employed by a private investment or a venture capital firm	12%
Independent consultant/Private investor	8%
Unemployed and age <65 years	18%
Retired	11%
Not found	2%

shows that only 8% of director–CEO appointments follow turnovers that can be classified as outright forced. The small number of overtly forced turnovers is consistent with Pan, Wang, and Weisbach (2015), who classify 6% of their sample as outright forced. In 18% of turnovers, the outgoing CEO continues to serve on the board or assumes a different executive position within the firm. Three percent of CEO departures were due to the CEO leaving for another job, and 5% were due to personal reasons or illness. CEO turnovers due to retirement are observed in 19% of the sample.[5] We also collect information on whether the news about the CEO departure was accompanied by any indication of trouble with the firm. We find that only in 10% of turnovers do news articles mention an irregularity of some sort (e.g., fraud investigations, accounting issues, labor force cuts, and losses). In contrast, 67% of turnovers were preceded by positive pre-turnover ROA. These findings suggest that most director–CEO appointments do not follow CEO turnovers that were a result of poor performance.

Panel B of Table 2 presents descriptive characteristics of director–CEOs. Director–CEOs play an active role as board members: 17% of director–CEOs served as the chairman of the board, 55% served on the audit committee, 52% served on the compensation committee, and 39% served on the nominating committee. To gain further insight into director–CEOs' qualifications, we hand

[5]In 80% of retirements, the firm had a positive ROA in the year preceding the CEO departure, indicating that retirement was likely to be the true reason for the CEO departure.

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collect their biographical information from proxy statements in the year prior to the appointment. The data show that 17% of director–CEOs were CEOs or executives at other public firms, and another 32% were CEOs or executives at private firms. Twelve percent were employed at a venture capital or private investment firm, and 11% of director–CEOs were retired. The rest of the director–CEOs were consultants, private investors, or unemployed.

Table 3 presents univariate statistics comparing director–CEOs' qualifications to those of other CEOs in terms of general, firm-specific, and industry knowledge. We observe that director–CEOs have more general management skills: 19% of director–CEOs had prior experience as CEOs of public firms, compared to 12% for other CEOs. Director–CEOs have also served on more boards, with a median of two boards compared to a median of one board for other CEOs. We do not find any significant difference on a univariate basis with respect to MBA degrees or Ivy League education. Compared to other CEOs, director–CEOs have less executive experience in the same industry. Part of this result is driven by the fact that 69% of other CEOs are insiders. However, outside CEOs also have more executive experience in the same industry compared to director–CEOs (21.28% vs. 13.5%). Not surprisingly, director–CEOs have less firm-specific knowledge than do other CEOs, with an average tenure in the firm of 3.93 years versus 5.85 years for other CEOs. This difference is driven by CEOs recruited from within the firm. Table 3 shows that director–CEOs are older than other CEOs, with 10.85% of director–CEOs being older than 65 years, which is significantly higher than 3.46% for other CEOs. Overall, the results in Table 3 show that director–CEOs have more general management skills but have less firm- and industry-specific knowledge than do other CEOs.

TABLE 3

Director–CEO Qualifications Compared to Those of Other CEOs

Table 3 compares CEO qualifications of director–CEOs to those of other CEOs, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. Variables are measured at the year-end prior to the CEO appointment. Asterisks indicate whether the differences between director–CEOs and other CEOs are significant. Differences in medians are based on the Wilcoxon rank sum test. Differences in means are based on the *t*-test. *,**, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	DIRECTOR_CEO $N=317$	OTHER_CEO $N=3,638$
	1	2
CEO experience (%)	19.05%	11.91%***
Median number of public boards to date	2.00	1.00***
MBA degree (%)	36.51%	34.85%
Ivy League graduate (%)	21.59%	18.59%
Average tenure in the firm	3.93	5.85***
Executive experience in the same industry	13.50%	75.10%***
Successor CEO age over 65 years	10.85%	3.46%***

In the next section, we analyze the determinants of director–CEO appointments.

IV. CEO Appointment Decision

This section examines the factors that lead firms to appoint director–CEOs. Whereas director–CEOs serve on a firm's board of directors, their primary

employment is outside the focal firm. Therefore, director–CEO appointments might be driven by the same firm characteristics as the appointments of outside CEOs. Prior literature has argued that complex firms with significant firm-specific knowledge are less likely to hire an outsider (Dalton and Kesner (1985)). To capture differences in firm complexity and the importance of firm-specific knowledge, we include FIRM_SIZE and the #_OF_SEGMENTS. We expect a negative coefficient for both. Conversely, firms are more likely to hire an outsider when there is a need to change direction following poor performance or when the outgoing CEO is forced out (Warner et al. (1988), Parrino (1997), Coughlan and Schmidt (1985), Weisbach (1988), and Huson, Parrino, and Starks (2001)). Thus, we control for STOCK_RETURN, ROA, MARKET_TO_BOOK ratio, and FORCED_TURNOVER. We classify turnovers as forced if the preceding CEO was younger than 60 years.[6] We expect positive coefficients on these variables.

We include several variables as proxies for the availability of potential replacements for the CEO inside the firm and externally. To account for the depth of human capital talent within the firm, we add a TALENTED_INSIDER dummy that equals 1 if there is at least one executive with outside directorships, and 0 otherwise. We also include a dummy for the HEIR_APPARENT that equals 1 if the firm has a non-CEO president or chief operating officer who has been in the position for less than 2 years prior to the CEO turnover (Mobbs (2013), Naveen (2006)). We predict a negative sign on both. To account for insiders who might be added to the board as part of a grooming process, we include the percentage of inside directors (%_INSIDE_DIRECTORS) on the board. Fahlenbrach et al. (2011) find that firms with ex-CEOs on the board are likely to rehire them when exceptionally poor firm performance triggers the need for an unanticipated quick turnover. Hence, we add a dummy that equals 1 if a former CEO is on the board, and 0 otherwise (FORMER_CEO_ON_THE_BOARD). We expect firms with ex-CEOs and other insiders on the board to be less likely to hire a director–CEO. To control for the external pool of available candidates, we include an INDUSTRY_HOMOGENEITY_MEASURE (Parrino (1997)) and the number of firms in the same Fama–French 48 industry that have headquarters within 100 miles of the firm's headquarters (#_OF_FIRMS_WITHIN_100_MILES). Since both industry homogeneity and the number of firms in the vicinity operating in the same industry increase access to potential replacements for the CEO, we expect a negative sign on both variables.

Prior research suggests that when the departing CEO leaves relatively soon after taking the job, it is not likely to be a planned event, as the outgoing CEO probably has had little time to identify, much less groom, a successor during his short tenure (Shen and Cannella (2003), Zhang (2008)). Similarly, firms with CEOs who are far from retirement may be less likely to foresee the need to find a replacement. Therefore, to capture the nature of the predecessor's departure, we include the preceding CEO's tenure (PREDECESSOR_CEO_TENURE) and age (PREDECESSOR_CEO_AGE) and expect a positive coefficient on both variables.

[6]Similar to prior literature, in the regression analysis, we use CEO age to classify turnovers as forced, as we do not collect detailed information from news articles for other successions. Our results are similar if we use alternative cutoffs (e.g., 62 or 65 years).

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Additionally, because our analysis focuses on independent directors appointed to the CEO position, we add the percentage of independent directors with CEO experience (%_OF_DIRECTORS_WITH_CEO_EXPERIENCE) and the percentage of busy directors (%_OF_BUSY_DIRECTORS) to control for the quality and availability of independent directors. Large shareholders, especially those with board representation, can have a significant say in hiring and firing CEOs. Similarly, activist hedge funds have been successful in obtaining board seats in their target companies (e.g., Brav, Jiang, and Kim (2009)). In fact, our data reveal that several of the director–CEOs have links to hedge funds and large shareholders. For example, Jay Shepard, Versartis Inc.'s director–CEO, served as an executive of Sofinnova Ventures (one of Versartis Inc.'s shareholders) prior to becoming CEO. It is plausible that Sofinnova Ventures' stake in Versartis Inc. may have played an important role in the appointment of Shepard as director and then CEO. To examine whether firms with independent directors that are affiliated with a large shareholder or a hedge fund are more likely to appoint these directors as CEOs, we add a dummy variable that equals 1 if a firm has at least one director who is affiliated with a large shareholder (DIRECTOR_LINKED_TO_A_LARGE_SHAREHOLDER) and expect a positive sign on it.

All regressions include Fama–French 48 industry dummies and year fixed effects to capture time trends and differences across industries. Control variables are measured at the year-end prior to the CEO appointment. All variable definitions are in Appendix B.

Table 4 presents estimates from a probit model, in which the dependent variable is a dummy that equals 1 if the newly appointed CEO is recruited from the board, and 0 otherwise. We find that firms hiring from the board are smaller, suggesting a relatively low importance of firm-specific knowledge. However, none of the other firm characteristics, including prior firm performance, explain the decision to hire a director–CEO. These results suggest that, unlike outsiders, director–CEOs are more likely to be appointed in stable environments.[7]

Table 4 also shows that the coefficient estimates on the set of determinants related to the availability of CEO talent are consistent with the emergency choice hypothesis. Specifically, firms with greater supplies of internal candidates, as indicated by the proportion of insiders on the board and the presence of an heir apparent or a talented insider, are less likely to hire director–CEOs. Firms are also less likely to recruit a director when a former CEO stays on the board. Similarly, the external supply of CEOs, as measured by the number of firms in the vicinity, is negatively associated with the likelihood of appointing director–CEOs. Conversely, firms with unexpected CEO departures (i.e., younger CEOs with

[7]We further test the relationship between the likelihood of director–CEO appointments and firm performance by including a dummy variable that equals 1 if a firm's stock return in the year prior to turnover is in the bottom quartile, and 0 otherwise (untabulated). We do not find any evidence to suggest that firms are likely to hire director–CEOs when performance is particularly poor. Additionally, we perform several univariate comparisons of firms appointing director–CEOs and firms appointing other CEOs. In the untabulated results, we find that firms with director–CEO appointments have analyst recommendations, distances to default, and pre-turnover trends in ROA that are similar to those of other CEO successions. Moreover, our data do not suggest that firms appointing director–CEOs are more prevalent in litigious and declining industries, nor do the data suggest that these firms are more likely to have major accounting irregularities.

