Lame-Duck CEOs*

Marc Gabarro Sebastian Gryglewicz Shuo Xia

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Abstract

Financial authorities and investors have raised concerns about protracted CEO successions. We document that about a third of CEO successions are protracted, during which a lame-duck CEO continues to run the firm for about six months before a successor is announced. Despite a negative stock price reaction to protracted succession announcements, firms run by lame-duck CEOs perform well on various measures: they generate an annual four-factor alpha of 9.6% and exhibit positive abnormal returns around earnings announcements. Testing different mechanisms, we show that the results are stronger when the competition between internal candidates is more intense. Our findings suggest that the market misprices the value of firms with lame-duck CEOs, but protracted successions are not detrimental to firm value.

Keywords: CEO turnovers, succession planning, tournaments, corporate governance

*Gabarro (gabarro@uni-mannheim.de) is with the University of Mannheim, Gryglewicz (gryglewicz@ese.eur.nl) is with Erasmus University Rotterdam, and Xia (shuo.xia@iwh-halle.de) is with Leipzig University and the Halle Institute for Economic Research. We are thankful to Aleksandar Andonov, Gonul Colak, Stefano Colonnello, Ingolf Dittmann, Erik Fernau, Peter Limbach, Mike Mao, Ernst Maug, Alexandra Niessen-Ruenzi, Stefan Ruenzi, Esad Smajlbegovic, Erik Theissen, Francisco Urzua I., David Yermack; seminar participants at Erasmus University Rotterdam, University of Mannheim; and conference participates at the 2018 Executive Compensation Conference in Rotterdam, 2018 EEA-ESEM meeting, 20th Workshop on Corporate Governance and Investment, and 2019 MFA meeting for excellent comments and suggestions.

"If you are a lame duck, your company is not moving forward."

- Steve Ballmer, CEO of Microsoft

"There is not one fiber in my body that feels like a lame duck. Nobody treats me differently, I am still the CEO, and I am incredibly busy."

- Joe Tucci, CEO of EMC

1 Introduction

The process of replacing key individuals is crucial to the success of organizations. When a firm announces the departure of a CEO without announcing a successor, the incumbent CEO becomes a lame duck. Some market participants and regulators have argued that lame-duck CEOs are detrimental to firm performance because they create a leadership void and increase uncertainty. For example, in March 2014, Steve Ballmer, a lame duck himself at the time, claimed in an interview, "If you are a lame duck, your company is not moving forward. You don't want to get into an inaction period." Such negative views on lame-duck CEOs have prompted the Securities and Exchange Commission (SEC) and other regulators around the world to require greater disclosure of CEO succession plans.[1]

Economic theory does not give unambiguous predictions on whether firms will outperform or underperform during lame-duck CEO periods. In the standard principal-agent model, shareholders hire a skilled CEO to run the firm and rely on incentives to align their objectives with those of the CEO. A lame-duck CEO may have weak and insufficient incentives to perform, and the lack of leadership during the lame-duck CEO period may cause underperformance at lower levels of the firm's hierarchy.

Conversely, the literature on career concerns and tournament competition suggests that a protracted succession can be an efficient process. When the incumbent CEO becomes a lame duck, the firm suddenly opens up an internal labor market for the top

[1]For example, in October 2009, the SEC released a legal document removing firms' ability to withhold CEO succession planning information from shareholders in the name of "ordinary business operation matters" in reliance on Rule 14a-8(i)(7).

position. Senior executives involved in a tournament for the top job increase their efforts, leading to an improvement in firm performance. Moreover, avoiding a protracted succession could be costly and challenging for several other reasons. CEOs can be reluctant to identify and groom a suitable heir apparent since it makes them more replaceable. Similarly, from the shareholders' perspective, easily replaceable CEOs may be insufficiently oriented to the long term and excessively risk averse. Altogether, a priori, it is not clear if lame-duck CEOs represent inefficiency due to insufficient succession planning.

In this paper, we empirically study firm performance during the reign of lame-duck CEOs. We start the analysis by documenting that lame-duck CEOs are prevalent. Using hand-collected data on CEO successions in S&P 1500 firms, we identify 1,898 CEO turnover events. For each event, we search for the first news of the CEO's departure (departure announcement date), the first news of the successor (successor announcement date), and the date the incumbent CEO leaves office and the new CEO takes over (departure date). If the successor announcement takes place after the departure announcement, we define this CEO succession as a protracted succession and the CEO in charge as a lame duck; otherwise, we define the succession as a prompt succession. In our sample, as much as 31% (595) of the total CEO succession events are protracted successions, with an average (median) duration of 179 (143) days.

We then show that the market's initial reaction to protracted succession announcements is negative and worse than the market reaction to prompt successions. This negative reaction cannot be explained by other factors commonly used to describe the cross-sectional variation in CEO turnover announcement returns, such as forced turnover or corporate governance, among others.

In completely efficient markets, after the initial jump in firm value at the announcement of a protracted succession, the period under lame-duck CEOs should not on average lead to further abnormal returns as relevant information should have already been incorporated in stock prices. Instead, we document that firms exhibit significant positive returns during lame-duck CEO's terms. Specifically, an equally-weighted long-only portfolio (based on public information) that buys firms at the CEO departure announcement

and sells them when the new CEO is announced delivers a monthly raw return of 1.4% and a monthly four-factor alpha of 0.8% (over 9% per year). This result is robust to controls for industry characteristics, firm characteristics, and alternative holding periods. The positive alpha during a lame-duck CEO term reverses the initial negative returns upon the announcement of a protracted succession. Consistently, we also document that firms experience a 1.4% positive abnormal return in the 7-day event window around quarterly earnings announcements that take place during the reign of a lame-duck CEO.

The outperformance of firms with lame-duck CEOs is somewhat surprising, given that since the SEC warned firms about the risks of poor succession planning, the discussion has been overwhelmingly skewed toward the view that prompt successions are superior to protracted successions. We contribute to this discussion by studying the shareholder value associated with protracted and prompt successions following the methodology in Edmans (2011), Mueller, Ouimet, and Simintzi (2017), Lilienfeld-Toal and Ruenzi (2014), and Cohen, Malloy, and Nguyen (2020). Our results do not support the view that protracted successions are detrimental to firm performance. On the contrary, our findings indicate that firms that opt for protracted successions perform better than expected, insofar as the market underestimates some of the benefits of such successions. This finding is consistent with the view that despite the negative perception of protracted successions by regulators and investors, optimizing firms embrace them in value-enhancing circumstances.

We then study the possible mechanisms that might explain these findings. First, we document that the results are not driven by temporary changes in firm risk. Second, we find no evidence that the characteristics of the board (such as board size, independence, or CEO-chairman duality) or incumbent CEO and turnover characteristics (such as CEO age, CEO tenure, or forced turnover) explain the positive lame-duck CEO performance. We then explore the role of tournament incentives: the announcement of a CEO's departure suddenly increases the probability of promotion to the CEO position among high-ranking executives in the firm. In response, executives start to compete for the top job, which encourages them to increase their efforts and facilitates the selection of a successor. Consistent with the internal tournament mechanism, we find that

the outperformance of firms with lame-duck CEOs is driven by firms that ultimately promote internal candidates in a highly competitive environment: those firms experience an additional 2.5% monthly excess return.Broadly speaking, the fact that internal tournament competition, as a form of the intangible asset, is mispriced by the market is consistent with previous evidence on the mispricing of intangible assets in Edmans (2011) and Mueller et al. (2017).

The internal tournament mechanism as a factor in protracted successions is echoed in corporate practice. For example, on December 15, 2017, Airbus CEO Tom Enders announced that he would step down in April 2019. During the lame-duck period, the board of directors sought a successor primarily from among internal candidates, including the Airbus commercial aircraft president, sales chief, defense chief, and finance chief (Reuters, 2018). After a 10-month search, on October 8, 2018, the commercial aircraft president was appointed the new CEO. During the lame-duck CEO period, the stock price of Airbus increased from 84.95 euros to 100 euros, and all of the stock returns around the quarterly earnings announcements were positive. Other well-known examples of internal tournaments are the protracted successions of Jack Welch at General Electric (after a formal "horse-race" competition) and of Steve Ballmer at Microsoft (after an informal competition).

This paper is related to the recent literature on the value of CEO leadership and succession planning. On CEO leadership, Yermack (2014) and Biggerstaff, Cicero, and Puckett (2017) show that temporary leadership vacancies while the CEO is on vacation and/or playing golf affects firms' information disclosure and is detrimental to shareholder value. Bennedsen, Pérez-González, and Wolfenzon (2020) find that the lack of leadership following the hospitalization of a CEO worsens operating performance and lowers investment levels. In all of these settings, CEOs are certain or likely to return to their positions in the short term. In contrast, the tenure of lame-duck CEOs is medium term, and opens up competition for the CEO position. We show that this competition among internal candidates is the key driver of the positive performance of firms with lame-duck CEOs.

On CEO succession planning, Cvijanovic, Gantchev, and Li (forthcoming) find that the presence of formal succession plans reduces forced CEO turnover and stock return volatility around turnover and improves firm performance, while Betzer, Lee, Limbach, and Salas (2020) show that succession planning is beneficial for firms that experience sudden CEO turnover. Similarly, Hoitash and Mkrtchyan (2018) document that the impact of recruiting CEOs from the board of directors is negative only for unplanned successions. Furthermore, McConnell and Qi (forthcoming) study the announcement effect of in-depth succession planning on firm value and find there is no one disclosure policy that fits all: succession planning is beneficial for large and more complex firms but not for small and simple firms. Our results are complementary to theirs as we focus on succession decisions rather than on succession plan disclosures. As we show, protracted successions are weakly correlated (-4.6%) with succession plan disclosure: 16.8% (20.7%) of firms with protracted successions (prompt successions) have succession plans disclosed in the last annual report preceding the turnover and 83.2% (79.3%) do not.

More broadly, our findings are related to the extensive literature on the causes and consequences of CEO succession (Parrino, 1997; Huson, Parrino, and Starks, 2001; Jenter and Kanaan, 2015, among others). Unlike our analysis, most research in this field considers CEO turnovers as single-date events. Notable exceptions are Intintoli (2013) and Rivolta (2018), who explore multi-event CEO successions. Intintoli (2013) shows that heterogeneous industries and unexpected departures are the main determinants of CEO successions that extended past the formal departure notice of the incumbent CEO, while Rivolta (2018) focuses on unplanned CEO turnover and documents that longer delays between the departure of the previous CEO and the appointment of the new CEO lead to larger abnormal returns around the new CEO's appointment. Further, Vancil (1987), Naveen (2006), and Mobbs and Raheja (2012) study the impact of planned "relay" successions, in which firms groom presidents or chief operating officers to assume the new CEO position. Our study is different from these studies in that we document positive abnormal firm performance during protracted CEO successions, and shed light on the underlying mechanisms.

Because we find that internal tournament competition is the main mechanism explaining the positive abnormal returns of firms with lame-duck CEOs, our paper is also related to the literature on tournament competition and firm performance, such as Kale, Reis, and Venkateswaran (2009) and Burns, Minnick, and Starks (2017). We contribute to this literature by focusing on a period (a lame-duck CEO's term) when tournament incentives are at their peak. Our empirical evidence documents that the positive effects of this short-lived, high-powered tournament outweigh any value-decreasing actions that candidates may take to diminish their competitors' chances of winning the tournament.

The remainder of this paper is organized as follows. Section 2 discusses the practice of protracted CEO successions and presents our data. Section 3 describes our empirical methodology. Section 4 presents our main results on lame-duck CEO performance and robustness tests. Section 5 explores the possible mechanisms that might drive our results and discusses alternative explanations. Section 6 discusses the real effect of CEO successions with lame-duck CEOs. Section 7 concludes the paper.

