RELATIONAL OWNERSHIP AND CEO CONTINUITY:

A PROPERTY RIGHTS PERSPECTIVE

Hossam Zeitoun
Warwick Business School
University of Warwick
Coventry, CV4 7AL (UK)
Tel. +44 24 7652 80 58
hossam.zeitoun@wbs.ac.uk
(corresponding author)

Paolo Pamini
Centre for Law and Economics
ETH Zurich
Raemistrasse 101
8092 Zurich (Switzerland)
Tel. +41 44 632 78 65
ppamini@ethz.ch

Hossam Zeitoun is an assistant professor of strategy and behavioural science at Warwick Business School at the University of Warwick. He received his Ph.D. from the Department of Business Administration at the University of Zurich. His current research interests include corporate governance, behavioural science, and configurational theories of organization.

Paolo Pamini is an economist at the Centre for Law and Economics at ETH Zurich (Swiss Federal Institute of Technology). He received his Ph.D. from the Department of Economics at the University of Zurich. His current research interests include top management teams, executive succession, and human resource management practices.

Acknowledgements:

Hossam Zeitoun gratefully acknowledges the Swiss National Science Foundation for financial support (grant number PBZHP1_143612).

RELATIONAL OWNERSHIP AND CEO CONTINUITY:

A PROPERTY RIGHTS PERSPECTIVE

Abstract

Inspired by agency theory, research on CEO succession often focuses on turnovers as a mechanism to discipline CEOs in the event of poor firm performance. Recent research extends this view by showing that CEO turnovers can also lead to substantial disruption in a firm's management. Less is known, however, about the antecedents of disruption and continuity in the context of CEO turnovers. Drawing on modern property rights theory, this paper investigates how CEO continuity varies across different types of firms. Using a sample of Swiss, publicly traded firms, we find that relational ownership enhances the likelihood of CEOs staying in office or moving to the position of board chair. Firms with little relational ownership, in contrast, display a high degree of CEO continuity only when capital intensity is high. Provided that a CEO turnover occurs, relational ownership and capital intensity reduce the likelihood of interim CEO successions. These findings highlight the importance of a nuanced view of CEO continuity, taking into account owner types as well as contextual factors.

Keywords: CEO succession; CEO turnovers; incomplete contracts; interim succession; ownership structure; property rights; stakeholders

INTRODUCTION

Chief executive officer (CEO) successions are a central topic in strategic management and corporate governance. Since the late 1990s, the world's largest economies have witnessed a substantial increase in the frequency of CEO turnovers, leading to the depiction of CEOs as the world's 'most prominent temp workers' (Lucier et al., 2005: 1). Inspired by agency theory (e.g., Jensen and Meckling, 1976), many studies have focused on CEO turnovers as a disciplining mechanism—i.e., the prospect of being replaced in the event of poor firm performance can discipline CEOs to enhance shareholder value (e.g., Volpin, 2002). In this view, the high rate of CEO turnover could be seen as a desirable development because long-tenured CEOs can become less dynamic and innovative (Miller, 1991).

Recent research, in contrast, highlights the frequently disruptive nature of CEO turnovers for a firm (e.g., Krause and Semadeni, 2014, Quigley and Hambrick, 2012). Frequent disruption in the CEO position can have undesirable effects, such as power struggles among top managers and uncertainty among stakeholders about the firm's future direction and policies (Kesner and Sebora, 1994). Thus, continuity in the firm's CEO position (henceforth: 'CEO continuity') has advantages and disadvantages. Less is known, however, about the antecedents of CEO continuity. In particular, an important question is whether the advantages and disadvantages of CEO continuity differ in their importance for different types of firms.

By joining agency theory and modern property rights theory, we can obtain a deeper understanding of the trade-offs that firms face with regard to CEO successions. Modern property rights theory serves as a lens to analyse the firm's relationships with its stakeholders (Asher et al., 2005, Blair and Stout, 1999, Grossman and Hart, 1986, Mayer, 2013). In this perspective, the firm's long-term success hinges on the contributions of various stakeholders (e.g., shareholders, employees, suppliers, customers, and the local community). These stakeholders often make

substantial (monetary or non-monetary) investments that are difficult to safeguard through formal contracts (Wang et al., 2009). This lack of contractual protection leaves stakeholders vulnerable to exploitation (Klein et al., 1978). Therefore, they need to rely on implicit contracts, defined as 'informal agreements and unwritten codes of conduct' that cannot be enforced by courts (Baker et al., 2002: 39). CEOs and top managers assume a crucial role in protecting these implicit contracts, due to their position at the centre of the nexus of (explicit and implicit) contracts with stakeholders (Hill and Jones, 1992). CEO continuity is likely to reassure the firm's stakeholders about the future maintenance of their implicit contracts (Kochan and Rubinstein, 2000), whereas frequent disruptions create uncertainty about the firm's adherence to them.

This paper contributes to understanding continuity in CEO successions. We begin by contrasting agency theory and property rights theory, highlighting their implications for CEO continuity. To examine the antecedents of CEO continuity, we develop hypotheses focusing on the distinction between relational and transactional ownership (e.g., David et al., 2010) and on the direct and moderating influence of capital intensity. The empirical analysis uses a sample of Swiss, publicly traded firms in the period 2000 to 2008. We explain the empirical context and its advantages, present the empirical findings, and discuss their theoretical and practical relevance.

THEORY AND HYPOTHESIS DEVELOPMENT

Research on CEO turnovers often applies agency theory, considering CEOs as agents of shareholders as their principals. The agency problem results from the separation of ownership and control in public corporations (Berle and Means, 1932). Due to the partially conflicting goals of agents and principals, agency theory has devoted a lot of attention to mechanisms that align their interests (Fama, 1980, Jensen and Meckling, 1976). In this view, CEO turnovers can improve the alignment of interests by punishing and replacing poorly performing CEOs.

An alternative perspective—drawing on modern property rights theory (Grossman and Hart, 1986, Hart and Moore, 1990)—suggests that the investments of multiple stakeholders (including shareholders) need to be protected (Asher et al., 2005, Blair and Stout, 1999, Mayer, 2013). For example, such investments include employees who acquire firm-specific knowledge; suppliers who invest in research to tailor their intermediate products to the needs of the firm; customers who assist in the development of products; and the local community that invests in better access to the firm's facilities. Such firm-specific investments are essential to the firm's long-term success (Antras, 2014, Zingales, 2000). Therefore, these stakeholders represent multiple principals whose interests require protection (Child and Rodrigues, 2003).

Insert Table 1 about here

Table 1 contrasts these theoretical perspectives and their implications for CEO succession. CEO continuity is clearly a greater concern when adopting the property rights perspective. CEOs assume a unique role in safeguarding implicit contracts with stakeholders (Hill and Jones, 1992). Therefore, CEO continuity has an important function in reassuring stakeholders about the future maintenance of their implicit contracts (Kochan and Rubinstein, 2000).

