

**BAD NEWS FOR ANNOUNCERS, GOOD NEWS FOR RIVALS –
ARE RIVALS FULLY SEIZING TRANSITION-PERIOD OPPORTUNITIES?
FOLLOWING ANNOUNCERS’ TOP MANAGEMENT TURNOVERS?**

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Abstract

Research summary. This study analyzes whether and how the disruption of top management turnovers can affect not only turnover firms but also their intra-industry rivals. It thus adds to the literature on both leader life cycles and competitive dynamics. Using a U.S. sample of 857 CEO turnovers, we find a period of relative stagnation for announcing companies following top management turnovers. We also find that intra-industry rivals can use this period to their advantage. Semi-structured interviews with seasoned CEOs, CFOs, and a board member from large publicly listed firms, as well as an extensive news search, support this notion. Intra-industry rivals gain a competitive advantage that can result in positive abnormal stock returns and accounting performance. The intra-industry outperformance is greater for forced turnovers.

Managerial summary. The departure of a company’s CEO, forced or not, is usually a disruptive event for a company, as the successor must adapt to the new environment before undertaking any major strategic changes. Rivals can seize an opportunity during the transition period of the announcing company because they remain fully operational. They can thus actively exploit the relative inability of turnover companies to react by, e.g., launching sales initiatives or increasing M&A activity. This interpretation is supported by internal and external evidence. Investors on average also recognize this situation, and stock prices react accordingly.

Keywords: Competitive Dynamics; Information Effects; Intra-Industry Effects; Leader Life Cycle;
Top Management Turnover; Transition Period

JEL classification: G14; G15

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INTRODUCTION

When CEO turnovers occur, they tend to be overly disruptive for companies (Ballinger & Schoorman, 2007; Burns, 2003; Grusky, 1960). In addition, successors face significant challenges during the transition period. They must adapt to new processes, learn position- or firm-specific skills, and potentially adjust to having greater levels of responsibility (Harris & Helfat, 1997). New CEOs may need to establish credibility with the management team, as well as with the supervisory board and other stakeholders (Greiner, Cummings, & Bham bri, 2003).

This process is usually quite time-consuming, and the new top manager may be prevented from focusing on future strategic goals and actions during that time (Gabarro, 1987; Shen, 2003). The result is a period of relative stagnation, which can be a competitive disadvantage. Studies have shown that, no matter how well new top managers perform at the beginning of their tenure, they are unlikely to deliver substantial strategic enhancements (Wowak & Hambrick, 2010). At the same time, turnover events may convey material information to intra-industry rivals, e.g., the so-called *information effect* (Firth, 1996). Because rivals remain fully operational during the transition period, they can take advantage of the turnover company's relative inability to react (Ferrier & Lyon, 2004; Ferrier *et al.*, 2002; Miller & Chen, 1994, 1996). This comparative advantage should be valued positively by the capital markets, and should result in positive stock price reactions for intra-industry rivals until the transition period ends (Ferrier & Hun, 2002).

For an example of an intra-industry reaction, consider the departure of Vaughn Bryson as CEO of Eli Lilly and Company, who retired after a dispute in 1993. He was replaced by Randall L. Tobias, CEO of AT&T International and a member of Eli Lilly's Board. Tobias was considered an ideal choice because of his experience in a major company that had undergone complex changes. He eventually proved to be the most successful CEO in the company's history, increasing its market value from \$14 billion to \$70 billion during his tenure. Although Tobias had insight and knowledge from serving on the board, Lilly's stock price reacted negatively to

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the announcement. It went on to strongly lag the pharmaceutical market. In fact, during the three months after his appointment, it decreased by 2.4%, while the pharmaceutical market (Allergan, AZZ, Bristol-Myers, Eli Lilly, GlaxoSmithKline, Johnson & Johnson, Merck, Pfizer, AstraZeneca PLC, and Novartis) gained 3.3% on average, resulting in a 5.7% underperformance. However, the stock price rebounded and caught up during the following six months.

The pattern behind this stock price reaction can largely be explained by competitive moves in the pharmaceutical market. Shortly after the CEO turnover, Lilly's rivals began announcing strategic alliances, merger activities, and development agreements (*positive information effect*; see Reuters News, 1993a,b; Guardian, 1993; and Factiva Press Release Service, 1993). At the same time, Tobias, as the new CEO, was still in a "settling-in" phase, and was facing massive unsolved challenges stemming from the 1993 Clinton healthcare initiative. This created a period of stagnation (*negative information effect*). Four months after his succession, Tobias addressed the challenges with major cost-cutting initiatives. Two months after that, he initiated major strategic changes by, e.g., separating Lilly's core businesses and beginning M&A activities (*positive information effect*).

This pattern is a good reflection of the average stock price reactions we have documented in response to a CEO turnover announcement for both focal firms and their rivals (see Figure 1 and Table 1). The example illustrates that, even after a turnover where the incoming CEO is familiar with the company and is perceived as an ideal successor, the succession period can still be disruptive. It thus seems likely that transition-period effects may be even stronger if the process is less smooth, such as under a forced turnover without a clear successor.

Our paper consists of two parts, 1) a large sample observational study, and 2) interviews with top executives, along with a qualitative analysis of news accounts to reinforce the interview data. Our contributions here are twofold:

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First, we provide large sample empirical analyses that document spillover effects to rival companies. These industry-wide effects of top management turnover announcements have been considered important in previous literature, but have received scant research attention (Hughes-Morgan, Ferrier, & Labianca, 2011; Tsai, Su, & Chen, 2011). If rivals can exploit the relative inability of turnover companies to react (Ferrier & Hun, 2002), turnover announcements on average should be followed by positive abnormal stock price reactions (as measured by buy-and-hold abnormal returns, BHARs) for intra-industry rivals. These reactions are referred to as *positive intra-industry information effects*. However, after the stagnation period, the new CEO initiates strategic actions, implying *positive information effects* for the turnover firms. In line with this reasoning, after the end of the stagnation period, the stock prices of turnover firms should increase on average, while those for rival firms should decrease. This supports the notion of redistribution effects, or a “zero-sum game,” within the industry after CEO turnovers.

Second, we provide *internal* and *external evidence* of how rivals react and respond to a CEO turnover. For the *internal evidence*, we conduct semi-structured, one-on-one interviews with top executives of medium to large publicly listed companies. The interviews provide insights into the thinking of company leaders and how they evaluate a CEO turnover from a strategic perspective. On the one hand, they shed light on what happens in a turnover company; on the other hand, they illustrate how rival firms’ management may take advantage of such situations.

For the *external evidence*, we conducted a thorough Factiva news search focusing on major announcements of strategic importance in response to a turnover for both the turnover firm and its rivals. In line with the interviews, the news search improves our understanding of what specific strategic actions are undertaken and communicated to the capital market, how often, and within what time frame, thus shedding light on how rivals may benefit.

THEORETICAL BACKGROUND

In this study, we use the CEO position to represent top managers. CEOs are considered the primary leaders of a firm. They are the most directly involved in firm strategy (Arthaud-Day *et al.*, 2006; Baxter & Chua, 2008) and firm financial systems (Geiger & North, 2006; Jiang, Petroni, & Wang, 2010; Li, Sun, & Ettredge, 2010). They also tend to have the most direct interaction with capital markets participants (Mian, 2001; Zorn, 2004; Chava & Purnanandam, 2010) and shareholders.

Given their level of exposure, a CEO turnover can be disruptive for companies. A CEO departure may signal, e.g., a breakdown of strategic decisions in the near future, or missed business targets. Moreover, other top executives may leave with the CEO. This means incoming top managers will face a multitude of new situations (Ballinger & Marcel, 2010; Ballinger & Schoorman, 2007; Grusky, 1960), and must learn to adapt quickly to new executive tasks, responsibilities, and skill requirements (Harris & Helfat, 1997; Kotter, 1982).

Gabarro (1987) posits that incoming CEOs pass through five stages of integration: a *taking-hold period*, followed by *immersion*, *reshaping*, *consolidation*, and, finally, *refinement*. During the *taking-hold period*, the successor develops a cognitive map, seeking to understand the firm's most pressing problems and how to address them. In the subsequent *immersion period*, the successor begins to work on the previously identified problems, but also devotes more time to the strategic issues below the surface. During the next period, the so-called *reshaping period*, the successor begins to conduct principal activities, such as new product lines and acquisitions. Implementation is generally not smooth during this period. Power dynamics suggest that successors, especially outsiders, need time to build their internal networks and coalitions and to adapt their measures to their new environments (which may require undertaking different solution processes than in the past). This can lead to a period of stagnation (see Ocasio, 1994). Toward the end of the *reshaping period*, which typically lasts about six months post-succession,

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but can differ dramatically according to the situation (Shen, 2003), successors usually become fully operational and effective. Until then, turnover firms are expected to continue to have a comparative disadvantage against their rivals. Performance influence is arguably lower, because CEOs will not have had a chance to fully implement ideas yet (Hambrick & Fukutomi, 1991).