2 Institutional background and data

2.1 Protracted successions and lame-duck CEOs

CEO turnover is arguably one of the most significant events for any firm and a key determinant of firms' success. A significant body of research focuses on best practices to improve CEO grooming and CEO selection (e.g., Vancil, 1987; Pérez-González, 2006). However, CEO turnover is not an event but a process. A stylized CEO turnover process involves, at the very least, three crucial, publicly announced events that may occur simultaneously or sequentially. First, a firm announces that the incumbent CEO is stepping down (departure announcement date). Second, the firm announces the successor's identity (successor announcement date). Third, the incumbent CEO formally steps down and the new CEO officially takes over the firm's operations (departure date).

We define a lame-duck CEO's reign as the period between the incumbent CEO's departure announcement (e_0) and the announcement of a successor (e_1). This is the

period that is most likely to involve a lack of leadership, and has indeed been referred to as the lame-duck period (see, for example, Wall Street Journal (2004) and Wall Street Journal (2014)).

We could have defined the lame-duck period as lasting until e_2, that is, until the new CEO takes office. We do not include the period between the successor announcement (e_1) and the new CEO taking office (e_2) in our main specification for several reasons. First, the announcement of the identity of the new CEO potentially reveals new information about the firm's future strategy and actions. Second, the leadership situation changes dramatically after a new CEO is chosen: the tournament incentives to become the next CEO disappear and the incumbent CEO focuses on helping the newly nominated CEO to understand the firm's operations and financial conditions. Finally, there is no lack of leadership after e_1: the new CEO may not be in the office, but everyone knows who he or she is. In short, the appointment of a new CEO affects any decision made between e_1 and e_2, even if the formal taking of office has not yet occurred. After e_1, the uncertainty about the firm's leadership vacancy is resolved.[2]

Specifically, we analyze CEO turnovers for S&P 1500 firms that announced the departure of an incumbent CEO between January 2005 and December 2018. Our sample starts from January 2005 because of a regulatory change in late 2004 that allows us to identify "lame-duck" CEOs precisely. Since August 23, 2004, the SEC has required firms to disclose any relevant information on the departure or appointment of principal executive officers within 4 business days, and to file the corresponding 8-K form under Section 5.02. On November 23, 2004, the SEC clarified that this disclosure requirement is triggered by a CEO giving notice to a firm, not only by actual job termination.[3] By starting our sample after the regulatory change on CEO succession disclosure, we avoid any potential bias that may arise from firms strategically timing the disclosure of CEO turnover events.

Our sample finishes in December 2018 to ensure that it only includes completed CEO

[2]We repeat our main analysis by defining protracted successions as lasting until e_2 and obtain very similar results in terms of both economic and statistical significance.

[3]See https://www.sec.gov/rules/final/33-8400a.htm and the answer to question 24 on https://www.sec.gov/divisions/corpfin/form8kfaq.htm.

successions. We exclude regulated utility and financial firms, and further eliminate all CEO turnover events that involve the departure of interim or acting CEOs. We also exclude cases that involve mergers and acquisitions, spin-offs, co-CEOs, CEOs appointed for a term shorter than 12 months, and firms that do not have stock price information listed in CRSP.

We then hand-collect from Factiva the date of the first public announcement that the incumbent CEO i is stepping down (e_0^i), the date on which the firm announces the successor's identity (e_1^i), and the date on which the incumbent CEO i relinquishes the CEO position (e_2^i). We define a CEO succession i as *Protracted* if e_1^i takes place at least 7 days after e_0^i; otherwise, it is a *Prompt* succession. [4] Our sample contains 1,898 CEO turnover events, with 595 protracted CEO successions. We refer to the incumbent CEO in protracted successions as a lame-duck CEO during the period between e_0^i and e_1^i. Table I, Panel A tabulates the distribution of all CEO successions, prompt successions, and protracted successions by year. Panel B shows the summary statistics for the lame-duck CEO term. The percentage of protracted successions is relatively stable across years, and is 31% on average. The average (median) lame-duck CEO presides for 179 (143) days.

2.2 Additional variables

Throughout our analysis, we include several additional variables. Specifically, we focus on corporate governance, incumbent CEO and turnover characteristics, and the intensity of tournament competition.

We use five different measures of corporate governance: board size, the fraction of independent directors, CEO-chairman duality, a dummy variable on whether the firm discloses succession planning information in its most recent proxy statements or not, and a dummy variable on whether there is an interim CEO involved in the succession or not.

We also include four incumbent CEO and turnover characteristics: the age and tenure

[4] We repeat our main analysis by defining protracted successions if e_1^i takes place at least one month after e_0^i and obtain very similar results in terms of both economic and statistical significance. We present these analyses in the appendix.

of the incumbent CEO, whether the CEO turnover is classified as forced turnover following Jenter and Kanaan (2015) or not, and a dummy variable on whether the abnormal returns around the CEO departure announcement are positive or not.

Finally, we use three measures of tournament competition to become the new CEO. First, we look at internal appointments, that is, whether the successor is ultimately chosen from within the firm. Second, we proxy the tournament competition intensity by the inverse of the standard deviation of senior executives' base salary. Third, we measure the strength of the tournament at the industry level by calculating the rate of internal appointments at the Fama-French 48 industry level.

We also include additional time-varying controls such as firm size (natural logarithm of firm total assets), industry-adjusted ROA, leverage ratio, market-to-book ratio, whether the firm pays dividends or not and industry and year fixed effects. We define the variables in the appendix. Table II presents descriptive statistics for our sample.

3 Empirical methodology

We adopt the calendar-time portfolio approach to analyze firm performance during a protracted succession. Similar to Edmans (2011), Lilienfeld-Toal and Ruenzi (2014), Mueller et al. (2017), and Cohen et al. (2020), we construct equal-weighted portfolios with monthly rebalancing based on publicly available information for CEO succession announcements as follows. A protracted succession portfolio includes all firms currently under a lame-duck CEO where the incumbent CEO's departure has been announced, but the new CEO's identity is unknown. Specifically, we add a firm into the protracted succession portfolio at the end of the month of e_0 (the incumbent CEO departure announcement date). The firm remains in the protracted succession portfolio until the end of the month of e_1 (the successor announcement date). By regressing the monthly portfolio returns on the monthly returns for the Carhart (1997) four risk factors, we obtain α as a measure of the abnormal risk-adjusted return of the *protracted succession* portfolio.

As in Edmans (2011), we calculate the portfolio returns over three benchmarks. First,

we use the risk-free rate. Second, we use the 48 Fama-French average industry return, which ensures that our results are not driven by some industry-specific risk that is not captured by the Carhart (1997) four-factor model. Third, we use the characteristic-adjusted benchmark of Daniel, Grinblatt, Titman, and Wermers (1997), which matches each stock with a portfolio of similar firms in terms of size, value, and momentum. We correct the standard errors for heteroskedasticity and serial correlation using Newey and West (1987) and the optimal lag-selection method in Newey and West (1994).

We also run short-period event studies around incumbent CEO departure announcements and earnings announcements. As is standard in the finance literature, we use the market model with an estimation period of between -255 and -46 days before the event. Our results are robust to alternative specifications of expected returns.

4 Lame-duck CEO performance

In this section, we examine firm performance during a lame-duck CEO term. First, we study the announcement return at the CEO departure news date. Second, we compute the calendar-time portfolio returns and the abnormal returns around earnings announcements during the lame-duck CEO period. Finally, we evaluate alternative risk models and control for additional determinants of returns in Fama-Macbeth regressions and pooled OLS regressions.

4.1 CEO departure announcement returns

In Table III, we study the 3-day event window abnormal returns around the announcement of the departure of the incumbent CEO to understand the initial market reaction to the onset of lame-duck CEOs.

Table III, Panel A reports the mean abnormal returns for the protracted succession subsample, the prompt succession subsample, and the difference between these two subsamples. In column (1), we show the average market reaction to firms with protracted successions is negative and sizeable at -2.7% (t = -6.818). However, the average market

reaction to prompt successions is 0. The difference between the two cumulative average returns (CARs) is negative and significantly different from 0. In Panel B, we use regression analysis to control for other characteristics that could affect the stock market's reaction to the protracted CEO departure announcement, such as governance, and CEO characteristics. Results are economically and statistically similar to our univariate analysis.

Consistent with the negative perception of both regulators and market participants, the market's initial reaction to news of protracted CEO succession is negative.

4.2 Calendar-time portfolio returns

We now turn our attention to the core results of the paper: firm performance during the lame-duck CEO term. To do so, we first construct a long-only portfolio of firms exposed to lame-duck CEOs using the methodology discussed in Section 3.

We present the results in Table IV, Panel A, and show that the excess stock returns of firms with lame-duck CEOs are positive and statistically significant across various specifications. The protracted succession portfolio has a 0.8% monthly α (9.6% annually) above the risk-free rate and a 0.6% monthly α (7.2% annually) after controlling for industry average returns. The characteristic-adjusted portfolio return has a slightly higher α: 1.5% monthly (18% annually).[5]

We then consider the possibility that a (confounding) component common to both protracted and prompt CEO successions drives our results. To address this issue, we build a long-short portfolio that goes long on a protracted succession as above, but shorts prompt successions as follows. We include firms in the short portfolio at the end of the month in which news of the incumbent CEO's departure is made public and hold them for five months, which is the median protracted succession duration. Table IV, Panel B shows the long-short portfolio results: the portfolio α ranges from 0.7% to 1.4% (8.4% to 16.8% annually), similar to the long-only protracted portfolio results shown in Panel A.

We next examine what drives the stock price movements that generate the positive

[5]We have fewer (monthly) observations for the characteristic-adjusted benchmark, as the benchmark data is only available up to 2012.

returns during the lame-duck CEO term; whether it is revisions in expected cash flows or in discount rates. We follow Chen, Da, and Zhao (2013) and decompose the excess stock returns of firms with lame-duck CEOs into cash flow news returns (CF news) and discount rate news returns (DR news). Panel C, column (1), reports the monthly raw return of our long-only portfolio. The coefficients reported in Panel C columns (2) and (3) represent the portion of the stock return variance that is related to each component that contributes to the monthly raw return in column (1).[6]

Notably, the stock price movements that generate positive returns are mainly related to decreases in the expected discount rate. This result suggests that the market holds an excessively negative initial perception of lame-duck CEOs, but as their reign advances, the market's perception of them improves, and the discount rate decreases.

4.3 Earnings announcements

The results in the previous section indicate that the market initially misprices firms with lame-duck CEOs and only gradually realizes that these firms perform better than expected. To document this mechanism more directly, we now examine the abnormal returns around quarterly earnings announcements, as these are a significant source of information for outsiders about a firm's medium-term performance. We show that the abnormal returns around earnings announcements are significantly positive for firms with lame-duck CEOs, indicating that these firms' performance is persistently better than expected by the market.