Continuity in CEO successions

How can we conceptualize continuity in the context of CEO successions? Prior studies on CEO successions have produced numerous valuable insights from an agency theoretic perspective by distinguishing between unforced CEO turnovers and forced CEO dismissals. These studies highlight the relationship between poor firm performance and CEO dismissals, and how this relationship is influenced by governance mechanisms (e.g., Wiersema and Zhang, 2011). From the property rights perspective, however, CEO turnovers represent disruptions for the firm and its stakeholders regardless of whether they are forced or unforced (Zajac and Westphal, 1996). Indeed, Kaplan and Minton find that both types of CEO successions are sensitive to poor firm performance, and they suggest that 'many unforced turnovers are not voluntary' (2008: 17).

Although changes in the CEO position are inevitable, there is variation in the continuity related to CEO successions. We distinguish between two types of analysis. First, firms can maintain a high degree of CEO continuity by granting CEOs long tenures and/or by promoting them to the position of board chair at the end of their tenure (Quigley and Hambrick, 2012). This type of promotion is known as 'apprenticing' because it enables predecessors to remain involved in major decisions and pass their strategies and values on to their successors (Krause and Semadeni, 2013). To illustrate, the CEO of SABMiller, a leading beverage producer, was promoted to the position of board chair in 2013, and this decision was justified by the firm's need for a chair who can 'provide stability and continuity for a number of years' (Wall Street Journal, 2012). This type of succession can substitute for long CEO tenures in maintaining CEO continuity. To illustrate, CEOs in large Japanese firms typically have relatively short tenures. Nevertheless, these firms are known for their emphasis on CEO continuity because they often promote CEOs to board chair (Lucier et al., 2006).

Second, provided that a CEO succession occurs, the degree of disruption depends in large part on whether a permanent successor (or an interim successor) is appointed. Ballinger and Marcel have drawn attention to the disruptions caused by interim CEO successions, defined as cases where 'the title of chief executive officer is vacated by the incumbent and the board of directors has not announced a permanent successor' (2010: 262). Interim CEO successions are particularly disruptive because they create extended uncertainty, thereby precipitating problems, such as the fragmentation of the top management team and the ambiguity about the firm's future strategy. Hence, interim CEO successions are likely to deepen the disruptions associated with CEO turnovers (Grusky, 1960).

Using these two outcomes, we analyse theoretical antecedents of CEO continuity. Specifically, we consider relational ownership and capital intensity. Following Shen and Cho (2005), these two antecedents affect different types of managerial discretion. Relational ownership influences the CEOs' latitude of objectives: their discretion to pursue objectives beyond purely monetary gains (see also Jensen, 2010). Capital intensity, in contrast, influences their latitude of actions: the range of strategic options available to them.

Relational ownership as an antecedent

The research literature has shown increasing interest in the heterogeneity among shareholders (e.g., Aguilera and Jackson, 2010, Connelly et al., 2010, Hautz et al., 2013). Our analysis draws on the distinction between 'relational' and 'transactional' shareholders. Relational shareholders are long-term owners who have complex performance goals beyond financial gains. These complex goals are also known as 'strategic interests' (Aguilera and Jackson, 2003). In contrast, David et al. (2010: 638) describe transactional shareholders as those 'who obtain returns solely from their shareholdings and lack other relationships with the firms'. Transactional owners may

hold their shares for the short or long term. In either case, the benefit they draw from their shareholding is predominantly or purely of a financial nature.

The following examples help illustrate the difference between relational and transactional shareholders. Sometimes families own long-term shareholdings with the intention of passing them on to their next generation. These families typically have complex performance goals, because they benefit from financial returns and from their socio-emotional wealth. Gomez-Mejia et al. (2007: 106) define socio-emotional wealth as 'non-financial aspects of the firm that meet the family's affective needs, such as identity, the ability to exercise family influence, and the perpetuation of the family dynasty'. The families' non-financial benefits are often a reason for them to support the firms' implicit contracts with stakeholders. To illustrate, Gomez-Mejia et al. (2011: 682) review the literature on family firms and point out that most papers 'explain the family firm's substantial responsiveness to stakeholder needs as driven by non-economic utilities derived by dominant family owners'. As a second example, the distinction between relational and transactional shareholders is present in studies on institutional shareholders in Japan. This research suggests that Japanese institutional shareholders have complex performance goals beyond financial returns because they are embedded in a local system with close ties (Ahmadjian and Robbins, 2005). Compared with foreign (transactional) owners, these (relational) domestic owners are more supportive of implicit contracts with the firms' stakeholders, such as lifetime employees and core suppliers (e.g., Yoshikawa et al., 2005).

Relational and transactional shareholders are likely to differ in their support for CEO continuity. First, relational shareholders are likely to be willing to support implicit contracts with other stakeholders, whereas transactional shareholders are likely to be dispassionate toward such implicit contracts. Therefore, relational shareholders are more likely than transactional shareholders to support CEO continuity to maintain implicit contracts with stakeholders.

Second, relational and transactional shareholders are likely to differ in their tendency to push the board to replace the CEO. The pressure of shareholders on boards is illustrated in Wiersema's (2002: 77) statement that 'typically a CEO gets fired not because the board has thoughtfully and deliberately concluded that it's time for a change at the top but because investors, concerned about poor performance, demand a change'. This pressure increases under adverse environmental conditions, due to the inherent difficulty of disentangling environmental from managerial influences on firm performance (Walsh and Seward, 1990). Jenter and Kanaan (2008) underline this difficulty by showing that CEO turnovers are sensitive to industry-adjusted firm performance as well as industry and market performance. Relational shareholders, given their long-term involvement, are often able to exercise their voice early in the decision-making process. Transactional shareholders, in contrast, are often confronted with important managerial decisions after the fact. Therefore, transactional shareholders are likely to take more drastic measures to express their dissatisfaction, such as pushing for decision reversals and CEO replacements. Indeed, Weisbach (1995) shows empirically that decision reversals (e.g., the divestiture of unprofitable acquisitions) are especially likely to coincide with CEO turnovers. This discussion leads to the first hypothesis:

Hypothesis 1. Relational ownership will be positively associated with CEO continuity.

The role of capital intensity

CEO continuity is likely to depend on the firm's context. The research literature has discussed various contextual characteristics that affect the CEO's latitude of actions (e.g., Crossland and Hambrick, 2011, Quigley and Hambrick, 2015). Capital intensity— a proxy for the magnitude of 'assets-in-place' (Skinner, 1993)—is particularly relevant to CEO continuity. High capital

intensity is a way of making binding resource commitments. As a result, high capital intensity creates strategic rigidity in firms (Hambrick and Abrahamson, 1995) and constrains managers from deviating from a long-term course of action (Ghemawat, 1991).