TABLE 4
Determinants of Director–CEO Appointments

Table 4 presents estimates from a probit estimation, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. The dependent variable DIRECTOR_CEO is a dummy that equals 1 if the CEO is recruited from the board, and 0 otherwise. *t*-statistics are shown in parentheses. Standard errors are adjusted for heteroscedasticity (White (1980)) and clustered by firm. Control variables are measured at the year-end prior to the CEO appointment. All regressions control for year and 48 Fama–French industry fixed effects and include a constant (not shown). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	=1 if DIRECTOR_CEO
ln(FIRM_SIZE)	−0.099***
	(−4.30)
#_OF_SEGMENTS	−0.012
	(−0.55)
MARKET_TO_BOOK	−0.028
	(−1.47)
STOCK_RETURN	0.053
	(1.12)
ROA	0.145
	(0.55)
FORCED_TURNOVER	−0.046
	(−0.38)
HEIR_APPARENT	−0.277***
	(−3.94)
TALENTED_INSIDER	−0.160**
	(−2.00)
FORMER_CEO_ON_THE_BOARD	−0.322***
	(−4.65)
%_INSIDE_DIRECTORS	−0.839***
	(−3.00)
INDUSTRY_HOMOGENEITY_MEASURE	0.559
	(0.51)
#_OF_FIRMS_WITHIN_100_MILES	−0.085*
	(−1.92)
PREDECESSOR_CEO_TENURE	−0.011***
	(−2.74)
PREDECESSOR_CEO_AGE	−0.014***
	(−2.69)
%_OF_DIRECTORS_WITH_CEO_EXPERIENCE	0.355***
	(3.23)
%_OF_BUSY_DIRECTORS	−0.316**
	(−2.01)
DIRECTOR_LINKED_TO_A_LARGE_SHAREHOLDER	0.173**
	(2.08)
No. of obs.	3,829
Pseudo-R^2	0.136

shorter tenures) are more likely to appoint director–CEOs, providing further support for the emergency choice hypothesis.

Interestingly, we find that having at least one director affiliated with a large shareholder is an important factor in the decision to appoint a director–CEO. We also document that firms are more likely to hire from the board if the board has a higher percentage of directors with CEO experience and fewer busy directors. Overall, the results in this section are consistent with the emergency choice hypothesis and suggest that the decision to hire a director–CEO is driven by the limited external and internal talent pool, as well as unexpected CEO departures.

The next section examines how the market reacts to director–CEO appointments.

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V. CEO Appointment Announcement Returns

In this section, we test our hypotheses by examining the market reaction to director–CEO appointments. According to the best choice hypothesis, director–CEO appointments are an outcome of a planned succession process and director–CEOs are the best available candidates for the CEO position. Therefore, the best choice hypothesis predicts that the market will greet director–CEO appointments positively or at least as favorably as it does other CEOs. Conversely, as noted under the emergency choice hypothesis, director–CEOs might not necessarily be the best candidates, and these appointments could signal poor successions. Thus, according to the emergency choice hypothesis, the market would react negatively to such appointments.

A. Director–CEO Successions Compared to Other Successions

To analyze the announcement returns surrounding director–CEO appointments, we manually search newswire reports, using Factiva, and identify the announcement dates for 314 director–CEO appointments. Additionally, we collect announcement dates for a randomly selected sample of 1,933 other CEO appointments.[8] We compute cumulative abnormal returns (CARs) by employing a standard market-adjusted return model, where the abnormal return is calculated as the difference between a firm's return and the value-weighted market (CRSP) index return. We calculate CARs over a 3-day window centered at the announcement date (-1 to $+1$). For robustness, we also estimate CARs over a 5-day window centered at the announcement date (-2 to $+2$) and an asymmetric 7-day window using more days prior to the announcement date to capture information leaks (-5 to $+1$).

Panels A and B of Table 5 present median and mean announcement returns, respectively, over the different event windows. We observe negative and statistically significant median and mean announcement returns for director–CEO appointments across all windows. The median 3-day CAR is -0.96% ($p < 0.01$), the median 5-day CAR is -1.99% ($p < 0.01$), and the median 7-day CAR is -1.68% ($p < 0.01$).[9] The mean announcement returns range from -1.63% to -2.03% over different windows and are significant at the 5% level. The negative effect of director–CEO appointments is economically significant and translates into a \$21–\$26 million loss in shareholder value, based on the mean market capitalization of firms recruiting director–CEOs. In contrast, the median announcement returns for other CEOs are positive and significant. For example, the 3-day CAR is 0.12% ($p < 0.10$). Table 5 also shows that the difference in market reactions between director–CEO and other CEO appointments is statistically significant.

In sum, shareholders perceive the appointment of an independent director to the CEO position differently from other appointments and react negatively to it. In the next section, we examine potential explanations for the negative market reaction generated by director–CEO appointments.

[8]The sample of announcement returns covers half of the population, which allows us to estimate the population mean with a 2% margin of error at a 95% confidence level.

[9]We obtain similar results if we remove any announcements with confounding events, such as mergers, reorganizations, or announcements of dividends.

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TABLE 5
Announcement Returns Surrounding CEO Appointments

Table 5 presents announcement returns surrounding CEO appointments, based on the sample of 2,247 CEO appointments that occurred from 2001 to 2015 for which the announcement dates were hand collected from Factiva. Panel A reports median announcement period cumulative abnormal returns across various event windows, whereas Panel B reports mean announcement period cumulative abnormal returns. In columns 1 and 2 of Panel A (Panel B), asterisks indicate the differences from 0, based on signed rank test (*t*-test). In column 3 of Panel A (Panel B), asterisks indicate the difference in median (mean) announcement returns for director–CEOs versus other CEOs, based on Wilcoxon rank sum test (*t*-test). *,**, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	DIRECTOR_CEO $N=314$	OTHER_CEO $N=1,933$	Difference
Event Window	1	2	3
Panel A. Median Announcement Returns			
−1 to 1	−0.96%***	0.12%*	−1.08%***
−2 to 2	−1.99%***	0.16%*	−2.16%***
−5 to 1	−1.68%***	0.42%**	−2.10%***
Panel B. Mean Announcement Returns			
−1 to 1	−1.63%**	0.31%	−1.94%***
−2 to 2	−1.72%**	0.44%*	−2.16%***
−5 to 1	−2.03%**	0.35%	−2.37%***

B. Potential Explanations

The negative market response to director–CEO hires could be driven by investors interpreting director–CEO appointments as a new signal of the prospects of the firm, by regrets over the departure of the old CEO, or, as suggested by the emergency choice hypothesis, by the lack of succession planning. We examine these potential explanations subsequently.

1. Firm Quality

The market might perceive director–CEO appointments negatively if these appointments signal previously undetected problems or a failure in some fundamental aspect of the business. For example, a director–CEO might be appointed only because a firm is scrambling to find an alternative CEO due to dismal prospects. We perform several tests to explore this possibility.

First, to examine whether the negative market reaction to director–CEO appointments is driven by performance-related issues, we omit appointments that are explicitly related to performance (i.e., occurring when the outgoing CEO is overtly forced out or when the CEO departure is accompanied by an indication of trouble with the firm). Our results in column 1 of Panel A of Table 6 show that the market reaction to director–CEO appointments remains negative and significant across all windows.

Second, we exploit the fact that 48% of director–CEOs have full-time executive jobs prior to assuming the CEO position. We conjecture that, like other external CEO candidates, a director employed in a full-time position at another firm would be unwilling to give up his or her job to become the CEO of a struggling firm. Therefore, in column 2 of Panel A of Table 6, we focus on the subsample of director–CEOs who were employed in an executive position prior to being appointed as CEO and exclude those who were retired, unemployed, venture capitalists, or private consultants. Results show that the market reaction for this sample is negative and significant for 5- and 7-day windows.