Table V, Panel A, column (1) shows that during the lame-duck CEO period, firms on average have a 1.4% higher announcement return compared with other periods. As firms experiencing protracted successions may have different characteristics, we include firm

[6]Specifically, we adapt the method used in Chen et al. (2013) to decompose a firm's return into CF news and DR news: $CF\ news_t = \frac{1}{2}\left(\frac{f(c_t,q_t)-f(c_{t-1},q_t)}{P_{t-1}} + \frac{f(c_t,q_{t-1})-f(c_{t-1},q_{t-1})}{P_{t-1}}\right)$ and $DR\ news_t = \frac{1}{2}\left(\frac{f(c_{t-1},q_t)-f(c_{t-1},q_{t-1})}{P_{t-1}} + \frac{f(c_t,q_t)-f(c_t,q_{t-1})}{P_{t-1}}\right)$, where c_t is the cash flow forecast available at time t, P_{t-1} is the stock price at time $t-1$, and $f(c_t, q_t) = P_t$. The implied cost of capital q_t is backed out from the pricing formula $P_t = \sum_{k=1}^{T} \frac{EF_{t+k}(1-b_{t+k})}{(1+q_t)^k} + \frac{EF_{t+T+1}}{q_t(1-q_t)^T}$, where T is set to 15 years, P_t is the stock price, EF_{t+k} is the firm earnings forecast k years ahead, and $1-b_{t+k}$ is the payout ratio. We then regress CF news and DR news on the raw portfolio returns and report the corresponding coefficients.

fixed effects in column (3). We find that the results are very similar: the CARs around earnings announcements during lame-duck CEO terms are 1.1% higher. Columns (4) to (6) include additional firm characteristics similar to those in Pan, Wang, and Weisbach (2015), and show similar results in terms of economic and statistical significance. In Panel B, we show that our results are robust to alternative event windows: we obtain similar results when using an 11-day window around the earnings announcements.

Interestingly, we can calculate the contribution of these abnormal returns around earnings announcements to the protracted portfolio α we documented in the previous section. For example, in Panel A, column (1), the annualized contribution is 5.6% (= 1.4% $\times$4). The return is about 58% of the annualized four-factor α over the risk-free rate benchmark in Table IV Panel A.[7]

4.4 Robustness tests

4.4.1 Alternative risk models

In Table VI, we show that our portfolio returns for firms with a protracted CEO succession are robust to alternative risk models and holding periods. First, in Panel A, we augment our benchmark model by adding the traded liquidity factor of Pástor and Stambaugh (2003) and adjust our Carhart (1997) four-factor model to the Fama and French (2015) five-factor model plus the momentum factor. The results are qualitatively similar to those for our main specification. For example, the long-only monthly α of the liquidity augmented Carhart four-factor model ranges from 0.6% to 1.6%.

Second, in Panel B, we extend the holding period for protracted succession firms to the end of the month in which the new CEO officially takes the job. This strategy delivers a monthly α between 0.6% and 1.3%. We also extend the holding period for prompt succession firms to 6 months, and the corresponding long-short portfolio generates a monthly α between 0.6% and 1.2%. Overall, our monthly αs remain economically and statistically similar to our main results.

[7]By comparison, Edmans (2011) finds that the abnormal returns around earnings announcements for firms listed as the "100 Best Companies to Work for in America" contribute to around 48% of the annual excess returns from holding these firms.

4.4.2 Matched sample results

In untabulated results, we find that firms with protracted CEO successions have some univariate differences from the overall sample of firms experiencing CEO turnover. For example, protracted CEO succession firms have fewer assets (6.871 billion US$ vs. 9.720 billion US$), a lower market-to-book value (1.512 vs. 1.731), and a lower industry-adjusted return-on-assets (ROA) (0.044 vs. 0.064). In Table VII, Panel A, we show that these univariate differences also have explanatory power in a multivariate setting. In column (1), we use a linear probability model that regresses a dummy variable that indicates whether or not the firm is undergoing a protracted succession on the lagged firm fundamental characteristics. As with the univariate results, firms that are smaller, have a low market-to-book, and a lower ROA are more likely to experience protracted successions. In contrast, in column (2), we show that the length of the lame-duck reign is unrelated to firm characteristics.

Although these differences in firm characteristics should already be captured by the four factors in our baseline model, we now present propensity score matched sample results for robustness. Specifically, we match each protracted succession firm to its closest peer from the same cohort (CEO turnover event year) in terms of pre-turnover firm fundamentals ln(assets), market-to-book ratio, book leverage, industry-adjusted ROA, whether the firm pays dividends, and whether the firm mentions succession planning in its proxy statement before the turnover event. Table VII, Panel B shows that the differences between the matched pairs are not statistically and economically significant, indicating successful matching.

Table VII, Panel C shows that our matched sample results are very similar to our baseline estimates in terms of economic and statistical significance: our (matched sample) long-short portfolio that goes long on protracted succession firms and shorts the corresponding matched prompt succession firms delivers a monthly four-factor α of 0.7% over the risk-free rate.

4.4.3 Characteristics regression results

We next run stock-month level cross-sectional regressions to control for a wider range of firm characteristics that might correlate with the firm protracted succession decision and the cross-section of stock returns. Specifically, we run the following regression:

$$R_{i,t} = \alpha + \beta Protracted_{i,t} + \gamma X_{i,t} + \epsilon_{i,t},$$

where $R_{i,t}$ is the return of stock i in month t, either unadjusted, industry-adjusted, or characteristic-adjusted, as in the calendar-time approach. $Protracted_{i,t}$ is a dummy variable that equals 1 if firm i is currently undertaking a protracted succession in month t, and 0 otherwise. Following Brennan, Chordia, and Subrahmanyam (1998), $X_{i,t}$ is a vector of firm characteristics that are known predictors of cross-sectional stock returns, such as market capitalization, book-to-market ratio, dividend yield, past stock returns, dollar trading volume, and past stock price.

We estimate the above regression using two methods. In Table VIII, Panel A, we conduct the Fama and MacBeth (1973) regression. In Panel B, we run a pooled OLS regression that includes industry and time fixed effects with two-way clustered standard errors along the firm and time dimensions (Petersen, 2009).

The regression estimates reported in Table VIII confirm our calendar-time portfolio results: firms that are currently undergoing a protracted succession are associated with additional positive returns. Across both estimation methods and specification settings, we find that during a protracted succession, firms obtain an additional monthly return that ranges from 0.6% to 1.5%.

5 Why do firms with lame-duck CEOs outperform?

Section 4 shows that firms that undergo a lame-duck CEO period experience significant positive returns, and that this finding is robust to controls for industry and firm characteristics. However, our results raise the question of why such positive returns occur to

begin with. In this section, we explore several possible explanations for the unexpected positive performance of firms with lame-duck CEOs: an increase in firm risk during the lame-duck CEO term, differences in firm corporate governance practices, differences in CEO turnover characteristics, and internal tournament competition for the CEO vacancy.

5.1 Increased firm risk

Our main results already show that firms' outperformance during lame-duck CEO periods is not due to their industry affiliation or matched characteristics, nor to generic events that occur around all CEO turnovers. Moreover, our main analysis already controls for systematic risk factors using the Carhart (1997) four-factor model.

However, there may be some temporary changes in firm-specific risk during the lame-duck CEO term that may not be captured well by these factors. If the market prices such a temporary change in risk, the protracted succession portfolio's abnormal returns may be compensation for the additional risk. As is standard in the literature (e.g., Ang, Hodrick, Xing, and Zhang, 2009), our measure of firm-specific risk is stock return volatility. Hence, we explicitly study changes in volatility around the onset of a lame-duck CEO term. Table IX shows that there are no changes in volatility around protracted CEO successions. In Panel A, our dependent variable is the changes in realized stock return volatility, while in Panel B, we focus on changes in realized idiosyncratic stock return volatility, with different windows across columns.

5.2 Corporate governance characteristics

Another possible explanation for positive performance during a lame-duck CEO term is that during this period, the board takes responsibility for protecting shareholders. Therefore, excess returns during the lame-duck CEO period may derive from the efficient operation of the board: well-functioning corporate governance generates positive alphas (Gompers, Ishii, and Metrick, 2003; Giroud and Mueller, 2011).

As is standard in the literature (e.g., Yermack, 1996; Nguyen and Nielsen, 2010; Guo and Masulis, 2015), we use three common measures of corporate governance quality:

board size, the fraction of independent directors, and CEO-chairman duality. More specific to our setting, we include two additional indicators to proxy for governance quality: succession planning and interim CEO. The literature on succession planning suggests that succession plan disclosure can be value enhancing for certain firms (Cvijanovic et al., forthcoming; McConnell and Qi, forthcoming). The empirical prediction on interim CEOs is ambiguous, as interim CEOs may either be the result of an unsuccessful search for a successor or a mechanism to test the ability of potential candidates (Ballinger and Marcel, 2010; He and Zhu, 2020).

We investigate whether these corporate governance characteristics can explain the positive portfolio alphas reported in Section 4.2 and Table IV. Specifically, in Table X Panel A, we sort firms into portfolios based on different corporate governance characteristics (for non-binary variables, we split the firms based on their industry median levels). Column (1) represents the four-factor α of the portfolio with certain corporate governance characteristics, column (2) shows the four-factor α of the alternative portfolio, and column (3) shows the difference in αs between the two portfolios. Overall, we find no statistical or economic differences across any of the measures of corporate governance.

Additionally, we also examine whether these corporate governance characteristics explain the cross-sectional differences in the positive abnormal returns around quarterly earnings announcements during protracted successions presented in Section 4.3 and Table V. To do so, we regress the earnings announcement abnormal returns during protracted successions on our corporate governance characteristics and the set of controls in Table V. Table XI Panel A presents the outcomes of these regressions. Consistent with the results on portfolio returns, we find no differences based on corporate governance.[8]

5.3 Incumbent CEO and turnover characteristics

In this subsection, we discuss whether different incumbent CEO and turnover characteristics, as described in section 2.2, explain the positive excess return.

[8]Coles, Daniel, and Naveen (2008) suggest that the relationship between board size and firm performance is U-shaped. Therefore, in unreported results, we repeat our analysis and compare median versus extreme board sizes. We find very similar results across these subsamples during protracted successions.

First, we explore the role of the age of the incumbent CEO. On the one hand, as an incumbent CEO gets older, her career concerns and the cost of having a "quiet life" both decrease (Bertrand and Mullainathan, 2003), resulting in an overall "inaction" period. On the other hand, as CEOs age, firms may pay more attention to succession plans.

Second, we explore CEO tenure. As CEO tenure increases, the power of the incumbent CEO also increases, leading to potential loss of shareholder value from empire-building behavior on the part of the CEO (e.g., Shivdasani and Yermack, 2002), which affects the CEO turnover process.

Third, we investigate the motivation for the incumbent CEO's departure. Huson, Malatesta, and Parrino (2004) and Taylor (2010) show that firms' performance reverses after they force out their incumbent CEO (but not when the incumbent CEO leaves voluntarily). As is common in the literature, to control for a reason for turnover, we follow Jenter and Kanaan (2015) and classify CEO turnover as forced or voluntary. Specific to our setting, we also split our sample based on the sign of the abnormal returns around the turnover announcement (we have 160 (282) protracted successions departure announcement news with positive (negative) abnormal returns). As these announcements do not contain information about the new CEO for protracted successions, they encapsulate the market's perception of the incumbent CEO and turnover characteristics.

In Panel B of Table X, we sort firms with protracted successions into portfolios based on the incumbent CEO and turnover characteristics (for non-binary variables, we split the firms based on their industry median levels). We find no significant differences in αs. We further regress the abnormal returns around earnings announcements on different incumbent CEO characteristics, reported in Panel B of Table XI. The regression results suggest that firms with different incumbent CEO characteristics do not have significantly higher excess returns around earnings announcements than other firms.

5.4 Tournament competition

In this subsection, we explore the impact of tournament competitions for the CEO position on the stock performance of firms during the lame-duck CEO period. The tourna-

ment literature argues that firms benefit from tournaments because they motivate internal candidates to compete and then promote the best candidate to the CEO position (e.g., Lazear and Rosen, 1981; Waldman, 2012).[9]

The term of a lame-duck CEO is a suitable setting to test tournament theories because we expect an increase in the intensity of tournament competitions upon the announcement of a vacancy in a CEO position without a known successor.[10] Moreover, the degree of increase in the intensity of tournament competitions depends on whether internal or external candidates are considered for the succession and on the pool of internal candidates.