A high degree of CEO continuity is especially beneficial in a context of high capital intensity. High investments in fixed assets lead to sunk costs and thereby make deviations from past practices risky and expensive (Datta et al., 2003). As a consequence, efficient asset management, stability, and the CEO's firm-specific knowledge are particularly important in capital-intensive firms (Datta and Rajagopalan, 1998). The importance of firm-specific knowledge makes CEOs less interchangeable (Castanias and Helfat, 1991). Furthermore, when firms are bound to long-term courses of action, stakeholders have stronger incentives to make firm-specific investments due to the lower risk that these investments become obsolete (Wang and Barney, 2006). This further increases the benefits to continuity. In contrast, when there are few constraints on the firm's long-term courses of action, discontinuities in the firm's top management represent opportunities to break with the past, experiment with new strategies, redeploy the firm's resources more flexibly, and seize emerging business opportunities (Adams et al., 2011). In sum, managerial renewals are more beneficial when capital intensity is low, and the advantages of CEO continuity are less pronounced. Therefore, we hypothesize:

Hypothesis 2. Capital intensity will be positively associated with CEO continuity.

Interaction between relational ownership and capital intensity

How does relational ownership interact with the degree of capital intensity? Firms dominated by relational shareholders are likely to emphasize CEO continuity, even when capital intensity is low. Although higher capital intensity increases the benefits to CEO continuity, this only

underlines the inherent tendency that these firms already have. Relational shareholders have a long time horizon and tend to be supportive of implicit contracts with other stakeholders (Yoshikawa et al., 2005). High capital intensity supports this orientation by dedicating resources to long-term purposes. Therefore, we expect that higher capital intensity will have a comparatively weak effect due to these firms' already strong emphasis on CEO continuity.

Firms dominated by transactional shareholders (i.e., little relational ownership), in contrast, lack an inherent tendency to emphasize CEO continuity. Given their relatively weak support for implicit contracts with other stakeholders (Mayer, 2013), they are more likely to seek the benefits of CEO discontinuities, i.e., managerial renewal, breaking with the past, and experimenting with new strategies. Although these benefits are important in a context of low capital intensity, they diminish when capital intensity is high due to the lack of strategic flexibility and the dependence on the CEO's firm-specific knowledge. As a result, CEO discontinuities can become risky and expensive. High capital intensity is likely to represent a considerable constraint for these firms. Therefore, we expect that higher capital intensity will have a strong effect on these firms' emphasis on CEO continuity. These considerations lead to the following hypothesis:

Hypothesis 3. If relational ownership is low, CEO continuity will be highly sensitive to the degree of capital intensity. Conversely, if relational ownership is high, CEO continuity will be relatively insensitive to the degree of capital intensity.

Interim CEO succession

We examine interim CEO succession as a second outcome. Ballinger and Marcel (2010) show that interim successions are typically related to unexpected CEO departures and abrupt losses of

confidence between the board and the current CEO. Although CEO turnovers generally tend to be disruptive (Grusky, 1960), interim CEO successions are particularly disruptive due to the power vacuum and the uncertainty about the next permanent leader (Marcel et al., 2016). Interim CEOs often lack the authority to set a long-term direction for the firm (Wall Street Journal, 2006). Moreover, interim successions can cause stakeholders to lose confidence in their implicit contracts with the firm and to switch to other trading partners (Chen et al., 2015). Firms that emphasize CEO continuity are likely to be particularly cautious in avoiding interim CEO succession. We apply Hypotheses 1, 2, and 3 to interim CEO succession as a second dependent variable. Because interim CEO succession reflects discontinuity, we expect that the coefficients will show the opposite sign (i.e., $\beta_1 < 0$, $\beta_2 < 0$, and $\beta_3 > 0$; see Methods section).

METHODS AND DATA

Switzerland as an empirical context

This study uses a sample of Swiss firms. A beneficial characteristic of Swiss listed firms is their variation in ownership structures. La Porta et al. (1999) compared the level of ownership concentration in listed firms across countries. In Switzerland, 60 percent of large firms and 50 percent of medium-sized firms were widely held. The corresponding figures for other countries were substantially more skewed (e.g., UK: 100 and 60 percent; US: 80 and 90 percent; France: 60 and 0 percent; and Germany: 50 and 10 percent). As these figures illustrate, Switzerland is between the liberal market economies (e.g., the UK and the US) and the coordinated market economies (e.g., France and Germany) (Hall and Soskice, 2001). Although some studies position Switzerland in the latter category (e.g., Jackson, 2005), Switzerland features a high stock market capitalization relative to gross domestic product and thereby has similarities with countries in the

former category. The Swiss setting includes firms with various ownership structures operating under the same legal framework. This variety of ownership structures helps generalize our findings to other developed economies, particularly to those with a similarly low level of government interference in firms (such as the UK). Other typical features of Swiss listed firms are a high degree of internationalization (because Switzerland is a small open economy) and a focus on achieving competitive positions in international market niches.

The observation period comprises the years 2000 to 2008. Using the *Swiss Stock Guide* (Finanz und Wirtschaft, 2000-2008), we selected all firms that were listed for at least six years during this period. How does this observation period compare with the time after the global financial crisis (GFC)? First, CEO turnovers temporarily decreased after the GFC, but soon returned to the pre-GFC levels in international statistics (Favaro et al., 2012). In both periods, CEO turnovers occurred more frequently than in the 1990s (Lucier et al., 2005). Second, the pre-GFC period was less affected by regulatory changes. The Swiss Code of Corporate Governance, introduced in 2002, remained entirely voluntary and emphasized that firms should retain their freedom to design their own structures. After the GFC, however, perceived corporate governance failures led to a popular initiative in 2013 demanding better checks on excessive managerial salaries. Two-thirds of the electorate voted in favour of the initiative, resulting in a new law that increased shareholders' rights (e.g., by enabling shareholders to re-elect board members more frequently). To summarize, the pre-GFC period is comparable with the post-GFC period in terms of CEO turnover frequency, but has the advantage of a more stable regulatory environment. Although our findings may not apply to the turbulent years of the crisis (which is an interesting separate research question), they are likely to extend to the more stable subsequent period.

The final sample included 200 corporations with 380 CEOs. We excluded 27 investment firms from the sample because their main business is investing in other firms. The firms in the

sample represent the following industries according to Datastream's 'business sector' classification: automobiles and parts (0.52%), banks (10.78%), basic resources (2.61%), chemicals (4.17%), construction and materials (3.07%), financial services (10.14%), food and beverage (3.13%), health care (10.49%), industrial goods and services (23.46%), insurance (3.53%), media (3.53%), personal and household goods (4.92%), retail (3.01%), technology (7.88%), telecommunication (0.52%), travel and leisure (4.11%), and utilities (4.11%).