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TABLE 6
Firm Quality and the Outgoing CEO

Table 6 presents announcement returns surrounding director–CEO appointments, based on the sample of 314 director–CEO appointments that occurred from 2001 to 2015. Panel A reports median announcement period cumulative abnormal returns across various event windows for subsamples in which the market reaction is less likely to be attributed to poor firm quality. Column 1 omits firms in which the preceding CEO was forced out or news articles indicate a problem with a firm. Column 2 only includes firms in which a director–CEO gave up a full-time executive position prior to joining the firm. Column 3 only includes firms for which the stock return for the year prior to a director–CEO appointment was in the bottom quintile. Panel B reports median announcement period cumulative abnormal returns across various event windows for subsamples that are less likely to reflect regrets over the outgoing CEO. Column 1 omits all turnovers with top-quality outgoing CEOs. Following Morck, Shleifer, and Vishny (1990), we define CEO quality by industry-adjusted operating income growth, measured as $(EBITDA_{t-1} - EBITDA_{t-4})/EBITDA_{t-4}$, adjusted for the industry median. Top-quality CEOs are defined as CEOs with the industry-adjusted operating income growth in the top tercile. Column 2 omits CEOs with tenures of more than 2 years. Column 3 omits all turnovers in which outgoing CEOs had more than one directorship to date. Asterisks indicate the differences from 0, based on signed rank test. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

Panel A. Poor Firm Quality

	Omitting Performance-Related Turnovers $N=274$	Director–CEOs Employed in Full-Time Positions $N=152$	Stock Performance in the Bottom Quintile $N=63$
Event Window	1	2	3
−1 to 1	−0.96%***	−0.53%	−2.61%**
−2 to 2	−1.99%***	−1.21%*	−3.72%**
−5 to 1	−1.76%***	−1.57%**	−1.82%

Panel B. Regrets over the Outgoing CEO

	Omitting Turnovers with:		
	Top-Quality Outgoing CEOs $N=213$	Outgoing CEOs with Tenures > 2 Years $N=62$	Reputable Outgoing CEOs $N=201$
Event Window	1	2	3
−1 to 1	−1.05%***	−0.10%	−0.86%***
−2 to 2	−2.08%***	−2.84%**	−1.94%***
−5 to 1	−2.03%***	−1.74%**	−1.82%***

Finally, to isolate the effect of the management change from a potential effect of confounding negative information, we focus on firms for which bad performance had already been recognized (Bonnier and Bruner (1989)). For these firms, the impact of the negative information revealed by the CEO turnover is minimized, and the announcement returns are more likely to reflect the real effect of the management change on shareholder value. We identify underperforming firms as those with a prior stock return in the bottom quintile and include those in column 3 of Panel B of Table 6. The results show that within this subsample, the announcement returns are negative and significant for the 3- and 5-day windows. Overall, the evidence in this section suggests that the negative market reaction cannot be fully attributed to poor firm quality.

2. Regrets over the Outgoing CEO

Alternatively, the negative market reaction might be driven by regrets over the departure of the previous CEO. For instance, if a substantial amount of firm-specific human capital was vested in the outgoing CEO, a director–CEO might be the next best option, but there is still a falloff in overall quality. To examine this possibility, we remove cases in which the negative market reaction might indeed be attributed to the departing CEO. We conjecture that the market is more likely to regret departures of well-performing CEOs, those with a substantial amount of firm-specific human capital, and the most reputable ones. Hence, in

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Panel B of Table 6, we remove the following: i) top-performing CEOs, as measured by the pre-turnover industry-adjusted operating income growth (column 1); ii) CEOs with extensive firm-specific knowledge, as measured by tenure in the firm (column 2); and iii) the most reputable CEOs, as measured by the number of external directorships (column 3).

Table 6 shows that the market reaction to director–CEO appointments remains negative and significant, even after excluding cases in which the market reaction could potentially be driven by the outgoing CEOs. In untabulated results, we also compare director–CEOs to the outgoing CEOs and find no significant differences on a univariate basis in terms of age, having an MBA, or having an Ivy League degree. Yet, we find that director–CEOs have more directorships, suggesting greater reputational capital than that of the outgoing CEOs.

Our results thus far suggest that the negative market reaction is less likely to be attributable to poor firm quality or regrets over the departing CEO. In the next section, we examine whether negative announcement returns might be explained by the lack of succession planning.

3. Lack of Succession Planning

The emergency choice hypothesis proposes that if the firm did not identify and groom internal candidates, the board might have to quickly appoint a director–CEO to deal with the CEO's departure. Indeed, our earlier results show that boards are more likely to appoint director–CEOs when there is a limited supply of inside and outside CEO talent and when the board is under time pressure because an incumbent CEO departs unexpectedly. Hence, the negative market reaction might be due to the lack of succession planning and the market's disapproval of a director–CEO appointment as a solution to an unplanned CEO departure.

To explore whether the negative market reaction to director–CEO appointments might be explained by poor succession planning, we divide director–CEO appointments into two groups: those more likely to follow an unplanned CEO succession and those more likely to follow a planned CEO succession. To separate the unplanned and planned successions, we rely on data collected from news announcements surrounding the CEO turnover and the age of the outgoing CEO. We follow Intintoli (2013) and classify CEO departures as unexpected if: i) the incumbent CEO departs due to poor health, another job, or an external event that initiates the CEO departure (e.g., a scandal or a legal action against the CEO); or ii) no reason is given for the CEO's departure and the departing CEO is younger than 65 years. We identify 179 cases (56% of our sample) that meet at least one of these criteria. We classify CEO departures as expected when: i) the outgoing CEO retires or stays with the firm as a director or an executive, ii) the departure of the CEO is announced in advance or the new CEO replaces an interim CEO, or iii) the departing CEO is over 65 years old and no reason is given for his or her departure. We classify 138 director–CEO appointments as planned.

Panel A of Table 7 presents the median director–CEO appointment announcement returns for the subsamples of the unplanned and planned CEO departures. Column 1 shows that when director–CEO appointments follow an unexpected departure of the incumbent CEO, the market reaction is significantly negative, which is consistent with the emergency choice hypothesis. Column 2

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TABLE 7
Succession Planning

Table 7 presents announcement returns surrounding director–CEO appointments, based on the sample of 314 director–CEO appointments that occurred from 2001 to 2015. Panel A presents median announcement returns for the unplanned and planned director–CEO appointments. Director–CEO appointments are considered planned if: i) the preceding CEO retires or stays with the firm as a director or an executive, ii) the effective day of director–CEO appointment is at least 30 days after the initial director–CEO appointment announcement or the director–CEO replaces an interim CEO, or iii) the departing CEO is older than 65 years and no reason is given for his or her departure. Director–CEO appointments are classified as unplanned if: i) the departing CEO leaves due to health, other job, or an external event initiating his or her departure; or ii) the departing CEO is younger than 65 years and no reason is given for his or her departure. Panel B compares median market returns of the unplanned director–CEO appointments to interim CEO appointments. In Panels A and B, asterisks in columns 1 and 2 indicate the differences from 0, based on signed rank test. In Panel A (Panel B), asterisks in column 3 indicate whether the differences in medians between the unplanned and planned (interim) appointments are significant based on Wilcoxon rank sum test. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

Panel A. Unplanned Director–CEO Appointments Compared to Planned Director–CEO Appointments

	UNPLANNED_ APPOINTMENTS $N = 176$	PLANNED_ APPOINTMENTS $N = 138$	Difference
Event Window	1	2	3
−1 to 1	−2.10%**	0.23%	−2.33%***
−2 to 2	−2.68%***	−0.24%	−2.44%*
−5 to 1	−3.34%***	−0.47%	−2.87%**

Panel B. Unplanned Director–CEO Appointments Compared to Interim CEO Appointments

	UNPLANNED_ APPOINTMENTS $N = 176$	INTERIM_CEO_ APPOINTMENTS $N = 210$	Difference
Event Window	1	2	3
−1 to 1	−2.10%**	−1.51%***	−0.69%
−2 to 2	−2.68%***	−2.31%***	−0.37%
−5 to 1	−3.34%***	−2.43%***	−0.91%

shows that for the subsample of director–CEO appointments that follow an expected CEO departure, the announcement returns are insignificant. Column 3 compares the market reaction to unexpected and expected CEO departures and shows that the difference is statistically significant.

To verify the validity of our classification of director–CEO appointments into planned and unplanned successions, we compare a sample of the unplanned director–CEO successions to interim CEO appointments, which are clearly unplanned successions.[10] Panel B of Table 7 shows a negative and significant market reaction to the appointment of interim CEOs, which is not statistically different from the market reaction to the unplanned director–CEO appointments, suggesting that the market perceives the unplanned director–CEO appointments similarly to interim CEO successions.

To test the best choice hypothesis, we compare the planned director–CEO appointments to other CEO appointments (untabulated). We find that the planned director–CEO announcement returns do not differ significantly from the announcement returns of other CEO appointments. This suggests that the market views the appointments of director–CEOs similarly to the appointments of other CEOs. Yet, we do not find any evidence that the market perceives director–CEOs as superior to other CEOs.

[10]Interim CEO appointments are not included in our main sample, which consists of permanent CEO appointments.

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The results in this section suggest that the negative market reaction is driven by firms with unplanned director–CEO appointments, supporting the emergency choice hypothesis. However, as has long been recognized by prior literature, the interpretation of CEO announcement returns is notoriously difficult (Warner et al. (1988), Jensen and Warner (1988), and Huson et al. (2004)). In the next section, we supplement our results of the stock market reaction with an analysis of post-appointment performance.

VI. Post-Appointment Performance

To test our hypotheses further, we study post-appointment firm performance by examining changes in operating performance and long-run stock returns following the CEO appointment.

A. Operating Performance

We measure firm operating performance using ROA, which is defined as earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by the market value of assets. For robustness, we also use industry-adjusted ROA.[11] We focus our analysis on the changes in performance rather than on the level of performance, as changes in performance can be more directly attributed to a new CEO. We calculate changes in ROA and industry-adjusted ROA from year $t-1$ to year $t+1$.[12] Panel A of Table 8 presents the results of the changes in ROA and industry-adjusted ROA for director–CEO and other CEO successions. We observe that firms appointing director–CEOs experience a negative change in their operating performance. Specifically, the median change in unadjusted and industry-adjusted ROA is -0.9% ($p<0.01$). The mean change is greater at -3.5% ($p<0.01$) and -3.4% ($p<0.01$) for unadjusted and industry-adjusted ROAs, respectively. Furthermore, we find that firms with director–CEO appointments have significantly lower mean and median unadjusted and industry-adjusted changes in ROA relative to other appointments. Specifically, the difference in median changes in industry-adjusted ROA between director–CEO and other CEO appointments is -0.8%, which is significant at the 1% level, whereas the difference in mean changes in industry-adjusted ROA is much higher at -2.4%, which is significant at the 1% level.