We use several measures of the intensity of tournament competitions. First, we look at internal appointments, that is, whether the successor is ultimately chosen from within the firm. Although this measure uses future information and thus may suffer from hindsight bias, an internal appointment is evidently positively correlated with the ex-ante probability of promoting an internal candidate, which increases the intensity of the competition.

For the second measure of tournament competition, we combine the internal appointment indicator with a measure of ex-ante tournament incentives. To capture ex-ante tournament incentives, we use the inverse of the standard deviation of senior executives' base salary as a proxy for the probability of promotion. We do so because a greater similarity of senior executives' power (as measured by base salary similarity) increases tournament incentives (Kale et al., 2009; Bebchuk, Cremers, and Peyer, 2011). We then define *Internal tournament* as a dummy variable that takes the value of 1 when the salary standard deviation is lower than the industry median and the appointment is internal, and 0 otherwise.

Additionally, as a robustness check, we measure the strength of internal tournaments

[9]Internal tournament competition also trickles down to lower ranks as it creates a possible opening at a senior executive position if an internal candidate ultimately fills the CEO position.

[10]Tournament theory also predicts that the competing agents may have incentives to sabotage each other if it is relative performance that matters (e.g., Chen, 2003; Carpenter, Matthews, and Schirm, 2010). We argue that these incentives are of lesser concern among internal candidates, for several reasons. First, the board of directors will monitor the competition and try to ensure that it does not destroy firm value. Second, internal candidates are disciplined by the possibility of external candidates and future career prospects in the external labor market.

at the industry level. Specifically, we define *Internal industry* as a dummy variable that takes the value of 1 when the firm appoints an internal candidate and operates in a Fama-French 48 industry that has a higher than median rate of internal appointments, and 0 otherwise. We do so because candidates are likely to infer that internal promotion is more likely if hiring internal candidates is a common industry practice (e.g., Leary and Roberts, 2014).

In Panel C of Table X, we report the results when we sort the firms into portfolios based on the different tournament competition measures. First, the portfolio α of protracted successions that ultimately promote internal candidates is 1.7%, compared with a non-significant 0.3% α for firms that ultimately promote an external candidate. The spread between the portfolios with internal and external successors is also positive and significantly different from 0. We find economically and statistically similar results when we use our alternative measures of tournament incentives. For instance, the *Internal tournament* portfolio that contains firms with a high degree of tournament competition intensity and with new CEOs that were internally promoted has a monthly α of 2.5%, compared with the 0.1% of the complementary portfolio.

We then regress the returns around earnings announcements based on the tournament competition measures in Table XI, Panel C. Consistent with the findings of our calendar-time portfolio analysis, firms with more intense internal tournament competitions also enjoy higher abnormal returns around quarterly earnings announcements. For example, protracted succession firms that run *Internal tournaments* experience 2.9% higher abnormal returns around earnings announcements compared with protracted successions firms that do not.[11]

Overall, our results for calendar-time portfolio returns and quarterly earnings announcements suggest that internal tournament competition is the primary mechanism

[11]In untabulated tests, we find similar results when performing the earnings announcement return regression analysis on the full sample that contains all firms and not only firms under the term of a lame-duck CEO, as in Table V. Specifically, we regress abnormal returns around earnings announcements on a protracted succession dummy, a dummy for each characteristic, and the main coefficient of interest: the interaction term. We control for firm fixed effects, quarterly fixed effects, and firm fundamental controls. In the main text, we choose to focus on the sample of protracted successions only to allow for independent covariates.

that explains the excess positive returns associated with firms undergoing a protracted succession.

5.5 Subperiods within protracted successions

So far, we have restricted our analysis to portfolios based on publicly available information to show that firms with lame-duck CEOs achieve positive alphas. However, to further shed light on the overall impact of protracted successions on firm performance, we now discuss two (non-feasible) alternative portfolios that rely on future information. First, we include firms in the protracted succession portfolio in the month before they announce the protracted CEO succession (Table XII, Panel A). Second, we exclude firms from the protracted succession portfolio the month before they announce the new CEO's identity (Table XII, Panel B).

Table XII, Panel A shows that once we include firms in the portfolio in the month before the protracted CEO succession announcement, the protracted portfolio does not obtain a positive alpha. This result is expected and consistent with Table III, which shows a negative abnormal return around the protracted CEO succession announcement. Taken together, these findings indicate that the market's negative reaction to a protracted succession announcement is an overreaction that dissipates over the course of a lame-duck CEO's term.

While the extended-period portfolio returns reported in Panel A use future information and are not relevant as a trading strategy, they account for the whole succession period of these protracted events and are thus comparable to abnormal returns around prompt succession announcements. As reported in Table III, abnormal returns around prompt succession announcements are also about 0. As both types of successions deliver similar total returns, it is likely that despite the market's negative reaction to protracted succession announcements, there is no one-size-fits-all succession type.[12]

Table XII, Panel B shows that the portfolio alpha remains positive but is smaller when

[12]For this particular non-tradable portfolio based on future information, we can also calculate the calendar portfolio return for firms undergoing prompt successions. The monthly alpha relative to the risk-free rate is -0.000, and is not significantly different from 0.

we exclude the successor announcement month. Importantly, consistent with our previous results, firms with strong tournament incentives are associated with better performance. This holds for both alternative subperiods, as reported in the second rows in Panels A and B.

6 Real effects

So far, we have shown that firms experience excess positive stock returns during lame-duck CEO periods, especially in combination with internal tournaments to find a successor. In this section, we now examine whether protracted successions have a real impact on firm performance in the long term.

We evaluate long-term firm performance using accounting measures with the following cross-sectional regression:

$$\begin{aligned} Y_i =& \alpha + \beta_1 Protracted_i \times Internal\ tournament_i + \beta_2 Protracted_i \\ &+ \beta_3 Internal\ tournament_i + \gamma X_i + \varepsilon_i, \end{aligned}$$

where Y_i is the difference between the average 3-year performance after a succession event i minus the average 3-year performance before the succession event. The coefficient β_1 measures the impact of a protracted succession with an intense internal tournament competition. We use four performance measures: ROAs, market-to-book ratio, firm asset growth, and operating income changes. The control variables are the same as those in the previous firm-level regressions, and are defined in the appendix.

Table XIII, Panel A presents the results. In columns (1) to (4), consistent with the results using stock market returns, the positive and statistically significant interaction term indicates that firms with protracted successions that select internal successors through intense tournament competitions show improved accounting performance. For example, such firms experience a 4% increase in ROAs.

An alternative explanation for these accounting performance changes around CEO successions is that internal CEO candidates are, on average, more familiar with the firm

and so can better manage earnings to overstate the accounting performance measures. New CEOs may be especially prone to this behavior early in their careers, as the markets are still assessing their abilities (Ali and Zhang, 2015). In Panel B, columns (1) to (4), we test this alternative explanation using four proxies for earnings management: firm restructuring costs, asset write-offs, discretionary accruals, and total accruals. We find no evidence to suggest significant earnings management.

These results imply that protracted CEO successions not only generate positive alphas during the reign of lame-duck CEOs but also lead to a better CEO-firm match that ultimately results in improved firm performance in the long term. In other words, when firms take their time choosing a new CEO, they seem to do a better job at picking the right one.

7 Conclusion

We document that protracted CEO successions are frequent: more than 31% of the CEO successions among S&P 1500 firms between 2005 and 2018 were protracted, with an average length of 179 days. Contrary to the conventional view, we find that firms with protracted CEO successions experience a positive annual four-factor alpha of 9.6% during the lame-duck CEO's reign.

Our results are most consistent with the explanation that firm performance is improved when firms take the time and opportunity to select the best internal candidate through an internal tournament competition. We find that an internal tournament competition between CEO candidates generates additional positive excess returns. We also show that abnormal returns and earnings announcement returns are greater for firms with more intense tournament competitions that result in the appointment of an internal successor.

Overall, our results suggest that there is an unwarranted negative connotation associated with lame-duck CEOs. In fact, firms outperform during their reign, and long successions lead to beneficial competition among candidates, which improves both ac-

counting performance and firm value in the long term.

Table I: Distribution of CEO successions

This table shows the distribution of CEO successions. Panel A presents yearly distribution data for all CEO successions, CEO successions with *prompt successions*, and CEO successions with *protracted successions*. We define *protracted successions* if the incumbent CEO's departure announcement (e_0) takes place at least 7 days before the announcement of the successor (e_1); otherwise, it is a *prompt succession*. Panel B presents detailed summary statistics for the duration of *protracted successions*.

Panel A: Succession type

Year	All	Prompt successions		Protracted successions	
	Number	Number	Percentage(%)	Number	Percentage(%)
2005	157	108	68.8	49	31.2
2006	144	96	66.7	48	33.3
2007	148	101	68.2	47	31.8
2008	149	108	72.5	41	27.5
2009	107	85	79.4	22	20.6
2010	111	75	67.6	36	32.4
2011	147	100	68.0	47	32.0
2012	135	85	63.0	50	37.0
2013	134	81	60.4	53	39.6
2014	137	88	64.2	49	35.8
2015	147	105	71.4	42	28.6
2016	127	97	76.4	30	23.6
2017	135	93	68.9	42	31.1
2018	121	81	67.5	39	32.5
Total	1,898	1,303	68.6	595	31.4

Panel B: Protracted succession term (days)

Year	Mean	5p	25p	50p	75p	95p
2005	159.7	43	86	139	177	357
2006	182.1	75	106	154	211	314
2007	159.6	31	76	118	192	289
2008	200.8	49	89	136	201	399
2009	225.8	71	112	137	278	351
2010	172.2	59	92	160	212	287
2011	223.6	64	119	163	243	550
2012	176.2	66	107	160	209	266
2013	164.2	67	101	133	198	275
2014	207.1	80	110	173	223	369
2015	166.0	65	86	136	181	274
2016	157.4	58	89	114	203	346
2017	173.0	84	99	141	183	380
2018	155.2	63	99	133	204	306
Total	179.2	61	98	143	206	329

Table II: Summary statistics

This table provides summary statistics. We define all variables in the appendix.