In a review of more recent studies, Giambatista, Rowe, & Riaz (2005) support the findings of Gabarro (1987) and Hambrick & Fukutomi (1991), confirming that CEOs typically need up to one year to fully effect strategic changes. As the successor becomes comfortable and increases his or her decision-making, a gradual transition occurs toward a company that is run according to the new manager's concepts (Vancil, 1987). However, before that can occur, the company will often face a period of relative stagnation compared to its competitors that are not undergoing top management changes (Wowak, Hambrick, & Henderson, 2011). During the last two periods when the consequences of their actions are measured (*consolidation period*), and possible corrections and adjustments made (*refinement period*), the disadvantages of the successors to their rival counterparts diminish gradually, and the strategic decisions initiated during the *reshaping period* can even result in an edge if successful.

Prior studies used stock prices to reflect changes in company performance expectations due to predecessor/successor comparisons post-announcement. And, although some information on future company direction is known at the announcement (for example, intended strategic changes by the supervisory board, as noted by Zhang & Wiersema, 2009), a high level of uncertainty persists. This is usually viewed as negative by investors (Epstein & Schneider, 2008; Epstein & Turnbull, 1980). Only when the decisions are implemented and announced (or can be predicted by the capital markets with more “certainty”), will stock prices react and reflect a company’s new strategic plan (Fama, 1970, 1991; Finkelstein, Hambrick, & Cannella, 2009).

A disruptive top management turnover and the resulting transition period may also pose consequences beyond the turnover company. Several studies have analyzed capital market effects

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of company news on intra-industry rivals, and found *information effects* (Firth, 1996) such as reactions to earnings announcements (Firth, 1976), dividend changes (Firth, 1996), bankruptcy (Asness & Smirlock, 1991), and lead-lag effects to earnings announcements (Hou, 2007). Others found overreactions to intra-industry information transfers (Thomas & Zhang, 2008), management forecasts (Kim, Lacina, & Park, 2008), and shareholder activism (Mietzner, Schweizer, & Tyrell, 2011). However, we are aware of no studies that analyze intra-industry rivals' *information effects* to top management turnover announcements, although such data is highly relevant (Hughes-Morgan, Ferrier, & Labianca 2011; Tsai, Su, & Chen, 2011).

These studies examine whether firm-specific news is important for intra-industry rivals, and whether it results in wealth effects. The information effects can be both positive and negative. For example, a *positive information effect* would be the increased likelihood of an industrywide positive earnings surprise after the first company has issued an earnings surprise due to favorable market conditions. A *negative information effect* would be the announcement of a positive earnings surprise by a company resulting from a substantial increase in market share that will negatively affect other companies in that industry.

In the case of top management turnover, we argue that the competitive situation for the turnover company worsens, which results in a *positive information effect* for intra-industry rivals. As noted above, the relative disruption inherent in a turnover and the transition can lead to a period of stagnation for announcing firms. At the same time, rival firms can continue their operations without disruption. They can thus use their “repertoire” of competitive actions (Ferrier & Lyon, 2004; Ferrier, Smith, & Grimm, 1999; Miller & Chen, 1994, 1996) to exploit the turnover company's situation. For example, they may choose to introduce a new marketing campaign at that time (Otero-Neira, Varela, & Garcia, 2010), or to make a strategic acquisition.

We argue that capital markets will be aware of the relatively weak situation of the turnover company, and see the opportunity for intra-industry rivals to strengthen their market positions

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(Ferrier & Hun, 2002). This temporal competitive advantage should be reflected in positive abnormal intra-industry valuation effects during the transition period. Our first hypothesis is thus:

Hypothesis 1: *A CEO turnover at a firm will be followed by positive abnormal stock price reactions for its intra-industry rivals.*

Forced versus routine turnovers

The *information effect* inherent in a CEO turnover announcement is more pronounced for forced than routine turnovers. This is because forced top management turnovers are often related to prior negative performance (Finkelstein, Hambrick, & Cannella, 2009), are usually more disruptive than routine turnovers, and are often viewed as a potential sign of internal problems (Shen & Cannella, 2002b). For example, a forced turnover may signal a CEO's poor performance and perhaps a board dismissal (Fredrickson, Hambrick, & Baumrin, 1988). Or, it may denote scapegoating, rather than the manager's performance, where the dismissal occurs to demonstrate a commitment to change (Khanna & Poulsen, 1995; Shen & Cho, 2005).

In either case, the turnover decision is often abrupt, and the supervisory board may be unable to quickly choose a successor (Wiersema, 2002). As a result, and compared to a routine succession, investor uncertainty is heightened because of the lack of information about future strategic direction. The transition period during a forced turnover also tends to be more intense for the successor because the predecessor may not be present (Shen, 2003). The successor may need to act quickly to correct the predecessor's actions, even without a full analysis of the issues (Gabarro, 1987). This can distract from the actual task of long-term strategic planning, and may reveal certain weaknesses to rivals. At the same time, investors may view rivals as better able to cope with the situation that led to the forced turnover. The potential for exploitation of the disruptive event is expected to result in *positive information effects* for rivals that may translate into positive abnormal returns and increased accounting performance.

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To summarize, the transition phase of a routine turnover should lead to a period of relative stagnation, albeit less severe than what a forced turnover company will experience (Shen & Cannella, 2003). Accordingly, because of the *positive information effects*, we expect positive reactions for rivals to be higher after forced than routine turnovers. We therefore posit:

Hypothesis 2: *Positive abnormal stock price reactions of intra-industry rivals will be higher after forced top management turnovers than after routine turnovers.*

METHOD

Construction of the U.S. sample for turnover firms and rivals

To construct the U.S.-based turnover sample for publicly listed firms, we follow Farrell and Whidbee (2003) and Parrino (1997), and use *The Wall Street Journal* as our primary information source. To identify CEO turnovers, we complement it with a *LexisNexis* search. Analyzing the U.S. stock market is arguably the “cleanest” approach to aligning theory with empirical research design, because it is the world’s largest and most developed market in terms of, e.g., information processing, liquidity, and efficiency. Our sample period is 1992-2002, within which we identify 1,729 CEO turnovers for 1,189 distinct firms with an available stock identifier GVKEY. We exclude 66 cases with missing market capitalizations, and another 347 when multiple turnovers happened within one year for a respective firm. This leaves us with 1,316 CEO turnover events for 1,056 distinct companies.

To derive the relevant portfolios of intra-industry rival firms for each CEO turnover, we use Barber and Lyon’s (1997) approach: 1) We select all firms with the same four-digit SIC codes as the announcing firm,¹ 2) we restrict the portfolio to companies with market caps of between 70%

¹ Barber and Lyon (1997) do not require an industry classification match because their approach is used to identify “control firms.” Because we are interested in intra-industry rivals, we add this restriction to ensure that the turnover firm and the rival are operating in the same industry. SIC codes are not always accurate for matching, especially for conglomerates and for firms with major strategic shifts in business or M&A activity. Servaes and Tamayo (2014) propose a fitting solution for this by using Standard & Poor’s Industry Surveys, which reflect those changes. We checked our SICs in the S&P Capital IQ database, which includes those surveys.

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and 130% of the turnover firm, and 3) we limit the intra-industry rival portfolio to a maximum of five companies per turnover that are closest to the announcing firm in terms of market-to-book ratio. Applying these criteria reduces the number of CEO turnover events to 944 for 782 distinct firms, for which we can identify at least one rival firm and a total of 2,792 non-distinct rival firms (selecting rival firms with replacement).

After matching with the CRSP (Center for Research in Security Prices) stock price database, we exclude CEO turnover announcements and rival firms if the firm 1) was a subsidiary, 2) has undergone a leveraged buyout, 3) had illiquid trading volume (30% missing or zero returns during the estimation or the event period), 4) was not publicly traded at the time of the turnover, or 5) its rivals' company descriptions on Google and Bloomberg did not match. We are thus left with 857 CEO turnover announcements (743 distinct turnover firms), and 1,918 non-distinct rival firms fitting all criteria.