Dependent variables

There are two dependent variables, namely *CEO continuity* and *interim CEO successions*. For the measurement of these variables, we used annual reports, press releases, newspaper articles, and the Swiss Stock Guide. The coding procedure is described in the following sections.

CEO continuity

There were 215 CEO successions in the sample. We excluded those related to exogenous shocks: death (2 cases), health problems (1 case), and mergers (4 cases). Among the remaining 208 successions, 44 involved promotions to board chair. We measured CEO continuity as each firm-year where the CEO either stayed in office or was promoted to board chair. The variable for CEO continuity was coded as 1 for 1,701 firm-years and as 0 for 164 firm-years.

Furthermore, we assessed whether retirement at the age of 65 might represent an exogenous shock. Among CEOs whose age was known, 31 CEOs were more than 63 years old. 17 of them remained active board members, and only 8 CEOs retired. One of the 8 retired CEOs later became the CEO of UBS, one of the largest Swiss banks. This evidence suggests that retirement is not an exogenous shock. Boards have the choice to maintain CEO continuity either by retaining them as CEOs or by promoting them to board chair.

Interim CEO succession

Following Ballinger and Marcel (2010), interim successions represent cases where CEOs left office without a permanent successor being announced by the board of directors. Based on the analysis of press releases and newspaper articles, we identified 27 among the 164 CEO successions as interim successions.

Independent variables

The first independent variable is relational ownership. The Swiss Stock Guide provides a yearly assessment of the percentage of equity capital that is non-tradable on the stock market due to the shareholders' long-term relationship with the firm. These shareholders typically have complex performance goals that go beyond financial gains. They are unlikely to sell their shares even if there is a short-term increase in share price. Given their long-term involvement, they are also more likely to engage with or seek representation on the board of directors. Using the Swiss Stock Guide, we measured *relational ownership* as the percentage of votes held by relational (as opposed to transactional) owners. This measure had the advantage that it was a forward-looking assessment from within the investment community. However, it needed to be adjusted because, in the case of dual-class shares, some shareholders had more votes than their share of equity capital. We corrected the variable for relational ownership, such that it measured their proportion of votes. Conversely, *transactional ownership* was the proportion of votes held by other (i.e., not relational) shareholders.

The second independent variable is *capital intensity*. As discussed, capital intensity represents a constraint on managerial discretion in deviating from a long-term course of action. This constraint depends to a considerable extent on the firm's industry and, indeed, some studies

measure capital intensity as an industry-level characteristic (Hambrick and Abrahamson, 1995). However, Finkelstein and Boyd (1998) suggest that this constraint depends both on the industry and the firm's legacy from past decisions. Following their measurement, we computed capital intensity at the firm level as the natural logarithm of the book value of property, plant, and equipment, divided by the number of employees. The data were collected from the Datastream databases of Thomson Reuters.

Control variables

The following control variables draw on data from the Datastream databases of Thomson Reuters, the Swiss Stock Guide, annual reports, press releases, and newspaper articles. Firm performance is likely to enhance CEO continuity because strong firm performance tends to increase confidence in the firm's management (e.g., Powers, 2005). We applied two measures for firm performance, namely stock return as a market-based measure and industry-adjusted return on assets (ROA) as an accounting-based measure. Both measures were lagged by one year. *Stock return* was calculated as the continuous annual return including value appreciation and dividend yield. Some previous studies used industry-adjusted stock returns, whereas others did not make this adjustment based on the argument that market-based measures already adjust for industry variation (e.g., Kerr and Bettis, 1987). Both measures yielded similar results in the regressions. The presented results show the latter variant. *Industry-adjusted return on assets* (ROA) was computed by subtracting the median industry ROA from the firm's ROA, using Datastream's level 3 industry sectors.

We also controlled for the following firm and CEO characteristics. *Firm size* was the natural logarithm of the number of employees. *Firm growth* represented the standardized growth coefficients: we regressed firm sales against time in the five preceding years and divided the

regression slope coefficients by the mean value of sales (e.g., Finkelstein and Boyd, 1998). Furthermore, three dummy variables measured whether the CEO occupied the positions of both CEO and board chair (*CEO duality*), whether the CEO was the firm's founder (*CEO founder*), and whether the CEO's predecessor was the firm's founder (*predecessor founder*). The dummy variables were coded as 1 in the affirmative case and 0 otherwise.

Data analysis

We tested the hypotheses using discrete-time event history analysis (Allison, 1984). This method estimates hazard rates of ending a process (here: CEO continuity), and therefore is particularly suitable for the present study. The method can account for several CEO changes within the observed time period. Studies on CEO turnovers often apply this method to avoid the biases that would occur when simply using CEO tenure (or a similar variable) as a dependent variable (e.g., Zhang, 2008).

Discrete-time event history analysis has three main advantages. First, this method takes into account the time-dependence of hazard rates. To illustrate, Allgood and Farrell (2003) report that hazard rates of CEO successions in their sample increase until the fifth year of CEO tenure, and then decrease. This method is flexible because it does not assume a specific functional form for the baseline hazard rates over time (Allison, 1982). Second, this method enables the use of time-constant and time-varying covariates to explain the variation around the baseline hazard rates. Third, it is capable of dealing with right-censored data, i.e., cases where the CEO leaves the study before a CEO turnover occurs. In the case of exogenous shocks, such as CEO death or health problems, our analysis retains the information that no CEO discontinuity happened up to the year of the exogenous shock.

In applying this method, we grouped the observations in the firm-year matrix by CEO tenure-years and then estimated the hazard rates (i.e., the likelihood of CEO continuity) using probit regression on pooled time-series data. The regression models used a robust variance-covariance estimation of standard errors, clustered at the CEO level. In sum, we estimated the following models to assess the above three hypotheses.

$$\text{Probit(CEO Continuity)} = \beta_1 * \text{Relational Ownership} + \beta_2 * \text{Capital Intensity} + \beta_4 * \text{Stock Return} + \beta_5 * \text{CEO Duality} + \beta_6 * \text{CEO Founder} + \beta_7 * \text{Predecessor Founder} + \beta_8 * \text{Firm Size} + \beta_9 * \text{Firm Growth} + \beta s * \text{Tenure Year Dummies} + \varepsilon$$