	Mean	SD	p10	p25	Median	p75	p90
Assets	8825	27280	241	631	1822	5666	18184
Ind-adj ROA	0.057	0.185	-0.057	-0.008	0.038	0.102	0.208
Leverage	0.247	0.279	0.000	0.058	0.216	0.352	0.505
Market-to-book	1.662	1.640	0.643	0.863	1.231	1.880	3.067
Dividend payer	0.485	0.500	0	0	0	1	1
Board size	9.036	2.196	6	7	9	10	12
Independence rate	0.770	0.133	0.571	0.700	0.800	0.875	0.900
CEO age	58.819	7.695	49	54	59	63.500	67
CEO tenure	8.796	7.012	2	4	7	12	17
Duality	0.361	0.480	0	0	0	1	1
Interim CEO	0.052	0.221	0	0	0	0	0
Succession planning	0.195	0.396	0	0	0	0	1
Forced turnover	0.181	0.385	0	0	0	0	1
Positive turnover announcement CAR	0.452	0.498	0	0	0	1	1
Internal	0.666	0.472	0	0	1	1	1
Internal tournament	0.268	0.443	0	0	0	1	1
Internal industry	0.227	0.419	0	0	0	0	1

Table III: CEO departure announcement returns

This table presents cumulative abnormal returns (CARs) around the incumbent CEO departure announcement. We report CARs over the 3-day event window. Panel A shows univariate results. Panel B shows the multivariate results. *Protracted* is a dummy variable that takes value 1 if incumbent CEO's departure announcement (e_0) takes place at least 7 days before the announcement of the successor (e_1); 0 otherwise. *Small board size* takes value 1 when the firm has smaller board size than the industry median, 0 otherwise. *High board independence* takes value 1 when the firm has a fraction of independent director above the industry median, 0 otherwise. *Duality* takes value 1 if the incumbent CEO is also chairman of the board, 0 otherwise. *Interim CEO* takes value 1 when the succession involves an interim CEO and the interim CEO is finally promoted to the permanent position, 0 otherwise. *Succession planning* takes value 1 when the firm mentions succession planning in the most recent proxy statement, 0 otherwise. *High incumbent CEO age* takes value 1 when incumbent CEO is older than the industry median, 0 otherwise. *High incumbent CEO tenure* takes value 1 when the tenure of the incumbent CEO is longer than the industry median, 0 otherwise. *Forced turnover* takes value 1 when the incumbent CEO is forced to departure, 0 otherwise. *Internal* takes value 1 when the firm appoints an internal successor, 0 otherwise. *Internal tournament* takes value 1 when the firm appoints an internal successor and the tournament competition between senior executives is higher than the industry median, 0 otherwise. *Internal industry* takes value 1 when the firm appoints an internal successor and the firm operates in an industry with above median internal promotion rate, 0 otherwise. Stand-alone effects are included in the regressions, but their coefficients are not reported. Other controls include Ln(Assets), ind-adj ROA, leverage, market-to-book ratio, and dividend payer. All regressions include event year fixed effect. The numbers in parentheses are t-statistics based on heteroskedasticity-robust standard errors. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Univariate results

	Protracted	Prompt	Difference
	(1)	(2)	(3)
Turnover announcement CAR [-1,+1]	-0.027***	-0.001	-0.025***
	(-6.818)	(-0.704)	(-6.664)

Panel B: Multivariate results

Dependent variable	*Turnover announcement CAR[-1,+1]*			
	(1)	(2)	(3)	(4)
Protracted	-0.025***	-0.028***	-0.019***	-0.027***
	(-5.77)	(-5.85)	(-4.14)	(-5.65)
Small board size		0.010**		
		(2.40)		
High independence rate		-0.007**		
		(-2.00)		
Duality		0.006		
		(1.50)		
Interim CEO		0.010		
		(1.00)		
Succession planning		0.000		
		(0.12)		
High incumbent CEO age			0.011**	
			(2.39)	
High incumbent CEO tenure			0.009**	
			(1.98)	
Forced turnover			-0.003	
			(-0.44)	
Internal				-0.004
				(-0.69)
Internal tournament				-0.002
				(-0.38)
Internal industry				-0.001
				(-0.39)
Controls	Yes	Yes	Yes	Yes
Event Year FE	Yes	Yes	Yes	Yes
Observations	1,505	1,464	1,142	1,465
Adjusted R^2	0.049	0.055	0.061	0.045

Table IV: Lame-duck CEO performance: Portfolio returns

This table reports the calendar-time portfolio returns. We show the alphas (α) from time-series regressions of monthly excess returns on the Carhart (1997) four factors. In columns (1) to (3), we calculate monthly excess return over the risk-free rate, the industry-matched benchmark, or the characteristics-matched benchmark, respectively. Panel A shows alphas associated with the portfolio long in *protracted succession* firms (firms with lame-duck CEOs). Panel B shows alphas associated with the hedged portfolio that is long in *protracted succession* firms and short in *prompt succession* firms, where the holding period for prompt succession firms equals the median protracted succession length (5 months). Panel C presents the return decomposition. Column (1) shows the total monthly raw return for the long-only portfolio of *protracted succession* firms, while columns (2) and (3) show the portion of return variance that is related to cash flow news and discount rate news, respectively. In Panels A and B, the numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). In Panel C, the numbers in parentheses are t-statistics based on Hansen and Hodrick (1980) standard errors. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Long-only portfolio

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
α	0.008**	0.006**	0.015***
	(2.35)	(2.05)	(2.64)
β_{MKT}	1.110***	0.102	0.467***
	(17.29)	(1.59)	(3.05)
β_{SMB}	0.780***	0.685***	0.345
	(6.92)	(6.15)	(0.99)
β_{HML}	-0.151	0.087	-0.261
	(-0.99)	(0.61)	(-1.57)
β_{UMD}	-0.425***	-0.385***	-0.415***
	(-4.69)	(-3.36)	(-3.32)
Observations	167	167	83

Panel B: Long-short portfolio

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
α	0.008***	0.007**	0.014***
	(2.83)	(2.20)	(3.15)
β_{MKT}	0.004	0.035	-0.661***
	(0.06)	(0.51)	(-4.71)
β_{SMB}	0.240*	0.311***	-0.291
	(1.77)	(2.63)	(-0.78)
β_{HML}	-0.207	-0.089	-0.335***
	(-1.57)	(-0.72)	(-2.62)
β_{UMD}	-0.189***	-0.186**	-0.157*
	(-3.22)	(-2.39)	(-1.69)
Observations	167	167	83

Panel C: Return decomposition

	Raw return	CF news	DR news
	(1)	(2)	(3)
Long-only portfolio	0.015***	-0.165	1.163***
	(2.65)	(-1.44)	(10.12)

Table V: Lame-duck CEO performance: Earnings announcements

This table presents cumulative abnormal returns (CARs) around quarterly earnings announcements. The dependent variable in Panel A is the 7-day event window cumulative abnormal returns around the earning announcements, and the dependent variable in Panel B is the 11-day event window cumulative abnormal returns around the earning announcements. *Protracted* is a dummy variable that takes value 1 if the quarterly earnings announcements happen between the incumbent CEO departure announcement (e_0) and the successor announcement (e_1), 0 otherwise. Other controls are defined in the appendix. The numbers in parentheses are t-statistics based on heteroskedasticity-robust standard errors clustered at the firm level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Dependent variable: Quarterly earnings CAR[-3,+3]						
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.014***	0.014***	0.011**	0.014***	0.013**	0.012**
	(2.79)	(2.69)	(2.12)	(2.67)	(2.56)	(2.30)
Ln(Assets)				0.001***	0.001***	-0.012***
				(3.33)	(2.77)	(-12.17)
Ind-adj ROA				0.032**	0.034**	0.040**
				(2.29)	(2.27)	(2.05)
Leverage				0.000	0.001	0.008**
				(0.15)	(0.53)	(2.06)
Market-to-book				0.000*	0.000**	-0.000
				(1.73)	(2.17)	(-1.25)
Dividend payer				-0.000	-0.001	-0.004***
				(-0.74)	(-1.64)	(-3.81)
Industry FE	No	Yes	No	No	Yes	No
Firm FE	No	No	Yes	No	No	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	183,285	183,285	183,285	183,285	183,285	183,285
Adjusted R^2	0.004	0.005	0.022	0.005	0.006	0.024

Panel B: Dependent variable: Quarterly earnings CAR[-5,+5]						
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.019***	0.019***	0.016***	0.019***	0.018***	0.017***
	(3.43)	(3.27)	(2.82)	(3.32)	(3.15)	(3.02)
Ln(Assets)				0.001***	0.000**	-0.014***
				(2.90)	(2.39)	(-12.77)
Ind-adj ROA				0.037***	0.039**	0.047**
				(2.59)	(2.56)	(2.30)
Leverage				0.000	0.001	0.015***
				(0.02)	(0.51)	(2.78)
Market-to-book				0.000	0.000	-0.000
				(1.04)	(1.39)	(-1.32)
Dividend payer				-0.001	-0.001*	-0.006***
				(-0.96)	(-1.68)	(-4.32)
Industry FE	No	Yes	No	No	Yes	No
Firm FE	No	No	Yes	No	No	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	183,285	183,285	183,285	183,285	183,285	183,285
Adjusted R^2	0.007	0.007	0.024	0.008	0.008	0.026

Table VI: Robustness: Portfolio returns

This table reports robustness results to the calendar-time portfolio returns. In Panel A, we show the alphas (α) from time-series regressions of monthly excess returns on liquidity augmented Carhart model (Pástor and Stambaugh, 2003), and the profitability and investment augmented Carhart model (Fama and French, 2015). In Panel B, we use alternative holding periods for our benchmark model. We extend the holding period of the long-only portfolio to the end of the month the new CEO takes office (e_2), and we extend the holding period for prompt succession firms to the average protracted succession length (6 months) for the long-short portfolio. In columns (1) to (3), we calculate monthly excess return over the risk-free rate, the industry-matched benchmark, or the characteristics-matched benchmark, respectively. The numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Alternative risk model

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
Liquidity augmented Carhart model			
Long-only α	0.008**	0.006**	0.016**
	(2.32)	(2.02)	(2.56)
Long-short α	0.008***	0.007**	0.015***
	(2.78)	(2.21)	(3.01)
Momentum augmented Fama-French five-factor model			
Long-only α	0.007**	0.005*	0.013**
	(2.09)	(1.90)	(2.12)
Long-short α	0.007**	0.006**	0.012**
	(2.14)	(2.15)	(2.38)

Panel B: Alternative holding period

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
Extended lame-duck CEO term			
Long-only α	0.007***	0.006**	0.013**
	(2.61)	(2.23)	(2.55)
Alternative prompt succession holding			
Long-short α	0.007***	0.006*	0.012***
	(2.58)	(1.94)	(3.62)

Table VII: Robustness: Matched sample returns

This table shows the robustness of the calendar-time portfolio returns using a matched firm sample. Panel A shows the determinants of protracted succession and its length. In column (1), the dependent variable takes value 1 for *protracted successions*, 0 otherwise. In column (2), the dependent variable is the length of the lame-duck CEO term measured in days. Panel B shows sample averages for the *protracted successions* and matched *prompt successions* samples. In Panel C, we show the alphas (α) from time-series regressions of monthly excess returns on the Carhart (1997) four factors using the matched sample. In columns (1) to (3), we calculate monthly excess return over the risk-free rate, the industry-matched benchmark, or the characteristics-matched benchmark, respectively. In Panels A and B, the numbers in parentheses are t-statistics based on heteroskedasticity-robust standard errors. In Panel C, the numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Determinants of protracted succession

Dependent variable		Lame-duck
	Protracted	CEO term
	(1)	(2)
Ln(Assets)	-0.026***	-6.668
	(-3.56)	(-1.19)
Market-to-book	-0.026***	10.832*
	(-4.05)	(1.83)
Leverage	-0.001	25.959
	(-0.02)	(0.72)
Ind-adj ROA	-0.162***	-6.039
	(-2.76)	(-0.18)
Dividend payer	-0.033	-13.145
	(-1.34)	(-1.03)
Controls	Yes	Yes
Event Year FE	Yes	Yes
Observations	1,857	584
Adjusted R^2	0.046	0.045

Panel B: Matched sample differences

	Matched Prompt	Protracted	Difference	t-stats
	(1)	(2)	(3)	(4)
Ln(Assets)	7.293	7.301	-0.009	(-0.090)
Ind-adj ROA	0.046	0.043	0.004	(0.370)
Leverage	0.220	0.227	-0.00	(-0.609)
Market-to-book	1.511	1.512	-0.001	(-0.017)
Dividend payer	0.438	0.426	0.012	(0.411)

Panel C: Calendar-time portfolio

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
Long-only α	0.008**	0.006**	0.015***
	(2.37)	(2.01)	(2.64)
Long-short α	0.007**	0.006**	0.011**
	(2.03)	(1.98)	(2.16)

Table VIII: Robustness: Characteristics regression

This table reports the Fama-MacBeth cross-sectional regressions (Panel A) and the pooled OLS regressions with industry and time-fixed effects (Panel B). The dependent variable is raw monthly returns, Fama-French 48 industry adjusted monthly returns, and characteristics portfolio adjusted monthly returns in columns (1) and (4), (2) and (5), and (3) and (6), respectively. *Protracted* is a dummy variable that takes value 1 between the incumbent CEO departure announcement (e_0) and the successor announcement (e_1), 0 otherwise. Other controls are defined in the appendix. In Panel A, the numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). In Panel B, the numbers in parentheses are t-statistics based on standard errors that are two-way clustered at the Fama-French 48 industry and at the year-month level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Fama-Macbeth regression