Estimation of valuation effects

To measure long-term valuation effects, we follow Lyon, Barber, & Tsai (1999), and calculate benchmark-adjusted buy-and-hold abnormal returns (BHARs) for both the CEO turnover firm and the respective intra-industry rival. To obtain as precise a picture as possible, we calculate BHARs for each trading day, beginning five days before the turnover day to allow for information leakage and ending 250 trading days afterward (Figure 1). We choose a maximum of 250 trading days to approximately measure the valuation effects over the course of one year. Using a four-factor model, including Fama & French's (1993) size and valuation as well as Carhart's (1997) momentum factors, we calculate BHARs for the different intervals T for each company as follows. We use the factors provided by WRDS Fama-French Research Portfolios and Factors. We also calculate the Fama & French (1993) three-factor model. Results remain quantitatively and qualitatively similar, and are available from the authors upon request:

$$BHARs_{i,T} = \prod_{t=0}^T (1 + R_{it}) - [\prod_{t=0}^T (1 + \hat{\beta}_i(R_{mt} - r_f) + \hat{\varphi}_iSMB_t + \hat{\gamma}_iHML_t + \hat{\theta}_iUMD_t)], \quad (1)$$

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where R_{it} is the return of company i on day t , R_{mt} is the market return, and r_f is the risk-free rate. Furthermore, *SMB* corrects for the size effect by taking into account the difference between the returns of large and small stocks, *HML* corrects for valuation differences measured by the book-to-market ratio, *UMD_t* corrects for the momentum effect and the coefficients $\hat{\beta}_i$, $\hat{\varphi}_i$, $\hat{\gamma}_i$ and $\hat{\theta}_i$ are estimated from the 255- through 5-trading day period before the turnover announcement.

First, we test the statistical significance of the BHARs ($T = 100$ -, 150-, 200-, and 250-trading day windows) for the turnover versus rival companies using *t*-statistics (univariate test).² We analyze the entire sample, as well as the subsamples for forced and, routine (see Table 1). Subsequently, we conduct multivariate OLS regressions to control for further potentially influencing factors using robust standard errors. We conduct regressions for the BHARs (100-, 150-, 200-, and 250-trading day windows) in order to show the effects of turnover reasons over time. We use the BHARs for all rival companies first, and then estimate the following regression:

$$BHAR(rivals)_{iT} = \beta_0 + \gamma \cdot X_{it} + \boldsymbol{\varphi} \cdot \mathbf{Y}_{it} + \boldsymbol{\xi} \cdot \mathbf{Z}_{it} + \varepsilon_{it}, \quad (2)$$

where $BHAR_{iT}$ are the BHARs calculated in Equation (1) for all rival firms for 100-, 150-, 200, and 250-trading days post-turnover at date $t = 0$; X_{it} is the turnover reason *Forced*; γ is the related regression coefficient; \mathbf{Y}_{it} is a vector of succession-related variables (tenure of the departing manager and successor origin); $\boldsymbol{\varphi}$ is the related vector of regression coefficients; \mathbf{Z}_{it} is a vector of company-related firm-level control variables for rival firms (*BHARs (Turnover and Rival Firm)* (-100/-150/-200/-250), *RoA*, *Herfindahl-Hirschman index*, *firm size*, *current ratio*, *investments*, *price/earnings ratio*, *closely held shares*); and $\boldsymbol{\xi}$ is the related vector of regression coefficients. The coefficients of interest are included in vector $\boldsymbol{\gamma}$, which indicates whether the

² Along with standard *t*-statistics, we use the Wilcoxon (1945) rank sum z-score and the Johnson (1978) test to eliminate the skewness bias often present in long-run abnormal return studies. However, results remain highly similar. Tables are available from the authors upon request.

turnover-related variables can explain rival BHARs. A positive (negative) coefficient implies that the respective variables are related to larger (lower) rival BHARs.

The drawback of this analysis is that it does not simultaneously consider the turnover firms' BHARs, so we cannot draw conclusions about any "outperformance" of rivals over turnover firms (differences between their BHARs). This is at the core of our research idea, as well as a control for firm-level control variables. To address this shortcoming, we consider both groups jointly in the multivariate regressions. The regression is highly similar to that in the previous analysis (Equation (2)). We estimate as follows:

$$BHAR_{iT} = \beta_0 + \gamma \cdot X_{it} \times Rival_i + \boldsymbol{\varphi} \cdot \mathbf{Y}_{it} + \boldsymbol{\xi} \cdot \mathbf{Z}_{it} + \varepsilon_{it}, \quad (3)$$

where $BHAR_{iT}$ are the BHARs for all turnover and rival firms based on Equation (1), and $Rival_i$ is a dummy variable that equals 1 if firm i is a rival, and 0 otherwise. All other variables are as defined for Equation (2). The coefficient of interest is again γ , which indicates whether the explanatory variable *Forced* can explain the differences between the rival and turnover firm BHARs. A positive coefficient implies that *Forced* turnovers is related to a larger difference between rival and turnover firm BHARs, meaning that the rival's BHARs are on average larger than those of the turnover firm.

To complement the evidence from analyzing stock performance, we also use accounting performance. We choose return on assets *RoA* (based on Net Income) as the main proxy measure, and *RoA (A)* (based on EBIT) as a robustness check. To observe the impact of implemented strategic initiatives, we also analyze the accounting measures *Investment* and *Depreciation*. For each measure, we therefore compare the values for the turnover firms and their rivals for the two-year pre- and post-announcement periods (ignoring the year of the turnover announcement). To account for changes in a company's fundamental data that are unrelated to a turnover, we follow Servaes & Tamayo (2014). We use the following panel regression, and calculate an adjusted change in *RoA* for the alternative proxy measures:

$$\begin{aligned} \text{Accounting Measure}_{hit} = & \beta_0 + \beta_1 \cdot \text{Rival firm}_i + \beta_2 \cdot \text{Post - Period}_{it} + \beta_3 \cdot \\ & \text{Rival firm}_i \times \text{Post - Period}_{it} + \mathbf{b} \cdot \mathbf{X}_{it} + \varepsilon_{it} \end{aligned} \quad (4)$$

where *Accounting Measure_{hit}* denotes the accounting measures *h* (*RoA*, *RoA (A)*, *Investment*, and *Depreciation*) for each firm *i* (rival and turnover company) at time *t*, \mathbf{X}_{it} is a vector of company firm-level control variables (*firm size*, *current ratio*, *investments*, *price/earnings ratio*, and *closely held shares*), and \mathbf{b} is the related vector of regression coefficients. *Post_{it}* is a dummy variable that equals 1 for the two years following the turnover, and 0 otherwise, and *Rival firm_i* is a dummy variable that equals 1 if the company is a rival, and 0 if it is a turnover firm. In two robustness checks, we aim to isolate the influence of forced turnovers by adding the triple-interaction term *Rival firm_i × Post_{it} × Forced*. We are most interested in the Diff-in-Diff coefficient β_3 . If the rival gains a competitive advantage over the turnover firm post-turnover, the coefficient will be positive for the accounting measures *RoA*, *RoA (A)*, and *Investments*, and negative for *Depreciation*.

Dependent variable

The dependent variable in the regressions is the BHAR for the four-factor model, as calculated in Equation (1) for the 100-, 150-, 200-, and 250-day windows. Because the duration of the transition period differs according to the respective situation of the turnover company (Shen, 2003), we use varying periods of up to one year to illustrate the effects over time (Gaborro, 1987; Hambrick & Fukutomi, 1991). The accounting performance measures are: ***RoA*** (Net Income over Total Assets) and ***RoA (A)*** (EBIT over Total Assets). We also look at ***Investment*** (CAPEX over lagged Net Property, Plant, and Equipment) and ***Depreciation*** (log [EBITDA minus EBIT]).

Turnover variable

Turnover reason: Forced (dummy variable). To test Hypothesis 2, we include turnover reason in our regression analyses. The dummy variable equals 1 for a forced turnover, and 0 for a routine turnover (Adams & Mansi, 2009; Parrino, 1997).

Manager variables

To control for a possible effect of the ***tenure of the departing manager***, due to, for example, job fatigue, we include tenure, measured as the number of years the manager worked for the company. We include the dummy variable ***Successor origin: Outsider*** equals 1 if the successor is an outsider, and 0 if it is an insider to control for differences in the succession.

Control variables

We include ***100-, 150-, 200-, and 250-day pre-period BHARs*** to control for the effect of each firm's prior market performance (Graffin, Carpenter, & Boivie, 2011; Tian, Halebian, & Rajagopalan, 2011). We calculate BHARs based on Four-factor model in Equation (1). The event window of the BHARs pre-announcement is symmetrical to that of the BHARs of the dependent variable. In other words, we use the BHARs for the 150 trading days post-announcement as the dependent variable, and for the 150 days pre-announcement as a control variable. We include ***RoA*** in the year before the turnover from the *Compustat* database as a measure of firms' accounting-based performance, because it is highly visible to both top managers and investors (Carpenter, 2002; Shen & Cannella, 2002a; Ballinger & Marcel, 2010).