(Hypothesis 1: $\beta_1 > 0$; Hypothesis 2: $\beta_2 > 0$)

$$\text{Probit(CEO Continuity)} = \beta_1 * \text{Relational Ownership} + \beta_2 * \text{Capital Intensity} + \beta_3 * \text{Relational Ownership X Capital Intensity} + \beta_4 * \text{Stock Return} + \beta_5 * \text{CEO Duality} + \beta_6 * \text{CEO Founder} + \beta_7 * \text{Predecessor Founder} + \beta_8 * \text{Firm Size} + \beta_9 * \text{Firm Growth} + \beta s * \text{Tenure Year Dummies} + \varepsilon$$

(Hypothesis 3: $\beta_3 < 0$)

The second outcome is interim CEO succession. Given that interim CEO succession can only occur in the case of a CEO turnover, we estimated the following models (without and with interaction effect, respectively).

$$\text{Probit(Interim CEO Succession | CEO Turnover)} = \beta_1 * \text{Relational Ownership} + \beta_2 * \text{Capital Intensity} + \beta_4 * \text{Stock Return} + \beta_5 * \text{CEO Duality} + \beta_6 * \text{CEO Founder} + \beta_7 * \text{Predecessor Founder} + \beta_8 * \text{Firm Size} + \beta_9 * \text{Firm Growth} + \beta s * \text{Tenure Year Dummies} + \varepsilon$$

(Hypothesis 1: $\beta_1 < 0$; Hypothesis 2: $\beta_2 < 0$)

Probit(Interim CEO Succession | CEO Turnover) = β_1 * Relational Ownership + β_2 * Capital Intensity + β_3 * Relational Ownership X Capital Intensity + β_4 * Stock Return + β_5 * CEO Duality + β_6 * CEO Founder + β_7 * Predecessor Founder + β_8 * Firm Size + β_9 * Firm Growth + βs * Tenure Year Dummies + ε

(Hypothesis 3: $\beta_3 > 0$)

RESULTS

Table 2 presents the means, standard deviations, and correlations between the variables.

Insert Table 2 about here

Table 3 summarizes the results of discrete-time event history analysis without interaction effects. The first two models show only the effects of control variables on the likelihood of CEO continuity, using stock return (Model 1) and industry-adjusted ROA (Model 2) as alternative performance measures. Because ROA was not significant in any of the model specifications, we retained stock return as a control variable in the subsequent regressions. Model 3 adds relational ownership and capital intensity. As there was a high multicollinearity between the constant term and the other explanatory variables, we calculated the regressions without a constant term. This means that the regression coefficients are computed using the absolute levels of the independent and dependent variables, instead of the deviations from their means (Greene, 2008).

The results in Table 3 show that relational ownership and capital intensity have positive and significant effects on CEO continuity, as proposed in Hypotheses 1 and 2. Strong firm

performance significantly increases CEO continuity as expected. CEO duality indicates a powerful CEO position (e.g., Aguilera, 2005) and positively influences CEO continuity. Furthermore, the existence of a predecessor founder has a positive and significant effect. This result is consistent with Fredrickson et al.'s (1988) suggestion that there is an increased need for stability after the departure of the firm's founder. Finally, firm size positively influences CEO continuity. This finding might be attributed to need for CEOs to acquire firm-specific knowledge, given the complexity of relationships within large firms.

Insert Table 3 about here

In Table 4, the first two models show that neither relational ownership nor capital intensity significantly interact with stock return. Thus, both predictor variables' effects on CEO continuity do not depend systematically on the level of firm performance. Then, Model 3 shows the interaction effect of principal interest. The interaction between relational ownership and capital intensity is negative and significant, consistent with Hypothesis 3.

Insert Table 4 about here

Given that interaction effects in non-linear models can sometimes be misleading (Powers, 2005), we conducted a statistical simulation based on Zelner's (2009) technique for the interaction between relational ownership and capital intensity. Figure 1 illustrates the relationship between capital intensity and CEO continuity, holding relational ownership at 20 percent (i.e., the first quartile) and at 68 percent (i.e., the third quartile). The bands around the lines indicate the 95 percent confidence intervals obtained through statistical simulation. This figure shows that when

relational ownership is low, CEO continuity is highly sensitive to the degree of capital intensity (i.e., the line has a considerable upward slope). In contrast, when relational ownership is high, CEO continuity is relatively insensitive to the degree of capital intensity (i.e., the line is relatively flat). Thus, Figure 1 offers further support for Hypothesis 3.[1]

Insert Figure 1 about here

Finally, we investigated the effects of relational ownership and capital intensity on interim CEO successions. Because interim successions can occur only in the case of a CEO turnover, we applied a variant of Heckman's (1979) sample selection model that has been adapted to probit regressions (i.e., a Heckman probit estimation) (Van de Ven and Van Praag, 1981) (see Table 5). The results show that the predictor variables (relational ownership and capital intensity) reduce the likelihood of interim CEO successions (Model 1). However, there is no significant interaction effect between relational ownership and capital intensity (Model 2). When using interim CEO successions as an alternative outcome, results show additional corroboration for the first two hypotheses, but not for the third one. Nevertheless, these results are encouraging because interim CEO successions occur very rarely and reflect only a very special case of CEO discontinuity.

Insert Table 5 about here

---

[1] Furthermore, we examined the possibility of endogeneity in the predictor variables, using the procedure described by Rivers and Vuong (1988) for dichotomous dependent and continuous independent variables (Wooldridge, 2002). For the two potentially endogenous variables (relational ownership and capital intensity), we used the industry-averages as the instruments. The residuals showed no evidence for endogeneity. Moreover, the coefficients of relational ownership, capital intensity, and their interaction remained qualitatively similar to those in the main regression models.

DISCUSSION

The above analysis highlights the usefulness of joining different theoretical perspectives to gain a richer understanding of CEO successions. Studies using agency theory tend to emphasize the disciplining effects of CEO turnovers under conditions of poor firm performance. In contrast, using modern property rights theory, the present study points to the importance of maintaining CEO continuity under long-term considerations (here: relational ownership and capital intensity). Our theoretical analysis suggests that these factors influence the benefits to CEO continuity.

There exist also other theoretical perspectives that deviate from the traditional agency theoretic analysis of CEO successions. For example, Chabrak et al.'s (2016) study applies the sociological theory of structuration to examine the case of Vivendi Universal (VU). They discuss how the 'established elite' (i.e., the French establishment) and the 'old guard' (i.e., the Bronfman family as a longstanding shareholder) cooperated to oust the 'nouveau riche' (i.e., Mr Messier, the CEO of VU). This qualitative case study shows how class relationships affected Mr Messier's agency. Our approach based on property rights theory offers a complementary interpretation of this case. In particular, VU's shareholder structure changed considerably over time. The influence of transactional shareholders continuously increased in the years prior to Mr Messier's ousting. This increase in transactional ownership coincided with greater strategic agility and with Mr Messier reneging on implicit contracts with stakeholders (e.g., the preservation of French influence on the firm's environmental operations and the funding of French cinema). Although the established elite were dissatisfied about the breach of implicit contracts, they were unable to oust Mr Messier on their own. When the firm's stock price deteriorated, however, they were able to use poor firm performance as 'ammunition' and to collaborate with shareholders in ousting Mr

Messier. As this example illustrates, a combination of theoretical perspectives helps create a more nuanced understanding of the influence of shareholders on CEO succession.