Dependent variable	Raw	Industry	Charact.	Raw	Industry	Charact.
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.008***	0.007**	0.015***	0.009***	0.008***	0.014***
	(2.95)	(2.53)	(2.98)	(3.10)	(2.65)	(2.96)
Size				-0.000	-0.000	-0.001
				(-0.42)	(-0.29)	(-0.58)
Book-to-market				0.002**	0.002***	0.004**
				(2.12)	(2.71)	(2.48)
Dividend yield				-0.002**	-0.002**	-0.049***
				(-2.36)	(-2.21)	(-3.52)
Ret2-3				0.003	0.003	0.004
				(0.78)	(0.92)	(0.68)
Ret4-6				-0.001	-0.001	-0.004
				(-0.21)	(-0.22)	(-0.63)
Ret7-12				-0.001	-0.001	-0.004
				(-0.36)	(-0.54)	(-1.16)
Trading volume				0.019	0.017	0.027
				(1.61)	(1.56)	(1.43)
Stock price				0.000	0.000	0.000
				(0.80)	(0.93)	(0.70)
Observations	506,163	506,163	213,677	506,163	506,163	213,677
R^2	0.000	0.000	0.000	0.026	0.022	0.029
Number of groups	168	168	168	168	168	168

Panel B: Pooled OLS regression

Dependent variable	Raw	Industry	Charact.	Raw	Industry	Charact.
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.007***	0.006**	0.014***	0.007***	0.006**	0.013**
	(3.05)	(2.64)	(2.70)	(3.07)	(2.66)	(2.58)
Size				-0.000	-0.000	-0.001
				(-0.34)	(-0.26)	(-0.80)
Book-to-market				0.002***	0.002***	0.006***
				(3.09)	(3.11)	(2.78)
Dividend yield				-0.000**	-0.000**	-0.026
				(-2.20)	(-2.17)	(-1.56)
Ret2-3				0.003	0.004	0.003
				(0.69)	(0.93)	(0.55)
Ret4-6				-0.001	-0.001	-0.003
				(-0.25)	(-0.26)	(-0.63)
Ret7-12				0.001	0.001	0.000
				(0.66)	(0.57)	(0.16)
Trading volume				0.010	0.011	0.012
				(1.10)	(1.39)	(0.97)
Stock price				0.000	0.000*	0.000
				(1.64)	(1.72)	(1.58)
Year-month FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	506,163	506,163	213,677	506,163	506,163	213,677
Adjusted R^2	0.130	0.022	0.114	0.130	0.022	0.115

Table IX: Volatility change

This table presents results on return volatility. Panels A and B show cross-sectional results on changes in realized and realized idiosyncratic return volatility around the incumbent CEO's departure announcement (e_0), respectively. *Protracted* is a dummy variable that takes value 1 if the incumbent CEO's departure announcement (e_0) takes place at least 7 days before the announcement of the successor (e_1); 0 otherwise. In columns (1) and (2), (3) and (4), and (5) and (6), the dependent variable is the changes in average stock return volatility estimated over 90 days, 6 months, and 12 months periods before and after the incumbent CEO's departure announcement, respectively. Other controls are defined in the appendix. All regressions include industry and event-year fixed effects. The numbers in parentheses are t-statistics based on heteroskedasticity-robust standard errors. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Realized return volatility

Dependent variable	Δ Vol 90 days		Δ Vol 6 months		Δ Vol 12 months	
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.325	0.167	0.728	0.564	0.305	0.145
	(0.28)	(0.14)	(1.59)	(1.34)	(0.73)	(0.36)
Ln(Assets)		-0.285		-0.115		-0.184
		(-0.77)		(-0.68)		(-1.35)
Ind-adj ROA		5.595		-2.708		-5.608**
		(1.29)		(-1.13)		(-2.42)
Leverage		1.497		0.261		0.289
		(0.73)		(0.31)		(0.30)
Market-to-book		-0.647**		-0.387***		-0.219
		(-2.01)		(-3.22)		(-1.63)
Dividend payer		0.470		0.032		0.584
		(0.42)		(0.07)		(1.55)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Event Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,646	1,640	1,633	1,629	1,614	1,611
Adjusted R^2	0.135	0.139	0.108	0.113	0.182	0.194

Panel B: Realized idiosyncratic return volatility

Dependent variable	Δ Vol 90 days		Δ Vol 6 months		Δ Vol 12 months	
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	-1.567	-1.968	1.068	1.063	1.119	0.796
	(-0.61)	(-0.73)	(0.62)	(0.63)	(1.12)	(0.82)
Ln(Assets)		-0.101		-0.113		-0.156
		(-0.17)		(-0.20)		(-0.44)
Ind-adj ROA		-4.802		-12.485		-17.767**
		(-0.54)		(-1.21)		(-2.13)
Leverage		-0.076		9.159**		4.369
		(-0.03)		(2.34)		(1.33)
Market-to-book		-1.143		0.356		0.128
		(-1.63)		(0.54)		(0.23)
Dividend payer		3.153		-0.310		0.884
		(1.22)		(-0.18)		(0.92)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Event Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,656	1,648	1,629	1,626	1,633	1,630
Adjusted R^2	0.001	-0.000	0.056	0.068	0.084	0.116

Table X: Potential mechanisms: Portfolio returns

This table explores the potential mechanism behind our portfolio returns results. For each potential mechanism, we sort firms into two portfolios based on whether the mechanism is present or not. We show the two portfolios αs from the long-only portfolio of monthly excess returns over risk-free rate on the Carhart (1997) four factors in columns (1) and (2). Column (3) shows the spread between the two αs. In each row of Panel A, we sort firms into two portfolios based on corporate governance characteristics: whether the firm has board size smaller than the industry median (*Small board size*); whether the firm has a portion of independent directors larger the industry median (*High board independence*); whether the incumbent CEO is also chairman of the board (*Duality*); whether the CEO succession involves an interim CEO and the interim CEO is finally promoted to the permanent CEO position (*Interim CEO*); and whether the firm mentions succession planning in the most recent proxy statement (*Succession planning*). In each row of Panel B, we sort firms into the two portfolios based on different incumbent CEO and turnover characteristics: whether the incumbent CEO is older than the industry median (*High incumbent CEO age*); whether the tenure of the incumbent CEO is longer than the industry median (*High incumbent CEO tenure*); whether the incumbent CEO is forced to departure (*Forced turnover*); and whether the CEO departure announcement (e_0) returns are positive (*Positive turnover announcement CAR*). In each row of Panel C, we sort firms into two portfolios based on tournament competition measures: whether the firm appoints an internal successor (*Internal*); whether the firm appoints an internal successor and the tournament competition between senior executives is higher than the industry median (*Internal tournament*); whether the firm appoints an internal successor and the firm operates in an industry with above median internal promotion rate (*Internal industry*). The numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Corporate governance characteristics

	Yes	No	Difference
	(1)	(2)	(3)
Small board size	0.007*	0.010*	-0.003
	(1.70)	(1.93)	(-0.55)
High board independence	0.001	0.007**	-0.006
	(0.45)	(2.46)	(-1.59)
Duality	0.004	0.003	0.001
	(1.11)	(1.40)	(0.26)
Interim CEO	0.007	0.007*	-0.001
	(1.16)	(1.96)	(-0.06)
Succession planning	0.010	0.007**	0.003
	(1.62)	(2.15)	(0.58)

Panel B: Incumbent CEO and turnover characteristics

	Yes	No	Difference
	(1)	(2)	(3)
High incumbent CEO age	0.004	0.011*	-0.007
	(1.48)	(1.93)	(-1.21)
High incumbent CEO tenure	0.009**	0.005	0.004
	(2.50)	(1.37)	(1.51)
Forced turnover	0.006	0.010**	-0.004
	(1.40)	(2.16)	(-1.18)
Positive turnover announcement CAR	0.002	0.013**	-0.011
	(0.28)	(2.16)	(-1.61)

Panel C: Tournament competition

	Yes	No	Difference
	(1)	(2)	(3)
Internal	0.017**	0.003	0.014**
	(2.49)	(1.25)	(2.12)
Internal tournament	0.025***	0.001	0.024***
	(2.77)	(0.71)	(2.60)
Internal industry	0.019**	0.001	0.018**
	(2.36)	(0.35)	(2.07)

Table XI: Potential mechanisms: Earnings announcements

This table explores the potential mechanism behind our earnings announcement results. The dependent variable is the [-3, +3] cumulative abnormal returns (CARs) around quarterly earnings announcements during the lame-duck CEO term. In Panel A, the key independent variables are governance characteristics: *Small board size* takes value 1 when the firm has smaller board size than the industry median, 0 otherwise. *High board independence* takes value 1 when the firm has a fraction of independent director above the industry median, 0 otherwise. *Duality* takes value 1 if the incumbent CEO is also chairman of the board, 0 otherwise. *Interim CEO* takes value 1 when the succession involves an interim CEO and the interim CEO is finally promoted to the permanent position, 0 otherwise. *Succession planning* takes value 1 when the firm mentions succession planning in the most recent proxy statement, 0 otherwise. In Panel B, the key independent variables are incumbent CEO and turnover characteristics: *High incumbent CEO age* takes value 1 when the incumbent CEO is older than the industry median, 0 otherwise. *High incumbent CEO tenure* takes value 1 when the tenure of the incumbent CEO is longer than the industry median, 0 otherwise. *Forced turnover* takes value 1 when the incumbent CEO is forced to departure, 0 otherwise. *Positive turnover announcement CAR* takes value 1 when the CEO departure announcement (e_0) returns are positive, 0 otherwise. In Panel C, the key independent variables are tournament characteristics: *Internal* takes value 1 when the firm appoints an internal successor, 0 otherwise. *Internal tournament* takes value 1 when the firm appoints an internal successor and the tournament competition between senior executives is higher than the industry median, 0 otherwise. *Internal industry* takes value 1 when the firm appoints an internal successor and the firm operates in an industry with above median internal promotion rate, 0 otherwise. All regressions include time-varying controls and year-quarter fixed effects as in Table V, column (4). The numbers in parentheses are t-statistics based on heteroskedasticity-robust standard errors clustered at the industry level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Corporate governance characteristics

	(1)	(2)	(3)	(4)	(5)
Small board size	0.008				
	(0.83)				
High board independence		-0.003			
		(-0.27)			
Duality			0.002		
			(0.17)		
Interim CEO				-0.005	
				(-0.32)	
Succession planning					0.011
					(1.08)
Controls	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes
Observations	659	659	659	659	659
Adjusted R^2	0.062	0.061	0.061	0.061	0.062

Panel B: Incumbent CEO and turnover characteristics

	(1)	(2)	(3)	(4)
High incumbent CEO age	-0.002			
	(-0.16)			
High incumbent CEO tenure		0.001		
		(0.14)		
Forced turnover			0.005	
			(0.40)	
Positive turnover announcement CAR				-0.014
				(-1.08)
Controls	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
Observations	631	631	631	631
Adjusted R^2	0.137	0.137	0.137	0.139

Panel C: Tournament competition

	(1)	(2)	(3)
Internal	0.022**		
	(2.41)		
Internal tournament		0.029**	
		(2.14)	
Internal industry			0.032**
			(2.58)
Controls	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
Observations	660	660	660
Adjusted R^2	0.067	0.066	0.067