To control for the effects of industry concentration, we include the Herfindahl-Hirschman Index (***HHI***) ($HHI_{j,t} = \sum_{i=1}^{N_j} s_{ijt}^2$) based on sales (Datta & Rajagopalan, 1998), where s_{ijt} represents the market share of firm i in industry j at turnover day t , and N is the number of firms in the industry. We again use the four-digit SIC code from the *Compustat* database. We also use *Compustat*'s log total assets, the natural logarithm of a firm's total assets in US\$ millions for each fiscal year in the analysis, to control for ***firm size*** effects (Grusky, 1961; Firth, 1996; Makino & Delios, 2000; Shen and Cannella, 2002b). ***Current ratio*** from *Compustat* is used to control for a firm's financial situation, because firm equity is riskier for firms with lower liquidity and thus higher bankruptcy risk. This variable is measured as current assets over current liabilities.

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We define **investment** as the amount of capital expenditures divided by lagged net property, plant, and equipment in order to control for a company's investment policy (data from *Compustat*). The variable is included to control for a company's real option portfolio. **Price/earnings ratio** is defined as the ratio of price per share at year-end, divided by earnings per share and controlling for the valuation effect (data from *CompStat*). Companies with high price/earnings ratios are expected to have higher growth potential. In the event of a management turnover, the stock price performance of those growth stocks is arguably more sensitive, because fewer changes in expected growth translate into more volatile stock price reactions. We include **closely held shares** from *FactSet* item FF_SHS_CLOSELY_HELD_PCT as a measure of insider ownership to control for ownership structure. This governance structure can potentially influence succession decisions (Weisbach, 1988). This variable is measured as the percentage of total shares outstanding held by firm insiders for each fiscal year.

EMPIRICAL RESULTS

Univariate valuation effects

We first analyze BHARs for various periods of up to one year in order to measure transition-period valuation effects (Table 1, panel A). We find negative BHARs of -1.03% and -2.20% in the 50- and 100-day event windows for turnover firms (*p*-values of 0.09 and 0.02). For all later event windows, of 150-, 200-, and 250-days, the BHARs are not different from zero (*p*-values range from 0.39 to 0.45). This is in line with our argument that CEO turnovers are tied to periods of stagnation, which puts the turnover firms at a disadvantage (*negative information effect*). However, turnover companies seem to overcome the initial stagnation, and achieve on average positive returns (0.20%, *p*-value 0.45) after 250 days post-announcement. We interpret this to mean that any initiated major strategic changes tend to become visible by then. In contrast, and in line with Hypothesis 1, we find a mirrored pattern for the intra-industry rivals of positive and

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monotonously increasing BHARs: 0.67%, 1.34%, and 2.18% in the 50-, 100- and 150-day event windows (*p*-values of 0.14, 0.08, and 0.07). This is strong evidence for our first hypothesis.

The difference in means tests for both firms' BHARs reveal a relative gain for the rivals of 1.70%, 3.54%, and 2.55% (*p*-values of 0.04, 0.00, and 0.09) after 50, 100, and 150 days. However, the peak is reached between 100- and 150-days post-announcement, with monotonically decreasing BHARs for the subsequent 200- and 250-day periods that are no longer different from zero (*p*-values of 0.22 and 0.31) (Table 1, panel A).

A daily examination (see Figure 1) shows that the announcing firm's BHARs are initially marginally positive post-announcement, and then turn negative. Day 120 is the turnaround day at which the BHARs continue rising. This is also in line with our arguments, and can be interpreted as the end of the stagnation period, when the successor's actions become effective and more visible to the capital markets. The intra-industry rival BHARs are instead positive from the first day after the turnover, increasing consistently until they level out at around 150 days. This supports the *positive information effect* and Hypothesis 1.

The decline of turnover firm BHARs, combined with the increase in rival BHARs, leads to a maximum difference in valuation of about 5% at 125 days post-announcement. We interpret this difference as an outperformance of rivals over turnover firms (after controlling for systematic risk, *SMB*, *HML* and *UMD* risk factors). Hence, it implies a relative wealth effect. However, we observe that, once the turnover firm's stagnation ends, the BHARs become positive again around day 180. This is in line with the news search presented later. It indicates that major actions taken by successors generally become visible at this time, while rival reactions, as measured by number of news items, lag behind. Rival BHARs thus appear to increase almost monotonically until the end of the stagnation period, in line with theory, and they decline thereafter.

We next compare the effects on BHARs from forced versus routine turnovers for turnover firms and intra-industry rivals. Forced turnovers (Table 1, panel B) result in initial negative

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BHARs (the *negative information effect*) for turnover firms for the 50- and 150-day windows (*p*-values of 0.01, 0.12, and 0.40), which turn positive thereafter. These negative stock price reactions, especially at the beginning, likely stem from the problems inherent in forced turnovers. They can be seen as an indication that rivals are liable to take advantage of this period of relative weakness, and attempt to profit from the situation. As we expect, the intra-industry rivals show positive BHARs for all event windows after forced top management turnovers (*p*-values range from 0.01 to 0.16). The results in Table 1 (panel C) for the routine subsample of turnover firms, in contrast, show BHARs of around zero for turnover firms and rivals. This further supports our argument and Hypothesis 2.

– Insert Table 1 and Figure 1 about here –

Multivariate regression analyses

Table 2 provides descriptive statistics for the entire sample of 857 CEO turnover events (699 routine and 158 forced). To simultaneously test the effects of turnover variables on stock price reactions (measured by BHARs) of intra-industry rivals, and to control for further potentially influencing factors, we next perform multivariate regressions (Table 3). We examine several different event windows separately, because the length of the transition period depends on many factors (Shen, 2003). We report four regression specifications on intra-industry rival BHARs for the 100- (1), 150- (2), 200- (3), and 250- (4) day windows.

For all event windows, the results on rival BHARs show that the turnover reason dummy variable, indicating a forced turnover, has a consistently positive effect for the first 200 days post-announcement (Table 3, *p*-values range from 0.00 to 0.03). The coefficient is still positive for the 250-day windows, but, according to our theory and previous univariate results, it is not different from zero anymore (*p*-value of 0.11). Our Hypothesis 2 thus receives further support: Forced CEO turnovers seemingly have a more intense transition period. They are thus followed

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by larger *positive information effects* and BHARs for intra-industry rivals during the stagnation period than for routine turnovers.

To check for possible multicollinearity, we calculate the variance inflation factors (VIF). All VIFs are well below the critical value of 5 (Kutner *et al.*, 2005), with a maximum of 1.63 and the mean in the range of 1.19 to 1.22. Multicollinearity should therefore not influence our results. Moreover, using White's (1980) heteroscedasticity-consistent standard errors and covariances does not alter our results using robust standard errors.

– Insert Tables 2 and 3 about here –

In the previous regressions, we considered rivals only. We related, e.g., turnover variables, to rivals' "absolute" performance as measured by BHARs in the post-turnover periods. A drawback of this analysis is that it does not consider the turnover companies' BHARs and related control variables simultaneously, so we cannot draw conclusions about any "outperformance" of rivals. To address this shortcoming, we next consider both groups together in multivariate regressions. We can thus analyze the differences between BHARs, which is at the core of our research idea.

The results in Table 4 are similar to those found when analyzing only rival BHARs (see again Table 3). We find inline with Hypothesis 2 that, for a forced turnover, rival BHARs in response to the announcement are positive up to 200 days post-announcement. We interpret this as an outperformance of rivals over turnover firms (*p*-values range from 0.00 to 0.03). However, we find that successor origin is not related to rival outperformance (*p*-values range from 0.11 to 0.98). The VIFs also show no sign of multicollinearity.

To summarize, our findings are complementary to the results obtained when analyzing only rival BHARs. We observe that, after the end of the stagnation period, the stock prices of turnover firms increase on average, and decrease for rival firms. This results in a maximum outperformance of rivals over turnover firms of about 5% between 100 to 150 days post-announcement (supporting Hypothesis 1). However, one-year post-turnover, the difference is not

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different from zero. This supports the notion of redistribution effects, or a “zero-sum game,” within the industry after CEO turnovers.³ We also demonstrate compelling evidence that rival BHARs are not only correlated with turnover-related information, but rivals also outperform turnover firms substantially when a turnover is forced (supporting Hypothesis 2).