In Panel B of Table 8, we separate director–CEOs into planned and unplanned categories. We show that the change in ROA for the unplanned appointments is negative and significant at the 1% level. In contrast, the change in ROA for the planned successions is not significantly different from 0. Furthermore, the difference in changes in ROA between median unplanned and planned director–CEO appointments is statistically significant at the 5% level.

Panel C of Table 8 presents an analysis of changes in ROA using a multivariate setting. The dependent variable is similar to the one used in the univariate setting and captures the change in ROA from the year prior to the appointment to 1 year after the CEO appointment. The models control for the same firm and

[11] Our results are qualitatively the same if we define ROA as earnings before interest and tax (EBIT) over assets.

[12] The results are similar if we use alternative windows (e.g., $t-1$ to $t+2$, or $t-1$ to $t+3$).

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TABLE 8
Change in ROA

Table 8 reports changes in ROA, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. Panel A reports median and mean changes in ROA, calculated from year $t-1$ to year $t+1$ and winsorized at the 1% and 99% levels. ROA is defined as EBITDA, scaled by the market value of assets. Industry-adjusted ROA is calculated by subtracting the Fama–French 48 industry median. In columns 1 and 2, asterisks indicate the differences from 0, based on signed rank test and t-test. In column 3, asterisks indicate the difference in median (mean) operating performance between director–CEOs and other CEOs, based on Wilcoxon rank sum (t-test) test. Panel B compares median (mean) operating performance for the unplanned director–CEO appointments to planned director–CEO appointments. In columns 1 and 2, asterisks indicate the differences from 0, based on signed rank test and t-test. In column 3, asterisks indicate the difference in median (mean) operating performance between unplanned and planned director–CEO appointments, based on Wilcoxon rank sum test (t-test). Panel C presents results from the ordinary least squares estimation. The dependent variable is the change in ROA from 1 year prior to the CEO appointment to 1 year following the CEO appointment. Control variables are measured at the year-end prior to the CEO appointment. Column 1 compares a full sample of director–CEO appointments to other CEO appointments. Column 2 (3) compares the unplanned (planned) director–CEO appointments to other CEO appointments by including only such appointments. t-statistics are shown in parentheses. Standard errors are adjusted for heteroscedasticity (White (1980)) and clustered by firm. All regressions control for year and 48 Fama–French industry fixed effects and include a constant (not shown). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

Panel A. Director–CEO Appointments Compared to Other CEO Appointments

	DIRECTOR_CEO $N=248$	OTHER_CEO $N=3,089$	Difference
	1	2	3
Median change in unadjusted ROA	−0.009***	0.001	−0.010***
Median change in industry-adjusted ROA	−0.009***	−0.001*	−0.008***
Mean change in unadjusted ROA	−0.035***	−0.009***	−0.026***
Mean change in industry-adjusted ROA	−0.034***	−0.009***	−0.024***

Panel B. Unplanned versus Planned Director–CEO Appointments

	UNPLANNED_ APPOINTMENTS $N=129$	PLANNED_ APPOINTMENTS $N=119$	Difference
	1	2	3
Median change in unadjusted ROA	−0.020***	0.001	−0.020**
Median change in industry-adjusted ROA	−0.015***	−0.001	−0.014**
Mean change in unadjusted ROA	−0.047***	−0.019	−0.028
Mean change in industry-adjusted ROA	−0.047***	−0.017	−0.030*

Panel C. Regression Analysis

	CHANGE_IN_ROA		
	Full Sample	UNPLANNED_ APPOINTMENTS	PLANNED_ APPOINTMENTS
	1	2	3
DIRECTOR_CEO	−0.024**	−0.037***	−0.008
	(−2.57)	(−2.91)	(−0.66)
ln(FIRM_SIZE)	0.004***	0.004***	0.003**
	(3.05)	(3.07)	(2.35)
#_OF_SEGMENTS	0.001	0.001	0.001
	(0.64)	(1.16)	(0.77)
MARKET_TO_BOOK	−0.000**	−0.000**	−0.000**
	(−2.00)	(−2.10)	(−2.13)
STOCK_RETURN	−0.006*	−0.006*	−0.006*
	(−1.86)	(−1.86)	(−1.83)
FORCED_TURNOVER	−0.006	−0.006	−0.005
	(−0.87)	(−1.00)	(−0.73)
HEIR_APPARENT	0.001	0.000	0.002
	(0.21)	(0.12)	(0.44)
TALENTED_INSIDER	0.003	0.003	0.004
	(0.64)	(0.80)	(0.94)
FORMER_CEO_ON_THE_BOARD	0.002	0.002	0.002
	(0.59)	(0.60)	(0.57)

(continued on next page)

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TABLE 8 (continued)
Change in ROA

Panel C. Regression Analysis (continued)

	CHANGE_IN_ROA		
	Full Sample	UNPLANNED_ APPOINTMENTS	PLANNED_ APPOINTMENTS
	1	2	3
%_INSIDE_DIRECTORS	0.003 (0.18)	0.007 (0.46)	0.002 (0.12)
INDUSTRY_HOMOGENEITY_MEASURE	−0.040 (−0.67)	−0.041 (−0.67)	−0.040 (−0.65)
#_OF_FIRMS_WITHIN_100_MILES	0.000 (0.01)	−0.001 (−0.21)	0.001 (0.52)
PREDECESSOR_CEO_TENURE	0.000 (0.69)	0.000 (0.63)	0.000 (0.95)
PREDECESSOR_CEO_AGE	−0.001 (−1.55)	−0.001* (−1.68)	−0.001 (−1.55)
%_OF_DIRECTORS_WITH_CEO_EXPERIENCE	−0.001 (−0.13)	0.001 (0.11)	0.000 (0.05)
%_OF_BUSY_DIRECTORS	0.010 (1.27)	0.007 (1.00)	0.010 (1.31)
DIRECTOR_LINKED_TO_A_LARGE_ SHAREHOLDER	0.002 (0.38)	0.004 (0.68)	0.001 (0.23)
No. of obs.	3,332	3,215	3,202
Adj. R^2	0.014	0.014	0.012

board characteristics as in our earlier regressions. Column 1 compares a full sample of director–CEOs to other CEO appointments, and column 2 (3) compares the unplanned (planned) director–CEO appointments to other CEO successions by including only such appointments. In column 1, we find a negative and significant relation between director–CEO appointments and changes in ROA for the full sample of director–CEO successions ($p < 0.05$). However, once we decompose our sample into planned and unplanned categories, we observe that the negative impact of director–CEO appointments on operating performance is limited to the unplanned director–CEO successions, which supports the emergency choice hypothesis. These results suggest that firms with unplanned director–CEO successions experience greater deterioration in operating performance than do those with other succession types. In terms of economic significance, firms appointing director–CEOs in the unplanned successions, on average, experience a 3.7% greater drop in ROA compared to firms appointing other CEOs. This translates into a decrease of $247 million in EBITDA for an average-sized firm, as measured by the market value of assets. In line with the best choice hypothesis, we find no significant difference in the change in ROA between the planned director–CEO and other CEO appointments.

B. Instrumental Variables Approach

A potential concern regarding our analysis is that unobservable characteristics drive both the appointments of director–CEOs and the future performance of the related firms. For example, troubled firms with dismal prospects have to recruit director–CEOs because their uncertain futures make these firms unappealing to other CEO candidates. Therefore, deterioration in performance following CEO

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turnover is attributable to the ex ante poor quality of firms appointing director–CEOs rather than to the lack of succession planning. To alleviate this concern, we employ an instrumental variables approach that allows us to overcome the omitted variable bias by replacing the endogenous choice of a director–CEO with its predicted value, which is estimated using variables exogenous to the CEO–firm matching process.

We use two instruments to predict the appointments of director–CEOs. The first instrument is motivated by prior research arguing that local geographic preferences make executives more willing to join firms that are located nearby (Fahlenbrach, Low, and Stulz (2010), Knyazeva, Knyazeva, and Masulis (2013), Fee et al. (2013), and Yonker (2017)). We conjecture that board members with primary employment (or directorships) in firms located closer to the focal firm's headquarters would be more willing to accept a CEO position. We construct our first instrument (%_OF_DIRECTORS_WITHIN_100_MILES) by estimating the distance between each director's firm of employment (directorship) and the corporate headquarters.[13] We then aggregate this measure at the board level by summing the number of directors within 100 miles and dividing the sum by the total number of independent directors. We expect a positive coefficient on this instrument, as more directors within a shorter distance would indicate a higher likelihood of appointing a director–CEO.