Table XII: Subperiods within protracted successions

This table presents the calendar-time portfolio returns for different subperiods within protracted successions. We show the alphas (α) from time-series regressions of monthly returns over the risk-free rate on the Carhart (1997) four factors. In Panel A, we include firms in the portfolio in the month before they announce the protracted succession, and we exclude it from the portfolio at the end of the month of the successor announcement. In Panel B, we include the firm in the portfolio at the end of the month of incumbent CEO departure announcements, and we exclude it from the portfolio at the end of the month before they announce the new CEO's identity. In each panel, we show the long-only portfolio α and the internal tournament portfolio split. The numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Including the incumbent CEO departure month

	Yes	No	Difference
	(1)	(2)	(3)
Long-only α	-0.000		
	(-0.05)		
Internal tournament	0.013*	-0.005**	0.018***
	(1.66)	(-2.12)	(2.92)

Panel B: Excluding the successor CEO announcement month

	Yes	No	Difference
	(1)	(2)	(3)
Long-only α	0.003		
	(1.17)		
Internal tournament	0.024**	-0.001	0.025**
	(2.50)	(-0.65)	(2.12)

Table XIII: Real effects

This table presents the real effects of internal tournaments in protracted successions. Panel A focuses on accounting performance measures, and Panel B focuses on earnings management measures. The dependent variable is the three-year average accounting performance (or earnings management (EM)) measure after the CEO succession event minus the three-year average accounting performance (or earnings management (EM)) measure before the CEO succession event. In Panel A, the dependent variables are industry-adjusted return-on-asset, industry-adjusted market-book-ratio, firm total asset, and firm operating income in columns (1) to (4), respectively. In Panel B, the dependent variables are discretionary accruals, total accruals, write-offs, and firm restructure cost, respectively, in columns (1) to (4), respectively. *Protracted* is a dummy that takes value 1 if the incumbent CEO's departure announcement (e_0) takes place at least 7 days before the announcement of the successor (e_1); 0 otherwise. *Internal tournament* is a dummy variable that takes value 1 if the firm appoints an internal successor and the tournament competition between senior executives is higher than the industry median. All regressions include time-varying firm characteristics, event-year fixed effects, and Fama-French 48 industry fixed effects. The numbers in parentheses are t-statistics based on standard errors that are clustered at the industry level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Accounting Performance

Dependent variable	$\sum_{n=1}^{3}(Performance_{t+n} - Performance_{t-n})$			
	ROA	MTB	Assets	Operating income
	(1)	(2)	(3)	(4)
Protracted × Internal tournament	0.040**	0.334	1481.762*	407.068**
	(2.34)	(1.40)	(1.66)	(2.12)
Internal tournament	-0.012	-0.055	-715.543**	-101.393
	(-1.64)	(-0.73)	(-2.08)	(-1.46)
Protracted	-0.001	0.043	-744.972*	-117.058
	(-0.09)	(0.68)	(-1.77)	(-1.22)
Controls	Yes	Yes	Yes	Yes
Event Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	1,579	1,579	1,579	1,579
Adjusted R^2	0.124	0.096	0.005	0.032

Panel B: Earnings management

Dependent variable	$\sum_{n=1}^{3}(EM_{t+n} - EM_{t-n})$			
	DA	TA	Write-off	Restructure
	(1)	(2)	(3)	(4)
Protracted × Internal tournament	0.330	-0.002	0.001	0.147
	(0.79)	(-0.12)	(0.08)	(1.10)
Internal tournament	0.046	-0.005	-0.005	0.008
	(0.20)	(-1.06)	(-1.23)	(1.36)
Protracted	0.185	0.003	0.004	0.002
	(1.01)	(0.63)	(0.96)	(0.22)
Controls	Yes	Yes	Yes	Yes
Event Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	1,526	1,526	1,526	496
Adjusted R^2	0.018	0.049	0.015	0.148

Appendices

A.I: Variable definitions

Assets	Fiscal year-end total assets (in millions). *Source: Compustat*
Board size	The number of directors in the firm. *Source: ISS Director*
Book-to-market	Inverse of the market-to-book ratio. *Source: Compustat, CRSP*
Quarterly earnings CAR	3-day window cumulative abnormal returns around quarterly earnings announcements, calculated over a market model with a -255 to -46 day estimation window. *Source: CRSP*
CEO age	Age of the incumbent CEO at the departure announcement. *Source: Execucomp, hand collected*
CEO tenure	Number of years that the incumbent CEO served as CEO. *Source: Execucomp, hand collected*
Characteristics-adjusted return	Monthly raw stock returns excess of the corresponding characteristic-based mutual fund returns. The mutual fund returns are obtained from Prof. Russ Wermers' website. (The data end in October 2013) *Source: CRSP, Russ Wermers' website*
DA	Yearly discretionary accruals, calculated following the method in Bergstresser and Philippon (2006). *Source: Compustat*
Dividend yield	Firm's dividend yield in %. *Source: Compustat, CRSP*
Dividend payer	Equals 1 if DVC $>$ 0, and 0 otherwise, calculated following the method in Leary and Roberts (2014). *Source: Compustat*
Duality	A dummy variable that measures whether the incumbent CEO is also the chairman of the board. *Source: ISS Governance, Execucomp, hand collected*
Forced turnover	A dummy variable that measures whether the incumbent CEO was forced to leave. *Source: hand-collected following the method in Jenter and Kanaan (2015)*
High incumbent CEO age	A dummy variable that measures whether the incumbent CEO's age is higher than the Fama-French 48 industry median level. *Source: Execucomp, hand collected*
High incumbent CEO tenure	A dummy variable that measures whether the incumbent CEO's tenure is longer than the Fama-French 48 industry median level. *Source: Execucomp, hand collected*
High board independence	A dummy variable that measures whether the percentage of independent directors on the board is higher than the Fama-French 48 industry median level. *Source: ISS Director*

High tournament	A dummy variable that indicates whether the intensity of the tournament competition (promotion probability) among senior executives below the rank of CEO is higher than the Fama-French 48 industry median level. The tournament competition level is measured as the standard deviation of senior executives' base salary. The higher the standard deviation, the lower the tournament competition level. *Source: Execucomp*
Independence rate	The ratio of independent director number to the board size *Source: ISS Director*
Ind-adj ROA	Fama-French 48 industry adjusted return on assets. The return on assets is defined as OIBDP /total assets. *Source: Compustat*
Industry-adjusted return	Monthly raw stock returns excess of the corresponding Fama-French 48 industry returns. *Source: CRSP*
Internal	A dummy variable that measures whether the new CEO is promoted from within the firm. *Source: Hand collected*
Internal tournament	A dummy variable that indicates that the firm promotes an internal candidate to the CEO position, and also that the intensity of the tournament competition (promotion probability) among senior executives below the CEO rank is higher than the Fama-French 48 industry median level. The tournament competition level is measured as the standard deviation of senior executives' base salary. The higher the standard deviation, the lower the tournament competition level. *Source: Execucomp, hand collected*
Internal industry	A dummy variable that indicates that the firm promotes an internal candidate to the CEO position, and whether the firm is within a Fama-French 48 industry that has an internal successor hiring rate above the median level. *Source: Execucomp, Eisfeldt and Kuhnen (2013)*
Interim CEO	A dummy variable that measures whether the interim CEO has been promoted to the permanent CEO position. *Source: Hand collected*
Leverage	Book leverage of firms, defined as (DLC + DLTT)/total assets, calculated following the method of Leary and Roberts (2014). *Source: Compustat*
Ln(Assets)	Log value of total assets. *Source: Compustat*
Market-to-book	(PRCC_F*CSHPRI + DLTT + DLC + PSTKL - TXDITC)/Total assets, calculated following the method of Leary and Roberts (2014).
Operating Income	Fiscal year end OIBDP (in millions) *Source: Compustat*

Positive turnover announcement CAR	A dummy variable that measures whether the announcement return associated with the incumbent CEO departure announcement is positive. The abnormal return is the cumulative abnormal return over the 3-day event window and is calculated over a market model with a -255 to -46 day estimation window. *Source: CRSP*
Protracted	A dummy variable that measures whether the CEO succession event is a protracted succession. *Source: Hand collected*
Raw return	Monthly raw stock returns. *Source: CRSP*
Restructure	Restructuring charges, measured as RCA /sales. *Source: Compustat*
Ret2-3	Stock compounded returns from months t-3 to month t-2. *Source: CRSP*
Ret4-6	Stock compounded returns from months t-6 to month t-4. *Source: CRSP*
Ret7-12	Stock compounded returns from months t-12 to month t-7. *Source: CRSP*
Size	Log of the firm's market capitalization (in billions) at the end of month t-2. *Source: CRSP*
Small board size	A dummy variable that measures whether the size of the board is smaller than the Fama-French 48 industry median level. *Source: ISS Governance*
Stock price	Stock price at the end of month t-2. *Source: CRSP*
Succession planning	A dummy variable that measures whether the firm mentions "succession plan" at least once in the most recent proxy filing before the turnover event. *Source: SEC Edgar proxy statement fillings*
TA	Yearly total accruals, calculated following the method in Bergstresser and Philippon (2006). *Source: Compustat*
Trading volume	Trading volume (in billions) in month t-2. *Source: CRSP*
Turnover announcement CAR	3-day window cumulative abnormal returns around the incumbent CEO departure announcement(e_0), calculated over a market model with a -255 to -46 day estimation window. *Source: CRSP*
Write-offs	Asset write-offs, measured as abs(SPI)/Total $asset_{t-1}$ if abs(SPI)/Total $asset_{t-1} > 0.01$, and 0 otherwise. *Source: Compustat*
Δ Vol x	Changes in realized volatility x days after and x days before the CEO succession event. *Source: CRSP*
Δ IVol x	Changes in idiosyncratic volatility x days after and x days before the CEO turnover event. *Source: CRSP*

A.II: Lame-duck CEO performance: Portfolio returns with one month gap between e_0 and e_1

This table reports the calendar-time portfolio returns. We show the alphas (α) from time-series regressions of monthly excess returns on the Carhart (1997) four factors. In columns (1) to (3), we calculate monthly excess return over the risk-free rate, the industry-matched benchmark, or the characteristics-matched benchmark, respectively. Panel A shows alphas associated with the portfolio long in *protracted succession* firms (firms with lame-duck CEOs). Panel B shows alphas associated with the hedged portfolio that is long in *protracted succession* firms and short in *prompt succession* firms, where the holding period for prompt succession firms equals the median protracted succession length (5 months). Panel C presents the return decomposition. Column (1) shows the total monthly raw return for the long-only portfolio of *protracted succession* firms, while columns (2) and (3) show the portion of return variance that is related to cash flow news and discount rate news, respectively. In Panels A and B, the numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). In Panel C, the numbers in parentheses are t-statistics based on Hansen and Hodrick (1980) standard errors. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Long-only portfolio

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
α	0.007**	0.006*	0.014***
	(2.23)	(1.86)	(2.62)
β_{MKT}	1.111***	0.103*	0.467***
	(17.86)	(1.66)	(3.05)
β_{SMB}	0.767***	0.669***	0.348
	(6.61)	(6.04)	(1.00)
β_{HML}	-0.160	0.077	-0.263
	(-1.07)	(0.58)	(-1.58)
β_{UMD}	-0.427***	-0.387***	-0.415***
	(-4.19)	(-3.27)	(-3.33)
Observations	167	167	83

Panel B: Long-short portfolio

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
α	0.008**	0.007**	0.014***
	(2.54)	(2.01)	(3.49)
β_{MKT}	0.006	0.037	0.095
	(0.10)	(0.54)	(1.36)
β_{SMB}	0.219*	0.289**	0.016
	(1.65)	(2.32)	(0.08)
β_{HML}	-0.223*	-0.104	-0.365***
	(-1.78)	(-0.89)	(-2.99)
β_{UMD}	-0.191***	-0.188**	-0.093
	(-3.01)	(-2.28)	(-0.87)