– Insert Table 4 about here –

Until this point, all quantitative evidence about rivals’ outperformance or competitive advantage has been based solely on stock price performance as measured by BHARs. To examine the mechanism of competitive rivalry more convincingly, and show that stock performance is in accordance with accounting performance, we use *RoA* as a proxy and *RoA (A)* as a robustness check. We also analyze accounting variables using *Investments* and *Depreciation*, because our interview partners in the subsequent section mentioned strategic initiatives by incoming CEOs that could be measured by these variables. We follow Servaes and Tamayo’s (2014) approach, and estimate multivariate panel regressions in a Diff-in-Diff setting, as in Equation (4). We are primarily interested in the Diff-in-Diff coefficient β_3 for the main effect, that rivals exhibit superior accounting performance in the post-announcement period.

In line with expectations under Hypothesis 1, we find that rival firms on average exhibit a higher *RoA* (*RoA (A)*) than related turnover firms in the post-period (Table 5, specifications (1) and (2), and row (c) *Rival firm x Post-Period*, *p*-values 0.00). This can be interpreted as rivals’ gaining a competitive advantage. These findings support our stock performance analyses from the stagnation period, and show a qualitatively similar picture, that rivals outperform turnover companies in response to the turnover announcement.

Related to *Depreciation*, and in line with our subsequently presented interviews and news search, we find support for the notion that incoming CEOs tend to terminate projects, which

³ We do not need an industry weighting for the explanation of the zero-sum game, because rival and turnover firms are similarly capitalized.

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should result in higher depreciation levels for the turnover firms during the post-period. Our empirical findings reveal that the rivals have lower depreciation levels than the turnover firms during the post-period, which supports this notion (Table 5, specification (4), and row (c) *Rival firm x Post-Period*, *p*-values 0.03). This echoes Member of the Board 1's quote, that the new CEO "cleans up." As expected, and as suggested by the interview partners, we also find an increase in *Investments* from the *Pre-* to the *Post-Period* for the rival firms (Table 5, specification (3), and row (c) *Rival firm x Post-Period*, *p*-values 0.03). In the subsequent step, in order to test for robustness, we divide the turnover effect into "forced vs. routine" (coefficients related to row (g) *Rival firm x Post-Period x Forced*). Similarly to the BHAR analyses, the magnitude and statistical significance of the effect are driven largely by forced turnovers (Table 5, specifications (a) for all accounting measures).

Ultimately, the multivariate panel regressions show lower accounting performance (as measured by *RoA* and *RoA (A)*), higher depreciation, and lower investment levels post-announcement for turnover firms than their rivals. Thus, our analyses on accounting performance correspond with those on stock price performance during the stagnation period. Both indicate an outperformance of rivals over turnover firms' post-announcement. We interpret this as strong support for our argument and for Hypothesis 1 of rivals' competitive advantage.

– Insert Table 5 about here –

Semi-structured interviews

We find that purely quantitative studies, based on large amounts of data from commercial databases, may be less relevant if the hypothesized process does not actually occur (Kim & Finkelstein, 2009). Therefore, to strengthen the ties between our theory and the validity of our previous empirical results, we provide qualitative *internal evidence* based on seven semi-structured interviews with seasoned CEOs and CFOs and a board member (with an average of twenty years of industry experience) from large publicly listed firms similar in size to the firms

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in our dataset (Yin and Zajac, 2004). To maximize diversity, we selected companies 1) across different industries, 2) at varying stages of development, and 3) of different sizes—with annual sales ranging from \$145 million to \$72 billion; employee bases from 975 to 220,000; and market caps of \$487 million to \$48 billion (see Table 6 for more information. The names of our interview partners have been anonymized). The interviews ranged between 10 to 30 minutes in length, and centered on understanding how rival firms can gain a temporary competitive advantage from a top management turnover. These interviews provide insights from the perspective of top managers who were actually involved in turnover situations, from either a turnover firm or a rival perspective. We refer to these qualitative insights as *internal evidence*. The interviews were structured around the following three topics:

- 1) *What happens with strategic decisions and the operating business in a firm prior to and after implementing a new CEO, and what is the time frame?*

There was solid agreement with respect to Question 1. All interview partners agreed that, following a turnover, there is a time of stagnation of about six months. During that time, the new CEO adjusts to the new firm and its ideology and practices (see CFO 4's quote in Table 6) (*negative (positive) information effect for the turnover (rivals) during the stagnation period*). CFO 3 argued it is even *more* true if the departing CEO is heavily involved in operations, but less true for “*only strategic*” CEOs. CFO 1 added that operating business generally continues as usual, however. Two interviewees argued that the stagnation may begin before the turnover, because new initiatives may be postponed by the departing CEO (*negative (positive) information effect for the turnover (rivals) prior to the announced turnover*). Four of the interview partners described what happens after the initial stagnation period, pointing out that the new CEO eventually “*breaks loose*” (CFO 4), implements change (see CEO 1's quote in Table 6), and “*cleans up*” (Member of the Board 1) (*positive (negative) information effect for the turnover (rivals) after the stagnation period*).

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2) Do rival firms (try to) take advantage of CEO turnovers, i.e., does their management launch new products, engage in M&A activity, or pursue other strategic actions?

There was strong consensus that rival firms benefit from remaining fully operational throughout the transition period of the turnover company. Most (five of seven) agreed that, when a competitor faces a turnover, rivals will try to exploit the temporary weakness. Remarks ranged from the more general “*let’s do something*,” to the decision to “*convene a meeting of management to brainstorm ideas*” (CFO 1). When asked for specifics, the answers ranged from the vague “*look at individual cases*,” (CFO 2) to “*any reaction which would require a counter-reaction*” (CFO 1), to the explicit suggestion to “*accelerate for example through stronger sales pressure or new marketing activities*” (CFO 4).

Overall, increasing sales activities was cited as the most common rival reaction by the majority of those interviewed (five of seven) (*negative (positive) information effect for the turnover (rivals) during the stagnation period*). Asked whether they observe rivals introducing new products, all disagreed, stating “*no one would wait for a turnover*” (CFO 3). But they noted that, if a new product was in the pipeline anyway, the launch could be accelerated and timed to exploit the weakness. Asked whether they would opt to increase M&A activities during the stagnation period, five did not envision doing that unless they had already initiated a deal beforehand. But three agreed they would pursue such an opportunity if the chance arose, especially in an oligopolistic environment: “*If a major competitor is paralyzed, a strategic acquisition can be advantageous to increase the pressure*” (CFO 1) (*negative (positive) information effect for the turnover (rivals) during the stagnation period*).

3) Please comment on two specific alternative explanations.

Alternative explanation 1: CEO turnovers occur in anticipation of increased competitive pressure and success by rival firms in the industry.

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All interview partners disagreed with this alternative explanation. CFO 4 added further that CEOs would opt to focus on their own firm performance, and not that of rivals. He also did not believe they would have enough insight into rival firms, given, e.g., antitrust regulations.

Alternative explanation 2: CEOs may prefer a “strategic retirement.”

All interview partners also disagreed with this explanation. “*Out of vanity and reputation,*” no CEO would consider it (see CFOs 1 and 2 quotes in Table 6). Member of the Board 1 added that CEOs would likely prefer to secure dividend payments and returns at the expense of “cleaning up,” in order to leave on a good note. They might also focus on implementing overdue strategic changes to ensure a positive new position for themselves elsewhere.

CEO 2 offered a different alternative explanation. He argued that a rival reaction “*is the first derivative of what happened in the turnover firm before.*” In other words, capital markets initially perceive and anticipate turnover events as negative for the turnover firm. Because investors are often invested by industry, CEO 2 speculates they reallocate and buy rival firms, resulting in higher rival stock prices. In unreported results, we investigated this explanation by using the Thomson Reuters Institutional (13f) Holdings database to analyze the shares of the turnover and rival firms that were bought and sold by institutional investors before and after the turnover event. We find that institutional investors seemingly anticipate turnovers, which results in a “sell-off” of turnover firms’ shares during the pre-announcement period. However, this means the anticipation effect is already priced into the period leading up to the turnover, because we do not observe a net average change in shares bought and sold between rival and turnover firms during the post-announcement period. Thus, the subsequent results we analyze during the post-announcement period are “net,” so to speak, of the anticipation.

– Insert Table 6 about here –

News search

To complement the findings from our interviews, we conducted an extensive Factiva news search focusing on strategic initiatives after the turnover announcement by the turnover and rival firms—*external evidence*. For a random sample of 480 turnover cases and their closest rivals (based on Barber and Lyon's (1997) approach), which is about half of our sample, we searched for news announcements up to one year post-turnover within the following subjects: 1) “M&A,” 2) “strategic partnership,” 3) “sales initiative,” 4) “opening of facilities,” 5) “closing of facilities,” and 6) “restructuring.”⁴ We argue that (1)-(4) are associated with *positive information effects*, and (5) and (6) with *negative information effects*. Three students, given overlapping samples, identified, recorded, and categorized the news announcements independently into the six subjects and recorded the news release dates. Where the classification or date deviated, the authors verified, and made final classifications.