The second instrument is motivated by Garmaise (2009), who developed an enforcement index to measure the enforceability of non-compete clauses. Non-compete agreements are contracts that prevent employees from joining a competitor for a specified period of time after they leave the firm. Prior literature has shown that non-compete clauses are quite common in CEO contracts, and there is considerable variation in the degree of enforceability of non-compete provisions between states (Garmaise (2009), Bishara, Martin, and Thomas (2015), and Gillan, Hartzell, and Parrino (2009)). The NON_COMPETE_ENFORCEMENT_INDEX ranges between 0 and 12 and, following Garmaise, is divided by 12 to generate a score from 0 to 1. Higher values of the NON_COMPETE_ENFORCEMENT_INDEX indicate greater enforceability of the non-compete contracts and, therefore, weaker mobility of managers. We conjecture that stronger enforcement of the non-compete agreements can restrict the pool of CEO candidates and make firms more likely to hire director–CEOs. We expect the NON_COMPETE_ENFORCEMENT_INDEX to be positively related to the likelihood of hiring a director–CEO, as firms located in states with stronger enforcement of non-compete clauses would have a harder time promptly hiring an outside CEO.

In addition to being correlated with the endogenous variable, the instruments should satisfy the exclusion restriction, that is, they should not directly impact operating performance. We conjecture that director–CEOs' ex ante location relative to the firm's headquarters, which we use to construct our first instrument, is not

[13]Our measure is limited to those directors for whom we can identify the zip code of the firm in which they serve as a manager or director. Our results are robust if, instead of the percentage of directors within 100 miles, we use the percentage of directors within 60 miles, or the average (median) director distance.

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likely to be directly correlated with the post-appointment operating performance of firms in which they later become CEOs. Consistent with this argument, the correlation between the percentage of directors within 100 miles and the changes in operating performance is only 0.3%. Similarly, the degree to which a state enforces non-compete contracts should not affect the operating performance of firms in that state. This view is supported by Garmaise's conclusion that the enforceability of non-compete agreements does not have a significant effect on firm value. It is important to note that we examine the change in performance rather than the level of performance. Therefore, even if there is some potential rationale suggesting that our instruments might directly affect the level of firm performance, it is less likely that our instruments would influence the change in operating performance. Hence, both instruments reasonably meet the exclusion restriction.

The results of the first-stage estimation are reported in column 1 of Table 9 and show that both instruments are significantly related to the likelihood of appointing a director–CEO, hence satisfying the relevance condition. Furthermore, the Angrist–Pischke (2009) F-statistic for weak instruments is highly significant ($p < 0.01$), indicating that the instruments properly identify the model. Table 9 also shows that the Hansen (1982) J-statistic for the overidentification test is not significant (p-value of 0.315); thus, we fail to reject the overidentifying restrictions at conventional significance levels. It is worth noting that although the overidentifying test provides a useful diagnostic, this test relies on the assumption that at least one instrument is valid. Moreover, the test of overidentifying restrictions does not always provide a good indicator of model misspecification (Roberts and Whited (2013)).

We report the second-stage regression in column 2 of Table 9, in which we include the fitted value of the director–CEO appointment from the first stage as an explanatory variable. In column 3 (4), we present the results of the second stage, which compares the unplanned (planned) director–CEO appointments to other CEO successions. Table 9 shows that after accounting for potentially omitted variables, the coefficient on the DIRECTOR_CEO_PREDICTED dummy remains negative and significant at the 5% level. Similar to our earlier results, Table 9 shows that only the unplanned director–CEO appointments underperform relative to other CEOs.

Our results from the instrumental variables approach demonstrate that the differences in post-appointment operating performance between firms with unplanned director–CEO appointments and firms with other CEO successions are not likely to be explained by the ex ante worse performance of firms with director–CEO appointments. Yet, we recognize that our instrumental variables approach and our arguments justifying the exclusion restriction cannot fully rule out the possibility that deterioration in performance following the unplanned director–CEO appointments could be driven by the ex ante poor firm quality that is not reflected in public performance metrics.

To provide further evidence of the relation between director–CEO appointments and post-succession performance, the next section examines long-run stock returns following CEO appointments.

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TABLE 9
Instrumental Variable Analysis

Table 9 presents results from a 2-stage least squares estimation, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. The first-stage regression models the director–CEO appointment decision in column 1. The first-stage regressions include two instrumental variables: i) %_OF_DIRECTORS_WITHIN_100_MILES, based on the distance from a director's firm of employment (directorship) to the corporate headquarters; and ii) NON-COMPETE_ENFORCEMENT_INDEX, as developed by Garmaise (2009). The dependent variable in the second-stage regressions (columns 2–4) is the CHANGE_IN_ROA from 1 year prior to the CEO appointment to 1 year following the CEO appointment. Column 2 compares a full sample of director–CEO appointments to other CEO successions. Column 3 (4) compares the unplanned (planned) director–CEO appointments to other CEO successions by including only such appointments. *t*-statistics are shown in parentheses. Standard errors are adjusted for heteroscedasticity (White (1980)) and clustered by firm. Control variables are measured at the year-end prior to the CEO appointment. All regressions control for year and 48 Fama–French industry fixed effects and include a constant (not shown). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	1st Stage: DIRECTOR_CEO	2nd Stage: CHANGE_IN_ROA		
	Full Sample	Full Sample	UNPLANNED_ APPOINTMENTS	PLANNED_ APPOINTMENTS
	1	2	3	4
DIRECTOR_CEO_ PREDICTED		−0.087*	−0.152**	−0.110
		(−1.91)	(−1.98)	(−1.17)
%_OF_DIRECTORS_ WITHIN_100_MILES	0.150***			
	(6.20)			
NON_COMPETE_ ENFORCEMENT_ INDEX	0.199***			
	(7.30)			
ln(FIRM_SIZE)	−0.011***	0.003**	0.003*	0.003*
	(−3.61)	(2.07)	(1.70)	(1.90)
#_OF_ SEGMENTS	−0.001	0.001	0.002**	0.001
	(−0.25)	(1.42)	(2.03)	(1.41)
MARKET_TO_BOOK	−0.001***	−0.000**	−0.000**	−0.000**
	(−3.50)	(−2.31)	(−2.35)	(−2.36)
STOCK_RETURN	0.005	−0.007*	−0.007**	−0.006*
	(0.78)	(−1.91)	(−2.03)	(−1.84)
FORCED_TURNOVER	0.005	−0.006	−0.007	−0.005
	(0.36)	(−0.86)	(−0.97)	(−0.75)
HEIR_APPARENT	−0.024***	−0.003	−0.002	−0.001
	(−2.69)	(−0.61)	(−0.50)	(−0.21)
TALENTED_INSIDER	−0.016	0.003	0.004	0.003
	(−1.44)	(0.64)	(0.92)	(0.71)
FORMER_CEO_ON_ THE_BOARD	−0.026***	0.002	0.001	0.002
	(−2.88)	(0.39)	(0.35)	(0.54)
%_INSIDE_DIRECTORS	−0.054	−0.000	0.001	0.002
	(−1.47)	(−0.03)	(0.06)	(0.15)
INDUSTRY_HOMOGENEITY_ MEASURE	0.269***	0.054	0.054	0.049
	(2.75)	(1.35)	(1.28)	(1.26)
#_OF_FIRMS_WITHIN_ 100_MILES	−0.002	−0.003	−0.003	−0.002
	(−0.35)	(−0.99)	(−1.01)	(−0.83)
PREDECESSOR_CEO_ TENURE	−0.001**	0.000	0.000	0.000
	(−2.57)	(0.21)	(0.12)	(0.44)
PREDECESSOR_CEO_ AGE	−0.001	−0.001	−0.001**	−0.000
	(−1.21)	(−1.64)	(−1.99)	(−1.27)
%_OF_DIRECTORS_ WITH_CEO_ EXPERIENCE	0.027*	−0.002	−0.001	−0.001
	(1.78)	(−0.27)	(−0.21)	(−0.14)
%_OF_BUSY_ DIRECTORS	−0.055***	0.008	0.008	0.008
	(−3.33)	(0.98)	(1.02)	(1.02)
DIRECTOR_LINKED_ TO_A_LARGE_ SHAREHOLDER	0.027*	0.005	0.006	0.006
	(1.83)	(0.92)	(0.95)	(0.88)
No. of obs.	3,078	3,078	2,973	2,958
Angrist–Pischke *F*-statistic	34.34			
F-statistic	3.23	1.76	1.69	1.66
p-value for Hansen *J*-statistic	—	0.315	0.353	0.525

C. Long-Run Stock Returns

In this section, we analyze post-appointment stock performance using calendar-time portfolios. Following Mitchell and Stafford (2000), in each month t, a post-appointment portfolio is created using all firms that have experienced a CEO succession during the previous 36 months. We exclude any month with fewer than 10 event firms in its portfolio. We regress the portfolio returns net of the risk-free rate on the 4 factors: market return minus the risk-free rate (RMRF), returns on a portfolio of small capitalization stocks minus returns on a portfolio of big capitalization stocks (SMB), returns on a high book-to-market portfolio minus returns on a low book-to-market portfolio (HML), and returns on a portfolio of high prior-return stocks minus returns on a portfolio of low prior-return stocks (UMD). The intercept from this regression measures abnormal performance. As in Mitchell and Stafford, we also estimate an adjusted intercept. We first estimate an expected intercept as the average intercept from 500 calendar-time portfolio regressions for random samples consisting of non-event firms in the same size and book-to-market deciles as the sample firms. The adjusted intercept is computed as the difference between the intercept estimated using the 4-factor model and the expected intercept.