Joining agency theory and modern property rights theory helps to understand the trade-offs with regard to CEO successions. For instance, firms in the information technology sector often face a double challenge: (a) committing to long-term implicit contracts with employees and other stakeholders and (b) being attractive to transactional shareholders due to the firm's need of growth capital. For example, in 2004, Google launched an initial public offering (IPO) thereby attracting investment by transactional shareholders. At the same time, Google's (2004) IPO letter stated the founders' desire for maintaining stability and continuity over long time periods.

This trade-off is particularly challenging due to the negative relationship between transactional ownership and CEO continuity. One solution, adopted by Google and many other technology firms, is the issuance of dual-class shares. Using an agency theoretic lens, dual-class shares exacerbate the management's incentive problems (Bebchuk et al., 2000: 295). In contrast, applying the modern property rights perspective, dual-class shares represent an opportunity to commit to implicit contracts. This type of share enables relational shareholders to retain control while offering transactional shareholders the right to share in the firm's profits. To illustrate, Google's (2004) IPO letter suggests that its dual-class structure enables employees to trust that the firm will honour its long-term commitments.

The property rights perspective also has interesting implications for the second predictor variable: capital intensity. In capital-intensive firms, CEOs have relatively high discretion to influence the firm's earnings. In particular, CEOs can choose different timings for large capital expenditures, and they can choose different accounting methods for depreciation (Bowen et al., 2008). According to positive accounting theory (Christensen et al., 2016, Watts and Zimmerman,

1990), the CEO's discretion in influencing the firm's earnings reduces the effectiveness of management compensation contracts based on accounting numbers (Beattie et al., 1994).

How is it possible to incentivize CEOs in such a setting? The property rights perspective offers an intriguing solution: access. Rajan and Zingales (1998: 388) define access as 'the ability to use, or work with, a critical resource'. Access offers individuals the opportunity to specialize their human capital, thereby making themselves valuable. If CEOs have continued access to the critical resource (in this case: the firm), they have an incentive to acquire firm-specific knowledge. According to Rajan and Zingales (1998: 388), 'access gives her the ability to create a critical resource that she controls: her specialized human capital'. A potential downside of access is that CEOs may steal a resource (e.g., a novel business idea) and create a rival firm. In capital-intensive firms, however, this risk is relatively small due to the fixed nature of capital investments.

These considerations enrich the interpretation of the findings on CEO continuity. We can interpret a high degree of CEO continuity as a way of offering managers access to the firm. Access can sometimes be a better incentive mechanism than cash flow rights (Rajan and Zingales, 2001). The reason is that the managers' benefit from access is positively correlated with their own investments in firm-specific knowledge (i.e., the managers' benefits are highly contingent on them making the right investments).

Finally, property rights theory adds nuance to the role of CEOs in the literature on CEO successions. In agency theory, the focus is on the conflict of interest between shareholders and CEOs (and on replacing CEOs when firm performance is poor). The assumption is that CEOs have a direct responsibility for the firm's financial performance (Quigley and Hambrick, 2015). Property rights theory, in contrast, highlights that CEOs also contribute indirectly to the firm performance by upholding implicit contracts with other stakeholders.

CONCLUSIONS

This paper makes several contributions to the literature on CEO succession. The theoretical analysis uses property rights theory to highlight CEO continuity as an important aspect of CEO successions. Consistent with the theoretical predictions, we find that relational ownership and capital intensity increase the likelihood of CEO continuity and reduce the likelihood of interim CEO successions. Furthermore, relational ownership and capital intensity interact in their effect on CEO continuity (but not on interim successions). The discussion outlines links with related strands of literature within and beyond property rights theory.

This study has several limitations that lead to fruitful opportunities for future research. First, some European countries (such as Germany) have co-determination laws, mandating firms to offer employees seats on the board (Hertig, 2006). This direct representation of employees is likely to influence CEO continuity. The present study cannot capture this effect because Switzerland has no co-determination laws. Second, there can be political pressures on firms that are not reflected in their shareholder structures. In Switzerland, such outside influence is limited due to the tradition of limiting government's interference in firms (sometimes described as laissez-faire capitalism). Future research could extend the analysis of CEO continuity to countries where the government's interference is stronger. Third, in many other countries, there is a predominance of relational or transactional ownership, respectively (La Porta et al., 1999). Switzerland is akin to a microcosm that reflects these varying shareholder structures. Future cross-country research would be useful to validate and extend the empirical findings.

The consideration of continuity in CEO successions is important for practitioners. Larcker and Miles' (2010) survey of North American directors and CEOs illustrates the neglect of CEO

succession planning. Their survey shows that only 54 percent of firms are grooming an executive as successor to the current CEO. Furthermore, boards only spend an average of two hours a year to discuss and plan for CEO succession. In a majority of firms, boards do not know whether internal candidates would be willing to become CEO, if the job was offered to them.

The theoretical and empirical analyses in this study suggest several recommendations for practitioners. First, it is important for boards to take into account the different shareholder structures and their implications for CEO continuity. Our findings show that firms with transactional ownership in a context of low capital intensity are particularly prone to CEO discontinuity. These disruptions present opportunities for firms to break with the past and change strategic directions. Simultaneously, however, boards need to mitigate the negative consequences of these disruptions by spending sufficient time on succession planning and managing the expectations of key stakeholders. Second, boards need to consider the requirements regarding the CEO's firm-specific knowledge. When these requirements are high, such as in a capital-intensive context, an emphasis on continuity can induce CEOs to acquire firm-specific knowledge. This is particularly important when CEOs have discretion to influence accounting methods. Third, at the policy level, we suggest that there is not one best model of CEO succession. Many newspaper reports criticize the drop in average CEO tenures since the 1990s. This study shows, however, that CEO continuity is not uniformly low and that there are valid reasons for the observed variation in continuity. Thus, it is advisable that any regulatory response avoids a one-size-fits-all approach and takes into account the different needs of different types of firms.

REFERENCES

Adams, R. B., A. N. Licht and L. Sagiv (2011). 'Shareholders and stakeholders: How do directors decide?', *Strategic Management Journal,* **32,** pp. 1331–1355.

Aguilera, R. V. (2005). 'Corporate governance and director accountability: An institutional comparative perspective', *British Journal of Management,* **16,** pp. S39–S53.

Aguilera, R. V. and G. Jackson (2003). 'The cross-national diversity of corporate governance: Dimensions and determinants', *Academy of Management Review,* **28,** pp. 447–465.