As Table 5 shows, for the first three months post-turnover, we find substantially more news mentions for rivals for the subjects with *positive information effects* (between 40% and 100%). This supports our interview findings that announcing firms face a period of stagnation, during which rivals can gain a competitive advantage by, e.g., heightening their own M&A and strategic activities. We also find support for Member of the Board 1’s argument, that incoming CEOs “*clean up*.” We find a much higher number of mentions of closing facilities (about 60%) and restructuring (about 160%) within the first three months post-turnover for turnover firms (*negative information effects*). This picture reverses after the stagnation period ends, when the incoming CEO is able to “*break loose*,” as CFO 4 predicts. During the nine- to twelve-month post-turnover period, the turnover firms are then featured in more news mentions than their rivals

⁴ We searched Factiva’s news classifications Plans/Strategy, Ownership Changes, Acquisition/Merger/Takeover, as well as the following keywords: 1) acquire, acquisition, allied, merger, buy, invest, merge, bid, takeover, purchase, letter of intent, 2) joint venture, joint, agreement, public offering, strategy, plans, 3) new product, sold, sale, begin, develop, launch, 4) expand, build, increase, expansion, production increase, opening, stores, branch, 5) closing, decrease production, and 6) restructure, transition, restructuring, layoffs, cuts.

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for the subjects with *positive information effects* (ranging from about 10% to 100%, except for subject 3) “sales initiative”). To a certain degree, however, turnover firms may benefit from rivals’ prescheduled strategic initiatives. From the *external evidence*, we see the “intellectual games” by top management manifested into actions that are picked up in the news.

The above pattern supports the argument that rival firms try to react and take advantage of CEO turnovers by pushing strategic initiatives with *positive information effects*, such as M&A activity and new products/sales initiatives, as outlined under Hypothesis 1. This can be seen by the disproportionately higher distribution of *positive information effects* within the first three months post-turnover than during the subsequent nine- to twelve-month period. If rivals were not actively reacting to the turnover, we would expect the number of news mentions to be more evenly distributed over the four time periods for rival firms.

We are aware that this analysis is not fully representative for some themes, such as “sales initiative,” because it is also less likely to be picked up by the press. But, overall, it shows a clear picture that turnover firms have more (less) news with *negative (positive) information effects* during the stagnation period, which is reversed when the incoming CEO “*breaks loose*.” This supports our Hypothesis 1 and the notion that rivals can gain a temporal advantage by conducting strategic initiatives directly after the turnover.

– Insert Table 7 about here –

CONCLUSION

This paper is the first to explicitly analyze the interplay between performance effects during the transition period following a CEO turnover for the turnover firm and its competitors (rivals). Based on a large sample observational study of 857 turnover events, we show that, post-announcement, intra-industry rivals outperform turnover firms in terms of stock price performance (as measured by BHARs based on the four-factor model) and accounting performance (as measured by return on assets). In contrast, we find that turnover firms underperform rival firms during the stagnation period by an average of 5%. This is in line with the notion that the transition period is one of relative stagnation for the turnover company. During this time, as we document, intra-industry rivals can gain a competitive advantage by exploiting the disruption in the turnover company to achieve significantly positive BHARs for themselves. This is further supported by our interviews, as well as the news search pattern, which shows an increasing number of announcements related to strategic initiatives by rivals compared to turnover firms. At the end of the stagnation period, we observe that incoming CEOs begin to launch disproportionately more strategic initiatives. One-year post-announcement, turnover firms' stock price developments have caught up, and generally match those of rival firms.

Overall, we conclude that top management turnovers are at first bad news for turnover firms, and good news for intra-industry rivals. We therefore interpret our findings as a signal of an overall *positive information effect* for rivals. This results from an increase in their competitive situation, which can be actively exploited. That development, however, is countered by the extent to which the incoming CEO becomes fully operational and starts launching strategic initiatives.

With these findings, our study makes significant contributions to at least two different strands of literature in management turnover research. First, we empirically extend the literature on transition-period effects following management turnovers and life cycles (Gabarro, 1987; Giambatista, 2004; Hambrick & Fukutomi, 1991; Vancil, 1987). While prior findings have

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primarily been based on qualitative studies, we also provide empirical support for the transition period on a quantitative basis, thus answering the call of Giambatista, Rowe, & Riaz (2005). We offer a more complete perspective on how a CEO turnover impacts the turnover company and rival firms, as well as related market reactions.

Second, we also extend the literature on competitive dynamics (Hughes-Morgan, Ferrier, & Labianca, 2011; Ketchen, Snow, & Hoover, 2004; Tsai, Su, & Chen, 2011). We find strong support for the notion that management turnovers are not just a single company issue, but have a fundamental impact on intra-industry firms as well. These industry effects are more far-reaching than the competitive dynamics literature would suggest. Prior literature does not examine the relationship between the cross-sectional differences of turnover announcements or how they affect the performance differences of turnover firms and their rivals.

Limitations and directions for future research

Like all studies, our work has certain limitations that may open up new ideas and avenues for future research. First, one limitation is the focus on a *firm-level* analysis, where the treatment is whether a specific focal firm experiences a CEO turnover and how much on average intra-industry rivals can take advantage of the situation. A very interesting extension would thus be to analyze *industry-level* dynamics in response to a CEO turnover over a longer time period. This would open a new field for future research.

Our findings indicate that, with a CEO turnover, “equilibrium” in the industry is disturbed. The process and consequences of reaching a new equilibrium are yet to be explored. To understand this process, it would be instructive to explore the following questions: (1) Do all rivals benefit equally, or are specific rivals better positioned to take advantage of such situations? If so, why? (2) Are there spillover effects to other firms in the industry, besides the closest rivals or related industries, such as to supply and demand industries? (3) Do (forced) CEO turnovers in an industry unravel established management equilibriums and hold the potential to trigger an

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industry “turnover wave?” (4) CEO turnover events are not uncommon, so do focal firms and their rivals experience learning effects over time? (5) Are turnover-related effects stronger or weaker in “turnover” years (where we observe an unusually high number of turnovers in different firms within a specific industry) than in “non-turnover” years? (6) Is industry structure, e.g., whether it is highly regulated or less regulated, a driver of the observed effects?

Second, another limitation is that the applied matching process between the focal firm and its intra-industry rivals is based specifically on Barber and Lyon’s (1997) method to calculate intra-industry valuation effects. However, there are other useful methods, such as propensity score matching (PSM). Each method has its own pros and cons. Thus, the choice may also depend on the context or research question being asked. PSM can be especially beneficial for finding a highly similar firm in the same or perhaps different industry. Its signal advantage, however, when applied to large samples and one-to-one matches with good quality, is that it minimizes the effect of the treatment selection as well as the role of potential time-invariant confounders. Furthermore, it uses the difference between the matched firms in outcomes as an unbiased estimate of the population treatment effect. Barber and Lyon (1997), in contrast, allow a flexible selection of up to five rivals as long they are close enough (or no rival at all). This is expected to give more accurate insights into industry effects instead of having just one major competitor. The latter could also become a research question.

To check whether our results are driven by the choice of matching process, we compared whether the rival firm identified by the PSM was also identified by Barber and Lyon’s (1997) method. In the vast majority of cases, we found that rival firms were identified by both methods. Furthermore, a rival firm identified by both was usually the closest rival firm as per Barber and Lyon (1997). We conclude that, for the majority of matches, our results are not driven by the matching process.

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Third, and related to the previous comments, there may be other contingencies that have been tested previously for their impact on CEO announcement returns, such as composition of the board of directors (Weisbach, 1988), managerial entrenchment (Fisman, Khurana, and Rhodes-Kropf, 2005), gender (Lee and James, 2007; Coxbill, Sanning, and Shaffer, 2009), sudden death (Johnson, Magee, Nagarajan, and Newman, 1985; Worrell, Davidson, Chandy, and Garrison, 1986), incoming CEO's prior performance (Weisbach, 1988), and ownership structure (Schäffer, Schweizer, and Voußem, 2015). These could also be related to the valuation effects of the focal firm and its rivals, which would open up a new set of research questions. We did not include further contingencies, so we calculated the "Impact Threshold" for a confounding variable procedure to identify the extent to which an omitted contingency would impact the inference of our main variables of interest, "Forced" (Table 3) and "Forced x Rival" (Table 4) (see Frank, 2000). The results show it is rather unlikely that any of these contingencies would have impacted our main variables ("Forced" or "Forced x Rival") in such a way as to bring the p-value below 10%. However, the contingencies themselves could have a statistically measurable effect on the announcement returns without jeopardizing our main results. Detailed tables are available from the authors upon request.