Table 10 presents the results separately for portfolios consisting of unplanned director–CEOs, planned director–CEOs, and other successions. In addition, we present implied 3-year CARs computed as $[(1+\alpha)^{36}-1]$. In line with the emergency choice hypothesis, Table 10 shows that a portfolio of firms with unplanned director–CEO appointments earns significantly negative

TABLE 10

Long-Run Abnormal Stock Returns around CEO Successions

Table 10 reports long-run abnormal stock returns, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. Abnormal returns are computed using calendar-time portfolio regressions. In each month t, all firms subject to CEO succession within the past 36 months are included in that month's post-succession portfolio. Mean portfolio returns, rp_t, are used to estimate abnormal returns using the following regression:

$$(rp_t - rf_t) = \alpha + \beta_1(rm_t - rf_t) + \beta_2 \text{HML}_t + B_3 \text{SMB}_t + B_4 \text{UMD}_t + \varepsilon_t,$$

where rf_t is the risk-free rate, $(rm_t - rf_t)$ is the market risk premium, HML_t is the return difference between portfolios of high book-to-market stocks and low book-to-market stocks, SMB_t is the return difference between portfolios of small stocks and big stocks, and UMD_t is the return difference between portfolios of high prior-return stocks and low prior-return stocks. The intercept, α, measures the monthly abnormal return conditioned on the model. The ADJUSTED_α is the difference between the estimated intercept from the preceding regression and the average intercept from 500 random samples of otherwise similar non-event firms, and its test statistic is estimated as $t=[\hat{\alpha}-E(\alpha)/se]$, where se is the standard error of the estimate from the sample firms. A minimum of 10 firms in the event portfolio are required. The implied 3-year abnormal return is calculated as $[(1+\alpha)^{36}-1]$. All numbers are reported as percentages. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	POST-SUCCESSION	
	α	ADJUSTED_α
UNPLANNED_DIRECTOR_CEO_APPOINTMENTS	−0.62*	−1.10***
	(−1.94)	(−3.42)
IMPLIED_3_YEAR_ABNORMAL_RETURN	−20.15	−32.85
PLANNED_DIRECTOR_CEO_APPOINTMENTS	0.24	−0.08
	(0.76)	(−0.26)
IMPLIED_3_YEAR_ABNORMAL_RETURN	9.05	−2.93
OTHER_CEO_APPOINTMENTS	0.30**	−0.15
	(2.44)	(−1.25)
IMPLIED_3_YEAR_ABNORMAL_RETURN	11.35	−5.41

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abnormal returns. The IMPLIED_3_YEAR_ABNORMAL_RETURN is 20%, which is economically large. In contrast, post-succession abnormal returns of the planned director–CEO and other CEO successions are not statistically significant.

The results in this section suggest that director–CEO appointments that are likely to be a result of the unplanned successions are associated with worse operating and stock performance, which supports the emergency choice hypothesis. In contrast, we do not find significant differences in post-succession performance between director–CEO appointments that likely result from the planned successions and other CEO successions. These results are consistent with the best choice hypothesis.

VII. Director–CEO Qualifications and Ex Post CEO Tenure

This section examines how director qualifications and CEO tenure following the CEO appointment differ in the planned and unplanned director–CEO categories.

A. Director–CEO Qualifications

In developing our emergency choice hypothesis, we argue that firms might have to recruit director–CEOs because the board has few or no better alternatives available at the time. If the prior CEO departs unexpectedly, the board might have to appoint a director–CEO, even if the director–CEO has not been groomed for the top position and does not have the necessary skills to lead the firm. We test this conjecture by examining how director–CEO qualifications differ between the planned and unplanned successions. We propose that when director–CEOs are appointed as part of a succession plan, they are better equipped for the role of CEO, as the board has had enough time to conduct a thorough search for a potential CEO or groom the director–CEO. On the other hand, if the board appoints a director–CEO as a "quick-fix" solution, it might choose a candidate based not only on qualifications but also on his or her availability to quickly step into the role of CEO.

Table 11 compares the qualifications of director–CEOs in the planned and unplanned successions by presenting estimates from a probit model, where the dependent variable is equal to 1 if a director–CEO appointment is unplanned, and 0 otherwise. We use several characteristics representing experience relevant to the role of CEO as control variables. To measure firm-specific knowledge, we include dummy variables if a director is a chairman of the board (CHAIRMAN_OF_THE_BOARD) or serves on audit (MEMBER_OF_AUDIT_COMMITTEE), compensation (MEMBER_OF_COMPENSATION_COMMITTEE), or nominating (MEMBER_OF_NOMINATING_COMMITTEE) committees. We include indicators that capture whether a director has prior industry experience (EXECUTIVE_EXPERIENCE_IN_THE_SAME_INDUSTRY) or CEO experience (CEO_EXPERIENCE) and whether he or she has an MBA degree (MBA_DEGREE). We account for prior board experience using the number of boards on which a director has served to date (#_OF_PUBLIC_BOARDS_TO_DATE). We also add dummy variables if a director is over 65 years

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TABLE 11

Director–CEO Characteristics in the Unplanned versus Planned Appointments

Table 11 presents a probit regression where each observation represents a director–CEO, based on the sample of 317 director–CEO appointments that occurred from 2001 to 2015. The dependent variable UNPLANNED_APPOINTMENT is a dummy that equals 1 if a director is appointed CEO in an unplanned succession, and 0 if a director is appointed in a planned succession. *t*-statistics are shown in parentheses. Standard errors are adjusted for heteroscedasticity (White (1980)) and clustered by firm. Control variables are measured at the year-end prior to the CEO appointment. All regressions control for year and 48 Fama–French industry fixed effects and include a constant (not shown). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	UNPLANNED_APPOINTMENT
CHAIRMAN_OF_THE_BOARD	−0.103
	(−0.44)
MEMBER_OF_AUDIT_COMMITTEE	−0.355**
	(−2.06)
MEMBER_OF_COMPENSATION_COMMITTEE	−0.288*
	(−1.67)
MEMBER_OF_NOMINATING_COMMITTEE	−0.080
	(−0.46)
CEO_EXPERIENCE	0.204
	(0.90)
EXECUTIVE_EXPERIENCE_IN_THE_SAME_INDUSTRY	−0.598**
	(−2.33)
MBA_DEGREE	0.070
	(0.39)
EMPLOYED_IN_AN_EXECUTIVE_POSITION_PRIOR_TO_BECOMING_THE_CEO	−0.377**
	(−2.19)
#_OF_PUBLIC_BOARDS_TO_DATE	−0.025
	(−0.56)
DIRECTOR_AGE_OVER_65	−0.248
	(−0.80)
TENURE_ON_BOARD	0.021
	(0.90)
IVY_LEAGUE_GRADUATE	0.126
	(0.58)
DIRECTOR_LINKED_TO_A_LARGE_SHAREHOLDER	−0.290
	(−1.02)
No. of obs.	305
Pseudo-R^2	0.154

old (DIRECTOR_AGE_OVER_65) and if a director is affiliated with a large shareholder (DIRECTOR_LINKED_TO_A_LARGE_SHAREHOLDER). We include an indicator for CEOs who graduated from an Ivy League institution (IVY_LEAGUE_GRADUATE), as prior literature has argued that executives with degrees from more select institutions might be more talented (Falato, Li, and Milbourn (2015)). Last, we conjecture that directors employed in a full-time executive position will be less flexible to quickly step into the role of CEO. Thus, we create a variable that equals 1 if a director was employed as CEO or an executive at another firm prior to being appointed as CEO, and 0 if a director was a consultant, retired, unemployed, or a private investor/venture capitalist (EMPLOYED_IN_AN_EXECUTIVE_POSITION_PRIOR_TO_BECOMING_THE_CEO).

Table 11 provides consistent support for the emergency choice hypothesis. We find that compared to directors in the planned category, directors in the unplanned successions are less likely to serve as members of the audit and compensation committees, suggesting less firm-specific knowledge and experience

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in leadership roles. Furthermore, director–CEOs in the unplanned successions have lower levels of relevant industry knowledge. These results indicate that directors appointed in the unplanned successions are less qualified to assume the role of CEO than are directors appointed in the planned successions. Table 11 also shows that directors appointed as CEOs in the unplanned successions are not likely to be employed in a full-time position prior to becoming CEO, which suggests greater availability to quickly step into the role of CEO.

Overall, our comparison of director qualifications in the unplanned and planned director–CEO appointments shows that director–CEOs appointed as emergency CEOs might be less suitable for the job and could simply serve as placeholders until a more appropriate CEO is found. To examine this possibility, in the next section, we analyze director–CEOs' tenures in CEO positions.

B. Ex Post CEO Tenure

Our sample terminates in 2015, and because we are unable to observe any CEO turnovers beyond 2015, our data are right censored. We use the Cox (1972) proportional hazard model, which explicitly addresses such censoring by taking into account both the occurrence and the timing of the event. The hazard model flexibly accommodates the fact that each CEO's hazard rate (i.e., the probability of being replaced during the next period) is a function of time and other control variables. More formally, the hazard model is defined as

$$h(t) \quad = \quad h_0(t)\exp(\beta' X),$$

where $h_0(t)$ is the baseline hazard, X is a vector of control variables, and β is a vector of coefficients to be estimated. In the Cox proportional hazard model, the baseline hazard is not assumed to follow any particular form, as Cox's partial likelihood estimator allows for estimating β without requiring estimates of the baseline hazard.[14]

Table 12 reports the results from the Cox proportional hazard model estimation. The dependent variable is the time to turnover (i.e., the number of years between the CEO appointment and his or her termination date). For the cases without CEO turnover, the time is measured as the number of years between the CEO appointment and the last year in which the firm appears in BoardEx. In the hazard model, a positive coefficient indicates a positive marginal impact on the hazard and, therefore, a shorter CEO tenure. We rely on a similar set of controls as in our earlier regressions. In column 1, we compare a full sample of director–CEO appointments to other CEOs, and in column 2 (3), we compare the unplanned (planned) director–CEO appointments to other CEOs by including only such appointments.