A.III: Robustness: Portfolio returns with one month gap between e_0 and e_1

This table reports the robustness of the results on the calendar-time portfolio returns. In Panel A, we show the alphas (α) from time-series regressions of monthly excess returns on liquidity augmented Carhart model (Pástor and Stambaugh, 2003), and the profitability and investment augmented Carhart model (Fama and French, 2015). In Panel B, we use alternative holding periods for our benchmark model. We extend the holding period of the long-only portfolio to the end of the month the new CEO takes office (e_2), and we extend the holding period for prompt succession firms equal to the average protracted succession length (6 months) for the long-short portfolio. In columns (1) to (3), we calculate monthly excess return over the risk-free rate, the industry-matched benchmark, or the characteristics-matched benchmark, respectively. The numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Alternative risk model	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
Liquidity augmented Carhart model			
Long-only α	0.007**	0.006**	0.015**
	(2.21)	(1.98)	(2.53)
Long-short α	0.008**	0.007**	0.014***
	(2.51)	(2.09)	(3.17)
Momentum augmented Fama-French five-factor model			
Long-only α	0.006**	0.005*	0.013**
	(1.97)	(1.77)	(2.10)
Long-short α	0.007**	0.006*	0.012***
	(2.05)	(1.93)	(3.76)
Panel B: Alternative holding period	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
Extended lame-duck CEO term			
Long-only α	0.007**	0.006**	0.012**
	(2.50)	(2.08)	(2.47)
Alternative prompt succession holding			
Long-short α	0.006**	0.005*	0.012***
	(2.25)	(1.73)	(3.54)

A.IV: Robustness: Matched sample returns with one month gap between e_0 and e_1

This table shows the robustness of the calendar-time portfolio returns using a matched firm sample. Panel A shows the determinants of protracted succession and its length. In column (1), the dependent variable takes value 1 for *protracted successions*, 0 otherwise. In column (2), the dependent variable is the length of the lame-duck CEO term in the number of days. Panel B shows sample averages for the *protracted successions* and matched *prompt successions* samples. In Panel C, we show the alphas (α) from time-series regressions of monthly excess returns on the Carhart (1997) four factors using the matched sample. In columns (1) to (3), we calculate monthly excess return over the risk-free rate, the industry-matched benchmark, or the characteristics-matched benchmark, respectively. In Panels A and B, the numbers in parentheses are t-statistics based on heteroskedasticity-robust standard errors. In Panel C, the numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Determinants of protracted succession

Dependent variable	Protracted	Lame-duck CEO term
	(1)	(2)
Ln asset	-0.027***	-6.388
	(-3.68)	(-1.08)
Market-to-book	-0.025***	9.756
	(-3.90)	(1.63)
Leverage	0.000	26.826
	(0.01)	(0.72)
Ind-adj ROA	-0.146**	-13.735
	(-2.45)	(-0.40)
Dividend payer	-0.032	-14.287
	(-1.29)	(-1.12)
Controls	Yes	Yes
Event Year FE	Yes	Yes
Observations	1,839	562
Adjusted R^2	0.047	0.047

Panel B: Matched sample differences

	Matched Prompt	Protracted	Difference	t-stats
	(1)	(2)	(3)	(4)
Ln asset	7.344	7.296	0.048	(0.504)
Ind-adj ROA	0.049	0.046	0.003	(0.296)
Leverage	0.220	0.225	-0.005	(-0.437)
Market-to-book	1.514	1.524	-0.010	(-0.144)
Dividend payer	0.436	0.426	0.011	(0.360)

Panel C: Calendar-time portfolio

	Excess returns over		
	Risk-free	Industry	Charact.
	(1)	(2)	(3)
Long-only α	0.007**	0.006*	0.014***
	(2.25)	(1.92)	(2.62)
Long-short α	0.008***	0.008**	0.013***
	(3.05)	(2.24)	(2.72)

A.V: Robustness: Characteristics regression with one month gap between e_0 and e_1

This table reports the Fama-MacBeth cross-sectional regressions (Panel A) and the pooled OLS regressions with industry and time-fixed effects (Panel B). The dependent variable is raw monthly returns, Fama-French 48 industry-adjusted monthly returns, and characteristics portfolio-adjusted monthly returns in columns (1) and (4), (2) and (5), and (3) and (6), respectively. *Protracted* is a dummy variable that takes value 1 between the incumbent CEO departure announcement (e_0) and the successor announcement (e_1), 0 otherwise. Other controls are defined in the appendix. In Panel A, the numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). In Panel B, the numbers in parentheses are t-statistics based on standard errors that are two-way clustered at the Fama-French 48 industry and at the year-month level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Fama-Macbeth regression

Dependent variable	Raw	Industry	Charact.	Raw	Industry	Charact.
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.008***	0.007**	0.015***	0.008***	0.007**	0.014***
	(2.87)	(2.45)	(2.97)	(3.03)	(2.57)	(2.95)
Size				-0.000	-0.000	-0.001
				(-0.42)	(-0.29)	(-0.58)
Book-to-market				0.002**	0.002***	0.004**
				(2.12)	(2.71)	(2.48)
Dividend yield				-0.000**	-0.000**	-0.000***
				(-2.36)	(-2.21)	(-3.52)
Ret2-3				0.003	0.003	0.004
				(0.78)	(0.92)	(0.68)
Ret4-6				-0.001	-0.001	-0.004
				(-0.21)	(-0.22)	(-0.63)
Ret7-12				-0.001	-0.001	-0.004
				(-0.36)	(-0.54)	(-1.16)
Trading volume				0.019	0.017	0.027
				(1.61)	(1.56)	(1.43)
Stock price				0.000	0.000	0.000
				(0.80)	(0.93)	(0.70)
Observations	506,163	506,163	213,677	506,163	506,163	213,677
R^2	0.000	0.000	0.000	0.026	0.022	0.029
Number of groups	168	168	168	168	168	168

Panel B: Pooled OLS regression

Dependent variable	Raw	Industry	Charact.	Raw	Industry	Charact.
	(1)	(2)	(3)	(4)	(5)	(6)
Protracted	0.007***	0.006**	0.014**	0.007***	0.006**	0.013**
	(2.96)	(2.57)	(2.69)	(2.99)	(2.59)	(2.56)
Size				-0.000	-0.000	-0.001
				(-0.33)	(-0.26)	(-0.80)
Book-to-market				0.002***	0.002***	0.006***
				(3.09)	(3.11)	(2.78)
Dividend yield				-0.000**	-0.000**	-0.000
				(-2.20)	(-2.17)	(-1.56)
Ret2-3				0.003	0.004	0.003
				(0.69)	(0.93)	(0.55)
Ret4-6				-0.001	-0.001	-0.003
				(-0.25)	(-0.26)	(-0.63)
Ret7-12				0.001	0.001	0.000
				(0.66)	(0.57)	(0.16)
Trading volume				0.010	0.011	0.012
				(1.10)	(1.39)	(0.97)
Stock price				0.000	0.000*	0.000
				(1.64)	(1.72)	(1.58)
Year-month FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	506,163	506,163	213,677	506,163	506,163	213,677
Adjusted R^2	0.130	0.022	0.114	0.130	0.022	0.115

A.VI: Potential mechanisms: Portfolio returns with one month gap between e_0 and e_1

This table explores the potential mechanism behind our portfolio returns results. For each potential mechanism, we sort firms into two portfolios based on whether the mechanism is present or not. We show the two portfolios αs from the long-only portfolio of monthly excess returns over risk-free rate on the Carhart (1997) four factors in columns (1) and (2). Column (3) shows the spread between the two αs. In each row of Panel A, we sort firms into two portfolios based on corporate governance characteristics: whether the firm has a board size smaller than the industry median (*Small board size*); whether the firm has a portion of independent directors larger the industry median (*High board independence*); whether the incumbent CEO is also chairman of the board (*Duality*); whether the CEO succession involves an interim CEO and the interim CEO is finally promoted to the permanent CEO position (*Interim CEO*); and whether the firm mentions succession planning in the most recent proxy statement (*Succession planning*). In each row of Panel B, we sort firms into the two portfolios based on different incumbent CEO and turnover characteristics: whether the incumbent CEO is older than the industry median (*High incumbent CEO age*); whether the tenure of the incumbent CEO is longer than the industry median (*High incumbent CEO tenure*); whether the incumbent CEO is forced to departure (*Forced turnover*); and whether the CEO departure announcement (e_0) returns are positive (*Positive turnover announcement CAR*). In each row of Panel C, we sort firms into two portfolios based on tournament competition measures: whether the firm appoints an internal successor (*Internal*); whether the firm appoints an internal successor and the tournament competition between senior executives is higher than the industry median (*Internal tournament*); whether the firm appoints an internal successor and the firm operates in an industry with above median internal promotion rate (*Internal industry*). The numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Corporate governance characteristics

	Yes	No	Difference
	(1)	(2)	(3)
Small board size	0.007*	0.010*	-0.003
	(1.67)	(1.87)	(-0.53)
High board independence	0.001	0.007**	-0.006
	(0.42)	(2.18)	(-1.36)
Duality	0.005	0.003	0.002
	(1.13)	(1.20)	(0.38)
Interim CEO	0.006	0.007*	-0.001
	(1.06)	(1.94)	(-0.12)
Succession planning	0.011	0.006**	0.004
	(1.61)	(2.00)	(0.69)

Panel B: Incumbent CEO and turnover characteristics

	Yes	No	Difference
	(1)	(2)	(3)
High incumbent CEO age	0.004	0.011*	-0.007
	(1.43)	(1.80)	(-1.14)
High incumbent CEO tenure	0.009**	0.005	0.004
	(2.38)	(1.30)	(1.46)
Forced turnover	0.004	0.010**	-0.006*
	(0.99)	(2.16)	(-1.72)
Positive turnover announcement CAR	0.001	0.013**	-0.011*
	(0.18)	(2.14)	(-1.69)

Panel C: Tournament competition

	Yes	No	Difference
	(1)	(2)	(3)
Internal	0.017**	0.003	0.014**
	(2.49)	(1.25)	(2.12)
Internal tournament	0.024***	0.001	0.023**
	(2.61)	(0.67)	(2.37)
Internal industry	0.019**	0.001	0.018**
	(2.39)	(0.31)	(2.11)

A.VII: Subperiods within protracted successions with one month gap between e_0 and e_1

This table presents the calendar-time portfolio returns for different subperiods within protracted successions. We show the alphas (α) from time-series regressions of monthly returns over the risk-free rate on the Carhart (1997) four factors. In Panel A, we include firms in the portfolio in the month before they announce the protracted succession, and we exclude it from the portfolio at the end of the month of the successor announcement. In Panel B, we include the firm in the portfolio at the end of the month of incumbent CEO departure announcements, and we exclude it from the portfolio at the end of the month before they announce the new CEO's identity. In each panel, we show the long-only portfolio α and the internal tournament portfolio split. The numbers in parentheses are t-statistics based on Newey–West standard errors, using the optimal lag selection proposed by Newey and West (1994). ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Including the incumbent CEO departure month

	Yes	No	Difference
	(1)	(2)	(3)
Long-only α	-0.000		
	(-0.07)		
Internal tournament	0.012	-0.005**	0.017***
	(1.42)	(-2.18)	(2.81)

Panel B: Excluding the successor CEO announcement month

	Yes	No	Difference
	(1)	(2)	(3)
Long-only α	0.003		
	(1.17)		
Internal tournament	0.024**	-0.005**	0.028**
	(2.50)	(-2.18)	(2.17)

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