Managerial implications

Our results also bear interesting conclusions for managers. Based on our analyses and executive interviews, rivals of turnover companies should be encouraged to actively exploit the stagnation and transition period. Moreover, they should not wait for top management turnovers to happen, but instead formulate strategic contingency plans to use in response to such announcements. At the same time, firms facing top management turnovers should work on implementing a smooth transition and a strategic action plan in order to limit their "vulnerability" after a turnover. They need to be aware that rival companies will likely not remain passive bystanders during the stagnation period, but may seize the attendant opportunities.

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FIGURES

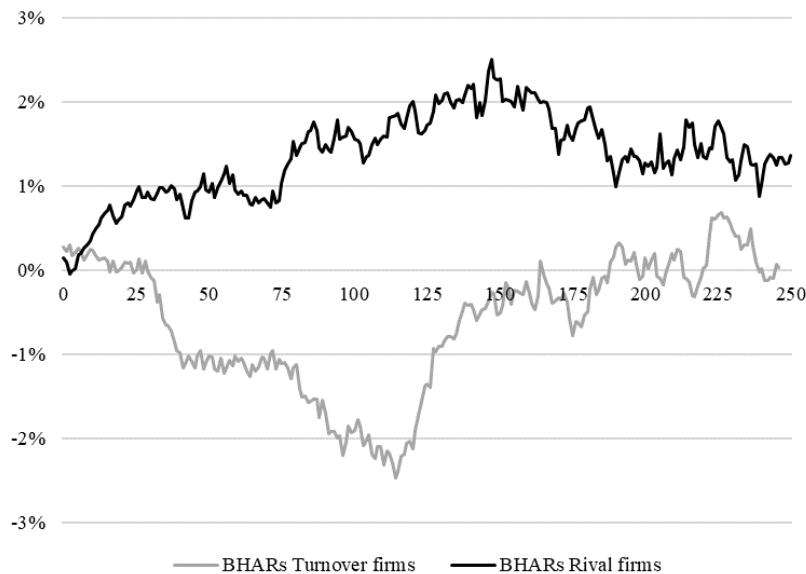


Figure 1: BHARs to CEO turnover announcements

TABLES

Table 1: Buy-and-hold abnormal returns (BHARs) to turnover announcement

Panel A: Entire Sample									
Event window	n	Turnover firms			Rival firms			Difference in means	
		mean	p-value	n	mean	p-value	n	difference	p-value
50	854	-1.03%	0.0910	790	0.67%	0.1375	1,644	-1.70%	0.0438
100	848	-2.20%	0.0208	788	1.34%	0.0847	1,636	-3.54%	0.0077
150	847	-0.37%	0.3859	783	2.18%	0.0668	1,630	-2.55%	0.0929
200	845	-0.37%	0.3860	778	1.94%	0.1036	1,623	-2.31%	0.2223
250	844	0.20%	0.4516	775	1.39%	0.2339	1,619	-1.19%	0.3082

Panel B: Subsample Forced									
Event window	n	Turnover firms			Rival firms			Difference in means	
		mean	p-value	n	mean	p-value	n	difference	p-value
50	157	-5.26%	0.0117	141	2.36%	0.0587	298	-7.61%	0.0035
100	155	-3.66%	0.1263	141	4.70%	0.0166	296	-8.36%	0.0173
150	155	-0.98%	0.4050	141	8.15%	0.0082	296	-9.13%	0.0437
200	155	3.45%	0.2744	141	4.30%	0.1028	296	-0.84%	0.4509
250	154	5.60%	0.2060	141	4.14%	0.1627	295	1.46%	0.4290

Panel C: Subsample Routine									
Event window	n	Turnover firms			Rival firms			Difference in means	
		mean	p-value	n	mean	p-value	n	difference	p-value
50	697	-0.07%	0.4625	649	0.31%	0.3248	1,346	-0.38%	0.3573
100	693	-1.87%	0.0461	647	0.61%	0.2876	1,340	-2.48%	0.0555
150	692	-0.24%	0.4266	642	0.86%	0.2954	1,334	-1.10%	0.2945
200	690	-0.53%	0.3686	637	1.42%	0.2052	1,327	-1.95%	0.2015
250	690	-1.21%	0.2487	634	0.78%	0.3580	1,324	-1.99%	0.2366

Table 2: Descriptive statistics

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)	Return on Asset	1								
(2)	Return on Asset (A)	0.78	1							
(3)	Investment	-0.03	-0.05	1						
(4)	Depreciation	0.00	0.02	-0.30	1					
(5)	Herfindahl index	-0.01	0.03	0.00	-0.06	1				
(6)	Firm size	0.05	0.04	-0.25	0.95	-0.07	1			
(7)	Current ratio	-0.06	-0.14	0.24	-0.53	0.06	-0.43	1		
(8)	P/E ratio	0.01	0.00	0.01	-0.02	0.02	-0.03	0.00	1	
(9)	Closely held shares	0.01	0.01	0.14	-0.33	0.10	-0.35	0.13	0.04	1
<hr/>										
<u>Announcing Firm</u>		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Distribution	Mean	0.03	0.08	0.38	3.62	0.17	7.03	2.26	23.24	15.11
	Std.dev.	0.15	0.14	0.54	1.74	0.13	1.79	2.49	147.94	16.54
	10th	-0.05	0.00	0.08	1.48	0.06	4.87	0.81	-10.00	0.26
	50th	0.04	0.09	0.22	3.55	0.13	6.83	1.75	15.08	11.77
	90th	0.13	0.20	0.76	5.86	0.35	9.50	3.93	41.18	38.32
<u>Rival Firm</u>		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Distribution	Mean	0.03	0.07	1.02	3.18	0.14	6.75	2.62	21.02	18.72
	Std.dev.	0.14	0.14	20.01	1.96	0.11	1.92	2.95	319.06	20.60
	10th	-0.07	-0.02	0.07	0.78	0.05	4.40	0.73	-16.59	0.30
	50th	0.04	0.08	0.27	3.10	0.10	6.58	1.83	15.36	12.05
	90th	0.13	0.20	1.21	5.81	0.29	9.43	5.09	50.48	50.61

Table 3: Multivariate OLS regression on BHARs of intra-industry rival firms

	(1) BHARs (rival) 100 days	(2) BHARs (rival) 150 days	(3) BHARs (rival) 200 days	(4) BHARs (rival) 250 days
Explanatory Variables				
Turnover reason: Forced	0.120 (0.01)	0.196 (0.00)	0.171 (0.05)	0.218 (0.14)
Control Variables				
<i>Manager variable</i>				
Tenure departing manager	-0.006 (0.00)	-0.005 (0.05)	-0.005 (0.16)	-0.006 (0.14)
Successor origin: Outsider	-0.091 (0.02)	-0.118 (0.04)	-0.092 (0.29)	-0.050 (0.73)
<i>Company variables</i>				
BHARs (Rival) 100 days pre-period	-0.065 (0.39)			
BHARs (Rival) 150 days pre-period		-0.044 (0.43)		
BHARs (Rival) 200 days pre-period			-0.049 (0.24)	
BHARs (Rival) 250 days pre-period				-0.084 (0.09)
BHARs 100 days pre-period	0.180 (0.09)			
BHARs 150 days pre-period		0.068 (0.32)		
BHARs 200 days pre-period			0.026 (0.63)	
BHARs 250 days pre-period				0.050 (0.39)
RoA	-0.132 (0.57)	0.039 (0.89)	-0.138 (0.63)	-0.198 (0.67)
Herfindahl-Hirschman index	0.059 (0.68)	0.168 (0.37)	0.186 (0.43)	0.263 (0.44)
Firm size	-0.033 (0.02)	-0.040 (0.03)	-0.063 (0.02)	-0.087 (0.07)
Current ratio	0.014 (0.13)	0.011 (0.42)	0.025 (0.15)	0.041 (0.03)
Investment	0.024 (0.35)	0.067 (0.12)	-0.005 (0.93)	-0.035 (0.71)
Price/earnings ratio	0.000 (0.75)	0.000 (0.69)	-0.000 (0.98)	-0.000 (0.49)
Closely held shares	-0.001 (0.26)	-0.002 (0.12)	-0.004 (0.03)	-0.004 (0.17)
Constant	0.289 (0.02)	0.305 (0.07)	0.501 (0.05)	0.662 (0.12)
Observations	415	415	415	415
Adjusted R^2	0.083	0.066	0.029	0.020
F	3.467	3.823	2.499	2.781
Variance Inflation Factors (average)	1.19	1.20	1.20	1.22
Variance Inflation Factors (maximum)	1.58	1.60	1.60	1.63

p-values in parentheses using robust standard errors.