The results in column 1 of Table 12 show that the probability of being replaced in the next year (i.e., the "hazard rate") is greater for director–CEOs

[14]Taking the logarithm makes the hazard function linear in coefficients, with the corresponding partial log-likelihood function as follows: $\log[L(\beta)] = \Sigma_{i=1\cdots n}\beta' X_i - \log[\Sigma_{j=t(j)=t_{(i)}}\exp(\beta' X_j)]$. Estimates of β are obtained by maximizing the log-likelihood function.

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TABLE 12
Ex Post CEO Tenure

Table 12 presents the estimates from a Cox proportional hazard model, based on the sample of 3,955 CEO appointments that occurred from 2001 to 2015. The dependent variable is the EX_POST_CEO_TENURE, measured by the number of years between the CEO appointment and the CEO departure. Column 1 compares a full sample of director–CEO appointments to other CEO appointments. Column 2 (3) compares the unplanned (planned) director–CEO appointments to other CEO appointments by including only such appointments. *t*-statistics are shown in parentheses. Standard errors are adjusted for heteroscedasticity (White (1980)) and clustered by firm. Control variables are measured at the year-end prior to the CEO appointment. All regressions control for year and 48 Fama–French industry fixed effects and include a constant (not shown). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are given in Appendix B.

	EX_POST_CEO_TENURE		
	Full Sample	UNPLANNED_ APPOINTMENTS	PLANNED_ APPOINTMENTS
	1	2	3
DIRECTOR_CEO	0.110**	0.161***	0.050
	(2.27)	(2.59)	(0.74)
ln(FIRM_SIZE)	−0.030***	−0.032***	−0.031***
	(−2.65)	(−2.78)	(−2.76)
#_OF_SEGMENTS	−0.014	−0.013	−0.013
	(−1.50)	(−1.37)	(−1.32)
MARKET_TO_BOOK	0.000	0.000	0.001
	(0.13)	(0.02)	(0.26)
STOCK_RETURN	−0.039**	−0.040**	−0.042**
	(−2.10)	(−2.17)	(−2.24)
ROA	0.056	0.080*	0.056
	(1.26)	(1.78)	(1.27)
HEIR_APPARENT	0.027	0.032	0.024
	(1.04)	(1.21)	(0.90)
TALENTED_INSIDER	−0.039	−0.032	−0.034
	(−1.23)	(−0.98)	(−1.05)
FORMER_CEO_ON_BOARD	−0.045	−0.046	−0.046
	(−1.60)	(−1.62)	(−1.59)
%_INSIDE_DIRECTORS	0.055	0.063	0.049
	(0.50)	(0.56)	(0.43)
INDUSTRY_HOMOGENEITY_MEASURE	−0.035	0.026	−0.181
	(−0.07)	(0.05)	(−0.37)
#_OF_FIRMS_WITHIN_100_MILES	0.033	0.040*	0.029
	(1.64)	(1.93)	(1.40)
PREDECESSOR_CEO_TENURE	−0.003**	−0.003**	−0.003**
	(−2.26)	(−2.23)	(−2.19)
PREDECESSOR_CEO_AGE	−0.005**	−0.005*	−0.005**
	(−2.15)	(−1.89)	(−2.04)
%_OF_DIRECTORS_WITH_CEO_ EXPERIENCE	0.183***	0.175***	0.180***
	(2.90)	(2.77)	(2.82)
%_OF_BUSY DIRECTORS	−0.064	−0.059	−0.073
	(−0.96)	(−0.87)	(−1.07)
DIRECTOR_LINKED_TO_A_LARGE_ SHAREHOLDER	0.046	0.053	0.049
	(1.29)	(1.42)	(1.35)
No. of obs.	3,949	3,813	3,770
Pseudo-R^2	0.037	0.038	0.038

($p < 0.05$). However, the results in columns 2 and 3 show that this relationship is only significant for director–CEOs in the unplanned category. These findings provide further support for the emergency choice hypothesis and show that directors appointed in the unplanned successions represent short-term solutions. In contrast, director–CEOs in the planned category do not differ from other CEOs in their ex post tenure, which is in line with the best choice hypothesis.

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Consistent with prior studies, we find that the hazard of being replaced decreases with firm complexity, reflecting the fact that it is more difficult to find a replacement in more complex firms (Fahlenbrach et al. (2011)). Not surprisingly, poor stock performance increases the turnover hazard, which illustrates the expected turnover-performance sensitivity (Weisbach (1988)). A higher proportion of directors with CEO experience is associated with shorter CEO tenure. On the other hand, planned departures of the preceding CEO, as shown by the CEO tenure and age, positively impact the number of years a new hire stays in the CEO position.

Overall, the results in this section suggest that the unplanned director–CEO appointments result in ill-fitting successors and lead to even more time and resources being dedicated to the succession process in the future.

VIII. Conclusion

Selecting a new CEO is one of the most important tasks entrusted to the board of directors. Prior literature has focused on two potential succession strategies: either promoting an insider or hiring an outsider. We extend the CEO succession literature by examining a third CEO recruiting strategy that has become more prevalent in recent years: selecting the CEO from a pool of independent directors.

We study why firms choose directors as CEOs and examine the impact of director–CEO appointments on firm performance. We develop two hypotheses to investigate these questions. The best choice hypothesis conjectures that firms hire directors because they combine the advantages of outside and inside candidates. As outsiders, director–CEOs have a wider range of experience than do insiders. At the same time, by serving on the board prior to becoming CEO, directors accumulate firm-specific knowledge, which outside candidates lack. Hence, according to this hypothesis, firms appointing director–CEOs will perform at least as well as firms appointing other CEOs. In contrast, the emergency choice hypothesis argues that director–CEOs may be recruited when the firm does not have a succession plan and the board is caught off guard by an unexpected CEO departure. In such cases, boards may appoint director–CEOs even if they are not the best fit for the top position, and these appointments will be associated with deterioration in performance.

Our analysis shows that firms appointing director–CEOs have a more limited internal and external supply of CEOs and are more likely to experience unexpected CEO departures. We find that the market perceives director–CEO appointments negatively, and firms with director–CEO successions experience deterioration in future operating and stock performance. In light of these results, a natural question that arises is why director–CEOs are appointed in the first place. We argue that context and availability of human capital play important roles in director–CEO nominations. Indeed, we find that the negative impact of director–CEO appointments on firm performance is entirely driven by firms recruiting director–CEOs in the unplanned successions, which supports the emergency choice hypothesis. Moreover, our results suggest that directors recruited as CEOs in the unplanned successions have less comprehensive skill sets and shorter

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tenures than do other CEOs. In contrast, we find that firms hiring director–CEOs in the planned successions perform similarly to other firms, which is consistent with the best choice hypothesis.

Overall, our empirical analysis shows that the impact of director–CEO successions on firm performance depends on the circumstances leading to these appointments. The results suggest that appointing director–CEOs as a quick-fix solution results in negative outcomes and cannot serve as a substitute for succession planning.

Appendix A. News Announcements of Director–CEO Hires

Colfax Corporation Announces H. Kiefaber as the President and Chief Executive Officer (2010)

Mitchell P. Rales, Chairman of the Board of Directors of Colfax, said, "I have known Clay Kiefaber for over 20 years, and he is an extremely talented and proven leader with a superb track record. He is also passionate about the same core values that Colfax embraces and is committed to driving the Colfax Business System throughout the organization. We are fortunate he has agreed to lead the Company in the next phase of its growth. As a member of our Board, Clay already has a deep understanding of our businesses, and under his direction Colfax will continue to pursue both organic growth initiatives and strategic acquisitions. The Board and I look forward to working with him in his new role as we continue to position Colfax to take full advantage of its many opportunities."

Advance Auto Parts, Inc. Announces Darren R. Jackson as the Chief Executive Officer (2007)

"While over the past several months we interviewed and considered several outstanding candidates, the Board asked Darren to consider becoming our President and CEO for a variety of reasons. Since joining our Board in 2004, Darren has been instrumental in facilitating the strategic redirection of the Company. In addition, he has built an exceptionally strong track record of leadership in the retailing industry and has the unique advantage of knowing our Company based on his Board of Directors service. Darren also provided the Board with a comprehensive overview of how Advance Auto Parts could best capitalize on growth opportunities while enhancing value for all of our stakeholders. We are delighted that he has agreed to become our President and Chief Executive Officer and I look forward to working with him as we pursue our mutual goal of becoming the leader in our industry."

Transmeta Corp. Appoints Lester M. Crudele as the President and CEO (2007)

"Les brings to Transmeta his proven leadership ability, technological expertise, extensive operational management experience, and entrepreneurial energy. Les has already made significant contributions as a member of Transmeta's board of directors, and we are confident that he is the best person to lead the future development of Transmeta's business."

International Game Technology Names Patti S. Hart as the CEO (2009)

"In Patti, the CEO search committee saw a unique combination of executive level management experience, an intimate knowledge of IGT through her years of service on our board and technology sector experience for a gaming industry increasingly characterized by rapidly evolving technology."