Aguilera, R. V. and G. Jackson (2010). 'Comparative and international corporate governance', *Academy of Management Annals,* **4,** pp. 485–556.

Ahmadjian, C. L. and G. E. Robbins (2005). 'A clash of capitalisms: Foreign shareholders and corporate restructuring in 1990s Japan', *American Sociological Review,* **70,** pp. 451–471.

Allgood, S. and K. A. Farrell (2003). 'The match between CEO and firm', *Journal of Business,* **76,** pp. 317–341.

Allison, P. D. (1982). 'Discrete-time methods for the analysis of event histories', *Sociological Methodology,* **13,** pp. 61–98.

Allison, P. D. (1984). *Event History Analysis: Regression for Longitudinal Event Data,* Sage, Newbury Park, CA.

Antras, P. (2014). 'Grossman-Hart (1986) goes global: Incomplete contracts, property rights, and the international organization of production', *Journal of Law Economics and Organization,* **30,** pp. 118-175.

Asher, C. C., J. M. Mahoney and J. T. Mahoney (2005). 'Towards a property rights foundation for a stakeholder theory of the firm', *Journal of Management and Governance,* **9,** pp. 5–32.

Baker, G., R. Gibbons and K. J. Murphy (2002). 'Relational contracts and the theory of the firm', *Quarterly Journal of Economics,* **117,** pp. 39–84.

Ballinger, G. A. and J. J. Marcel (2010). 'The use of an interim CEO during succession episodes and firm performance', *Strategic Management Journal,* **31,** pp. 262–283.

Beattie, V., S. Brown, D. Ewers, B. John, S. Manson, D. Thomas and M. Turner (1994). 'Extraordinary items and income smoothing: A positive accounting approach', *Journal of Business Finance and Accounting,* **21,** pp. 791-811.

Bebchuk, L. A., R. Kraakman and G. G. Triantis (2000). Stock pyramids, cross-ownership, and dual class equity: The mechanisms and agency costs of separating control from cash-flow rights. In: R. K. Morck (ed.) *Concentrated Corporate Ownership.* pp. 295-318.

Berle, A. A. and G. C. Means (1932). *The Modern Corporation and Private Property,* Macmillan, New York.

Blair, M. M. and L. A. Stout (1999). 'A team production theory of corporate law', *Virginia Law Review,* **85,** pp. 246–328.

Bowen, R. M., S. Rajgopal and M. Venkatachalam (2008). 'Accounting discretion, corporate governance, and firm performance', *Contemporary Accounting Research,* **25,** pp. 351-405.

Brickley, J. A. (2003). 'Empirical research on CEO turnover and firm-performance: A discussion', *Journal of Accounting and Economics,* **36,** pp. 227-233.

Castanias, R. P. and C. E. Helfat (1991). 'Managerial resources and rents', *Journal of Management,* **17,** pp. 155–171.

Chabrak, N., R. Craig and N. Daidj (2016). 'Nouveau riche, old guard, established elite: Agency and the leadership of Vivendi Universal', *Leadership,* **12,** pp. 398-419.

Chen, G. L., S. Q. Luo, Y. Tang and J. Y. Tong (2015). 'Passing probation: Earnings management by interim CEOs and its effect on their promotion prospects', *Academy of Management Journal*, **58,** pp. 1389-1418.
Child, J. and S. B. Rodrigues (2003). 'Corporate governance and new organizational forms: Issues of double and multiple agency', *Journal of Management and Governance*, **7,** pp. 337–360.
Christensen, H. B., V. V. Nikolaev and R. Wittenberg-Moerman (2016). 'Accounting information in financial contracting: The incomplete contract theory perspective', *Journal of Accounting Research*, **54,** pp. 397-435.
Connelly, B. L., R. E. Hoskisson, L. Tihanyi and S. T. Certo (2010). 'Ownership as a form of corporate governance', *Journal of Management Studies*, **47,** pp. 1561–1589.
Crossland, C. and D. C. Hambrick (2011). 'Differences in managerial discretion across countries: How nation-level institutions affect the degree to which CEOs matter', *Strategic Management Journal*, **32,** pp. 797–819.
Datta, D. K. and N. Rajagopalan (1998). 'Industry structure and CEO characteristics: An empirical study of succession events', *Strategic Management Journal*, **19,** pp. 833–852.
Datta, D. K., N. Rajagopalan and Y. Zhang (2003). 'New CEO openness to change and strategic persistence: The moderating role of industry characteristics', *British Journal of Management*, **14,** pp. 101–114.
David, P., J. P. O'Brien, T. Yoshikawa and A. Delios (2010). 'Do shareholders or stakeholders appropriate the rents from corporate diversification? The influence of ownership structure', *Academy of Management Journal*, **53,** pp. 636–654.
Donaldson, T. and L. E. Preston (1995). 'The stakeholder theory of the corporation – concepts, evidence, and implications', *Academy of Management Review*, **20,** pp. 65–91.
Eisenhardt, K. M. (1989). 'Agency theory – an assessment and review', *Academy of Management Review*, **14,** pp. 57–74.
Engel, E., R. M. Hayes and X. Wang (2003). 'CEO turnover and properties of accounting information', *Journal of Accounting and Economics*, **36,** pp. 197-226.
Fama, E. F. (1980). 'Agency problems and the theory of the firm', *Journal of Political Economy*, **88,** pp. 288–307.
Fama, E. F. and M. C. Jensen (1983). 'Separation of ownership and control', *Journal of Law and Economics*, **26,** pp. 301–325.
Favaro, K., P.-O. Karlsson and G. L. Neilson (2012). 'CEO succession 2011: The new CEO's first year', *strategy+business***,** pp. http://www.strategy-business.com/ [April 2016].
Finanz und Wirtschaft (2000-2008). *Swiss Stock Guide*, Verlag Finanz und Wirtschaft AG, Zurich.
Finkelstein, S. and B. K. Boyd (1998). 'How much does the CEO matter? The role of managerial discretion in the setting of CEO compensation', *Academy of Management Journal*, **41,** pp. 179–199.
Fredrickson, J. W., D. C. Hambrick and S. Baumrin (1988). 'A model of CEO dismissal', *Academy of Management Review*, **13,** pp. 255–270.
Ghemawat, P. (1991). *Commitment: The Dynamic of Strategy*, Free Press, New York.
Gomez-Mejia, L. R., C. Cruz, P. Berrone and J. De Castro (2011). 'The bind that ties: Socioemotional wealth preservation in family firms', *Academy of Management Annals*, **5,** pp. 653-707.