Table 4: Multivariate OLS regression on BHARs of turnover and intra-industry rival firms

	(1) BHARs 100 days	(2) BHARs 150 days	(3) BHARs 200 days	(4) BHARs 250 days
Explanatory Variables				
Turnover reason: Forced x Rival	0.129 (0.01)	0.201 (0.00)	0.178 (0.03)	0.229 (0.11)
Control Variables				
<i>Manager Variable</i>				
Tenure departing manager	-0.002 (0.21)	-0.002 (0.19)	-0.001 (0.68)	-0.001 (0.69)
Successor origin: Outsider x Rival	-0.060 (0.11)	-0.095 (0.11)	-0.068 (0.45)	-0.004 (0.98)
<i>Company Variables</i>				
BHARs 100 days pre-period	-0.077 (0.13)			
BHARs 150 days pre-period		-0.045 (0.27)		
BHARs 200 days pre-period			-0.049 (0.13)	
BHARs 250 days pre-period				-0.065 (0.08)
RoA	-0.109 (0.50)	-0.063 (0.78)	-0.226 (0.37)	-0.278 (0.35)
Herfindahl index	0.080 (0.46)	0.167 (0.16)	0.194 (0.16)	0.198 (0.28)
Firm size	-0.025 (0.01)	-0.029 (0.02)	-0.040 (0.03)	-0.045 (0.11)
Current ratio	0.004 (0.64)	0.006 (0.56)	0.018 (0.19)	0.027 (0.07)
Investment	0.014 (0.61)	0.052 (0.20)	-0.007 (0.89)	-0.023 (0.75)
P/E ratio	0.000 (0.68)	0.000 (0.94)	-0.000 (0.67)	-0.000 (0.27)
Closely held shares	-0.001 (0.19)	-0.001 (0.19)	-0.002 (0.09)	-0.002 (0.22)
Constant	0.188 (0.04)	0.198 (0.09)	0.287 (0.08)	0.303 (0.22)
Observations	740	740	740	740
Adjusted R^2	0.024	0.038	0.019	0.015
F	2.632	3.463	2.465	2.240
Variance Inflation Factors (average)	1.18	1.18	1.18	1.18
Variance Inflation Factors (maximum)	1.54	1.55	1.55	1.56

p-values in parentheses using robust standard errors.

Table 5: Changes in accounting data for turnover and rival firms for the pre- and post-turnover periods

	Return on Asset (1)	Return on Asset (A) (1a)	Return on Asset (A) (2)	Return on Asset (A) (2a)	Investment (3)	Depreciation (3a)	Depreciation (4)	Depreciation (4a)
Turnover effects								
(a) Rival firm	-0.006 (0.43)	-0.007 (0.38)	-0.009 (0.17)	-0.011 (0.13)	0.048 (0.13)	0.078 (0.02)	-0.018 (0.57)	-0.028 (0.42)
(b) Post-Period	-0.049 (0.00)	-0.028 (0.06)	-0.030 (0.00)	-0.019 (0.01)	-0.022 (0.41)	0.022 (0.42)	0.069 (0.05)	0.035 (0.36)
(c) Rival firm x Post-Period	0.050 (0.00)	0.029 (0.06)	0.031 (0.00)	0.021 (0.04)	0.099 (0.03)	0.052 (0.31)	-0.096 (0.03)	-0.057 (0.25)
(d) Forced	0.004 (0.73)			0.007 (0.66)		0.228 (0.01)		-0.045 (0.54)
(e) Rival firm x Forced	0.005 (0.75)			0.005 (0.83)		-0.200 (0.05)		0.056 (0.54)
(f) Post-Period x Forced	-0.135 (0.06)			-0.071 (0.03)		-0.286 (0.00)		0.214 (0.04)
(g) Rival firm x Post-Period x Forced	0.133 (0.07)			0.062 (0.09)		0.303 (0.02)		-0.240 (0.07)
Firm Characteristics								
Herfindahl index	0.041 (0.11)	0.043 (0.09)	0.057 (0.00)	0.059 (0.00)	-0.158 (0.13)	-0.154 (0.14)	0.066 (0.42)	0.064 (0.44)
Firm size	0.003 (0.48)	0.002 (0.55)	-0.001 (0.65)	-0.001 (0.59)	-0.068 (0.00)	-0.067 (0.00)	0.967 (0.00)	0.968 (0.00)
Current ratio	-0.004 (0.11)	-0.004 (0.07)	-0.008 (0.00)	-0.008 (0.00)	0.042 (0.00)	0.041 (0.00)	-0.105 (0.00)	-0.104 (0.00)
P/E ratio	0.000 (0.44)	0.000 (0.46)	-0.000 (0.51)	-0.000 (0.51)	-0.000 (0.45)	-0.000 (0.51)	0.000 (0.13)	0.000 (0.12)
Closely held shares	-0.000 (0.71)	-0.000 (0.75)	-0.000 (0.87)	-0.000 (0.90)	0.003 (0.00)	0.003 (0.00)	0.001 (0.41)	0.001 (0.42)
Constant	0.041 (0.20)	0.044 (0.15)	0.131 (0.00)	0.131 (0.00)	0.719 (0.00)	0.680 (0.00)	-2.703 (0.00)	-2.702 (0.00)
Observations	2,224	2,224	2,217	2,217	2,195	2,195	2,206	2,206
Adjusted R^2	0.010	0.022	0.028	0.034	0.106	0.107	0.918	0.918
F	2.386	1.723	4.627	3.425	31.012	22.084	2658.3	1793.5
VIF mean	1.82	3.82	1.82	3.81	1.82	3.84	1.82	3.81
VIF max	2.86	8.02	3.86	8.02	3.86	8.10	3.85	8.02

Pre-Turnover Period (Post-Turnover Period) is the two-year period before (after) the turnover year; *p*-values in parentheses.

Table 6: Interview partner descriptive and quotes

No	Name	Firm	Industry experience in years	Sector	Market Cap.*	Digitally recorded	Interview notes	Main quotes to interview questions**
1	CEO 1	Nexus	19	Software / Computer Services	Small	No	Yes	Q1: "Something new has to happen now"
2	CEO 2	Comdirect	17	Financial Services	Small	No	Yes	Q3: A rival's reaction "is the first derivative of what happened in the turnover firm before."
3	CFO 1	Axel Springer	22	Media	Mid	Yes	No	Q2: "If a major competitor is paralyzed, a strategic acquisition can be advantageous to increase the pressure"
4	CFO 2	Deutsche Post	32	Freight/ Couriers	Large	No	Yes	Q2: "Look at individual cases"
5	CFO 3	Henkel	23	Household Goods	Large	No	Yes	Q2: "No one would wait for a turnover"
6	CFO 4	Magna Powertrain [Subsidiary of Magna Int.]	19	Auto Parts	./ [Large]	Yes	No	Q2: "Accelerate for example through stronger sales pressure or new marketing activities"
7	Member of the Board 1	AXA Konzern [Subsidiary of AXA]	12	Multi-Line Insurance	Mid [Large]	Yes	Yes	Q1: The new CEO "cleans up"

*Small (Mid) [Large] < 2 (< 10) [≥ 10] billion EURO as of 09/2018 (Sources: FactSet and Thomson One) **Q1: What happens in the announcing firm following a CEO turnover?, Q2: Do rival firms (try to) take advantage of CEO turnover, Q3: Comment on alternative explanations. Further details are available upon request.

Table 7: Count of strategic initiatives in response to turnover announcements by turnover and rival firms

	Positive Information Effect				Negative Information Effect	
	Merger or Acquisition	Joint Venture / Strategic Partnership or Alliance	New Product or Sales Initiative	Opening of Facilities / Increase of Production Units	Closing of Facilities / Decrease of Production Units	Restructuring (e.g. Major Lay-offs, Spin-offs, Reorganization)
0-3 month	Turnover firm	48	10	6	11	27
	Rival firm	77	14	12	18	8
	Difference	-38%	-29%	-50%	-39%	59% 163%
3-6 month	Turnover firm	37	17	4	10	20
	Rival firm	39	17	7	23	14 13
	Difference	-5%	0%	-43%	-57%	43% -15%
6-9 month	Turnover firm	45	13	4	12	20
	Rival firm	36	12	6	7	15 7
	Difference	25%	8%	-33%	71%	33% 114%
9-12 month	Turnover firm	38	16	2	13	21
	Rival firm	22	8	4	8	10 11
	Difference	73%	100%	-50%	63%	110% -27%
0-12 month	Turnover firm (all)	168	56	16	46	88
	Rival firm (all)	174	51	29	56	56 39
	Difference (all)	-3%	10%	-45%	-18%	57% 41%