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SureWest Names Steve Oldham as the President and CEO (2006)

Kirk Doyle, SureWest's chairman, said that the SureWest Board unanimously endorsed the selection of Oldham, based upon his many years of extensive managerial and regulated enterprise experience; his keen understanding of SureWest's business, opportunities, and prospects; and valued personal skills. "The search committee reviewed the profiles of numerous outstanding executives, and interviewed many worthy candidates," said Doyle. "As impressive as the candidates were, our Board realized after careful consideration that Steve Oldham was the perfect choice to be our president and chief executive officer, and we were delighted when he accepted the position. Steve's extensive management and strategic planning experience make him the ideal person to maintain SureWest's leadership role as a cutting-edge provider of telecommunications services, and to build on the company's unique strengths and generate new value for SureWest's shareholders. He is well versed in our mission to be the preferred communications provider in the Sacramento region, and through his board service is keenly aware of the company and community culture."

ASV Inc. Announces New CEO Richard A. Benson (2006)

"The timing of this transition could not have been better, nor can I think of a better candidate for this position," said Gary Lemke, ASV's CEO and chairman. "I am very pleased to transition the leadership of ASV to an individual who shares our vision and helped champion our rubber track technology when the market was in its early stages. Dick's understanding of our product, coupled with his experience in running successful, multi-billion dollar global enterprises, will be invaluable to ASV and its shareholders."

Boeing Co. Announces New CEO James McNerney (2005)

"Boeing Co. named James McNerney Jr. as the new leader of the aerospace and defense giant Thursday, picking the 3M Co. chief over two senior Boeing executives …. In McNerney, Chicago-based Boeing gets one of the bluest of blue-chip executives … Lewis Platt, Boeing's lead director: "In our minds – and it was clear and wasn't close – Jim McNerney best met the criteria compared to all other inside and outside candidates … we felt Jim McNerney was the best person for the job."

Tivo Inc. Appointing Thomas (Tom) S. Rogers (2005)

"According to Randy Komisar, the TiVo director in charge of the CEO search, 'Sometimes the best guy is the one right in front of you … Tom was clearly the best candidate for the job. He has the relationships in the media industry and the track record working with companies transitioning to new media.'"

Krispy Kreme Elects New CEO (2008)

"Krispy Kreme Doughnuts, Inc. (NYSE: KKD) (the 'Company') announced that its Board of Directors has elected the Company's Chairman of the Board, James H. Morgan, 60, to the additional positions of President and Chief Executive Officer. Mr. Morgan's election is not an interim appointment, and it is anticipated that he will serve as President and Chief Executive Officer for the foreseeable future … Mr. Morgan brings over 25 years of management experience to the Company, including his most recent role as Chairman and Chief Investment Officer of Covenant Capital, LLC, an investment management firm which he founded."

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Appendix B. Variable Definitions

	Definition
Panel A. CEO Succession Type	
DIRECTOR_CEO	Dummy that equals 1 if the CEO appointee is an independent director, and 0 otherwise.
OTHER_CEO	Dummy that equals 1 if the CEO appointee is either an insider (has been employed by the firm for more than 1 year) or an outsider (has tenure in the firm of less than 1 year), and 0 otherwise.
Panel B. Dependent Variables	
CAR	Cumulative abnormal return (in percentage points) calculated using a standard market-adjusted return model, where abnormal return is calculated as the difference between a firm return and the value-weighted market (CRSP) index return.
CHANGE_IN_ROA	Change in ROA from 1 year prior to the CEO appointment to 1 year following the CEO appointment. ROA is defined as EBITDA divided by the market value of assets. Market value of assets equals book value of total assets minus book value of equity plus market value of equity. The change in ROA is winsorized at the 1- and 99-percent levels.
POST-SUCCESSION_α	Intercept from a regression of mean portfolio returns, net of risk-free rate, on the market risk premium; return difference between portfolios of high and low book-to-market stocks; return difference between portfolios of small and big stocks; and return difference between portfolios of high prior-return and low prior-return stocks.
UNPLANNED_APPOINTMENT	Dummy variable that equals 1 if a director is appointed the CEO as a result of an unplanned succession, and 0 otherwise. Director–CEO successions are considered unplanned if: i) the incumbent CEO departs due to poor health, another job, or an external event that initiated the CEO departure (i.e., a scandal or a legal action against the CEO); or ii) no reason is given for the CEO's departure and the departing CEO is younger than 65 years.
EX_POST_CEO_TENURE	The number of years between the CEO appointment and the CEO departure (or the last year the firm is covered by the BoardEx).
Panel C. Firm Characteristics	
FIRM_SIZE	Book value of total assets.
#_OF_SEGMENTS	Number of operating segments.
MARKET_TO_BOOK	Market value of assets divided by book value of assets. Market value of assets equals book value of total assets minus book value of equity plus market value of equity.
STOCK_RETURN	Buy-and-hold abnormal return for the 12 months ending at the fiscal year-end. The market index is the CRSP value-weighted return.
ROA	EBITDA divided by the market value assets. Market value of assets equals book value of total assets minus book value of equity plus market value of equity.
FORCED_TURNOVER	Dummy variable that equals 1 if the predecessor CEO was younger than 60, and 0 otherwise.
HEIR_APPARENT	Dummy variable that equals 1 if the firm has a non-CEO president or chief operating officer who has been in the position for less than 2 years prior to the CEO turnover, and 0 otherwise.
TALENTED_INSIDER	Dummy variable that equals 1 if there is at least one non-CEO executive who holds an outside directorship, and 0 otherwise.
FORMER_CEO_ON_THE_BOARD	Dummy variable that equals 1 if the former CEO is on the board, and 0 otherwise.
%_INSIDE_DIRECTORS	Percent of directors who are employees of the firm.
INDUSTRY_HOMOGENEITY_MEASURE	The mean partial correlation coefficient of the industry returns from a regression of firm returns on market returns and industry returns (Parrino (1997)).
#_OF_FIRMS_WITHIN_100_MILES	Number of firms in the same Fama–French 48 industry with headquarters within 100 miles of the focal firm's headquarters, based on zip code.
PREDECESSOR_CEO_TENURE	Number of years the predecessor CEO held the CEO position, as reported in BoardEx.
PREDECESSOR_CEO_AGE	Age of the predecessor CEO, as reported in BoardEx.

(continued on next page)

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	Definition
%_OF_DIRECTORS_WITH_CEO_EXPERIENCE	Percent of independent directors who serve (or served) as the CEO in other firms.
%_OF_BUSY_DIRECTORS	Percent of independent directors who serve on three or more boards.
DIRECTOR_LINKED_TO_A_LARGE_SHAREHOLDER	Dummy variable that equals 1 if there is at least one director connected to a blockholder or an activist hedge fund through employment or directorship, and 0 otherwise. The information on the blockholders is hand collected from proxy statements filed in the year prior to a CEO appointment. The information on the activist hedge funds is based on the SharkRepellent database. Directors' present and past employment/directorships data are from BoardEx.
Panel D. Director Characteristics	
CHAIRMAN_OF_THE_BOARD	Dummy variable that equals 1 if a director is the chairman of the board of the firm, and 0 otherwise.
MEMBER_OF_AUDIT_COMMITTEE	Dummy variable that equals 1 if a director is a member of an audit committee, and 0 otherwise.
MEMBER_OF_COMPENSATION_COMMITTEE	Dummy variable that equals 1 if a director is a member of a compensation committee, and 0 otherwise.
MEMBER_OF_NOMINATING_COMMITTEE	Dummy variable that equals 1 if a director is a member of a nominating committee, and 0 otherwise.
CEO_EXPERIENCE	Dummy variable that equals 1 if a director is or was the CEO of another firm, and 0 otherwise.
EXECUTIVE_EXPERIENCE_IN_THE_SAME_INDUSTRY	Dummy variable that equals 1 if a director is or was employed in the same industry as the focal firm, and 0 otherwise.
MBA_DEGREE	Dummy variable that equals 1 if a director holds an MBA degree, and 0 otherwise.
EMPLOYED_IN_AN_EXECUTIVE_POSITION_PRIOR_TO_BECOMING_THE_CEO	Dummy variable that equals 1 if a director was the CEO or an executive in a public or private firm prior to becoming the CEO, and 0 otherwise.
#_OF_CURRENT_PUBLIC_BOARDS	Number of current directorships in public firms held by the director, as reported in BoardEx.
#_OF_PUBLIC_BOARDS_TO_DATE	Number of current and past directorships in public firms held by the director to date, as reported in BoardEx.
DIRECTOR_AGE_OVER_65	Dummy variable that equals 1 if a director's age, as reported in BoardEx, is over 65, and 0 otherwise.
TENURE_ON_BOARD	Number of years as a director.
IVY_LEAGUE_GRADUATE	Dummy variable that equals 1 if a director attended an Ivy League school at any academic level, and 0 otherwise. Ivy League schools are Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, University of Pennsylvania, and Yale University.
DIRECTOR_LINKED_TO_A_LARGE_SHAREHOLDER	Dummy variable that equals 1 if a director is linked to a large shareholder or an activist hedge fund through past or present employment or directorship, and 0 otherwise.
Panel E. Instrumental Variables	
%_OF_DIRECTORS_WITHIN_100_MILES	Number of outside directors employed as a manager or a director by firms within 100 miles of corporate headquarters divided by the number of outside directors. The distance between a firm of employment (directorship) and the focal firm is based on zip codes.
NON_COMPETE_ENFORCEMENT_INDEX	Based on Garmaise (2009), the Enforcement index ranges between 0 and 12 and is divided by 12 to generate a score from 0 to 1. Higher values of Enforcement index indicate greater enforceability of the non-compete contracts.

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