Gomez-Mejia, L. R., K. T. Haynes, M. Nunez-Nickel, K. J. L. Jacobson and J. Moyano-Fuentes (2007). 'Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills', *Administrative Science Quarterly,* **52,** pp. 106–137.
Google (2004). Founders' IPO letter: "An owner's manual" for Google's shareholders. https://www.sec.gov/Archives/edgar/data/1288776/000119312504073639/ds1.htm [April 2016].
Greene, W. H. (2008). *Econometric Analysis,* Pearson Prentice Hall, Upper Saddle River, NJ.
Grossman, S. J. and O. D. Hart (1986). 'The costs and benefits of ownership: A theory of vertical and lateral integration', *Journal of Political Economy,* **94,** pp. 691–719.
Grusky, O. (1960). 'Administrative succession in formal organizations', *Social Forces,* **39,** pp. 105–115.
Hall, P. A. and D. W. Soskice (2001). An introduction to varieties of capitalism. In: P. A. Hall and D. W. Soskice (eds.), *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage.* pp. 1–68. Oxford: Oxford University Press.
Hambrick, D. C. and E. Abrahamson (1995). 'Assessing managerial discretion across industries – a multimethod approach', *Academy of Management Journal,* **38,** pp. 1427–1441.
Hart, O. and J. Moore (1990). 'Property rights and the nature of the firm', *Journal of Political Economy,* **98,** pp. 1119–1158.
Hautz, J., M. C. J. Mayer and C. Stadler (2013). 'Ownership identity and concentration: A study of their joint impact on corporate diversification', *British Journal of Management,* **24,** pp. 102-126.
Heckman, J. J. (1979). 'Sample selection bias as a specification error', *Econometrica,* **47,** pp. 153–161.
Hertig, G. (2006). 'Codetermination as a (partial) substitute for mandatory disclosure?', *European Business Organization Law Review,* **7,** pp. 123–130.
Hill, C. W. L. and T. M. Jones (1992). 'Stakeholder-agency theory', *Journal of Management Studies,* **29,** pp. 131–154.
Jackson, G. (2005). 'Stakeholders under pressure: Corporate governance and labour management in Germany and Japan', *Corporate Governance: An International Review,* **13,** pp. 419–428.
Jensen, M. C. (2010). 'Value maximization, stakeholder theory, and the corporate objective function', *Journal of Applied Corporate Finance,* **22,** pp. 32–42.
Jensen, M. C. and W. H. Meckling (1976). 'Theory of the firm: Managerial behavior, agency costs and ownership structure', *Journal of Financial Economics,* **3,** pp. 305–360.
Jenter, D. and F. Kanaan (2008). *CEO turnover and relative performance evaluation.* NBER Working Paper No. W12068. National Bureau of Economic Research, Cambridge, MA.
Kaplan, S. and B. Minton (2008). *How has CEO turnover changed? Increasingly performance sensitive boards and increasingly uneasy CEOs.* NBER Working Paper No. 12465. National Bureau of Economic Research, Cambridge, MA.
Kerr, J. and R. A. Bettis (1987). 'Boards of directors, top management compensation, and shareholder returns', *Academy of Management Journal,* **30,** pp. 645–664.
Kesner, I. F. and T. C. Sebora (1994). 'Executive succession – past, present and future', *Journal of Management,* **20,** pp. 327–372.
Klein, B., R. G. Crawford and A. A. Alchian (1978). 'Vertical integration, appropriable rents, and the competitive contracting process', *Journal of Law and Economics,* **21,** pp. 297–326.

Klein, P. G., J. T. Mahoney, A. M. McGahan and C. N. Pitelis (2012). 'Who is in charge? A property rights perspective on stakeholder governance', *Strategic Organization,* **10,** pp. 304-315.
Kochan, T. A. and S. A. Rubinstein (2000). 'Toward a stakeholder theory of the firm: The Saturn partnership', *Organization Science,* **11,** pp. 367–386.
Krause, R. and M. Semadeni (2013). 'Apprentice, departure, and demotion: An examination of the three types of CEO-board chair separation', *Academy of Management Journal,* **56,** pp. 805-826.
Krause, R. and M. Semadeni (2014). 'Last dance or second chance? Firm performance, CEO career horizon, and the separation of board leadership roles', *Strategic Management Journal,* **35,** pp. 808-825.
La Porta, R., F. Lopez-de-Silanes and A. Shleifer (1999). 'Corporate ownership around the world', *Journal of Finance,* **54,** pp. 471–517.
Larcker, D. F. and S. A. Miles (2010). Survey on CEO succession planning. https://www.gsb.stanford.edu/sites/gsb/files/publication-pdf/cgri-survey-2010-ceo-succession.pdf [August 2016].
Lucier, C., P. Kocourek and R. Habbel (2006). 'CEO succession 2005: The crest of the wave', *strategy+business***,** pp. http://www.strategy-business.com/ [April 2016].
Lucier, C., R. Schuyt and E. Tse (2005). 'CEO succession 2004: The world's most prominent temp workers', *strategy+business***,** pp. http://www.strategy-business.com/ [April 2016].
Marcel, J. J., A. P. Cowen and G. A. Ballinger (2016). 'Are disruptive CEO successions viewed as a governance lapse? Evidence from board turnover', *Journal of Management***,** p. forthcoming.
Mayer, C. (2013). *Firm Commitment: Why the Corporation Is Failing Us and How to Restore Trust in It,* Oxford University Press, Oxford.
Miller, D. (1991). 'Stale in the saddle: CEO tenure and the match between organization and environment', *Management Science,* **37,** pp. 34-52.
Powers, E. A. (2005). 'Interpreting logit regressions with interaction terms: An application to the management turnover literature', *Journal of Corporate Finance,* **11,** pp. 504–522.
Quigley, T. J. and D. C. Hambrick (2012). 'When the former CEO stays on as board chair: Effects on successor discretion, strategic change, and performance', *Strategic Management Journal,* **33,** pp. 834-859.
Quigley, T. J. and D. C. Hambrick (2015). 'Has the "CEO effect" increased in recent decades? A new explanation for the great rise in America's attention to corporate leaders', *Strategic Management Journal,* **36,** pp. 821-830.
Rajan, R. G. and L. Zingales (1998). 'Power in a theory of the firm', *Quarterly Journal of Economics,* **113,** pp. 387–432.
Rajan, R. G. and L. Zingales (2001). 'The firm as a dedicated hierarchy: A theory of the origins and growth of firms', *Quarterly Journal of Economics,* **116,** pp. 805-851.
Rivers, D. and Q. H. Vuong (1988). 'Limited information estimators and exogeneity tests for simultaneous probit models', *Journal of Econometrics,* **39,** pp. 347–366.
Shen, W. and T. S. Cho (2005). 'Exploring involuntary executive turnover through a managerial discretion framework', *Academy of Management Review,* **30,** pp. 843–854.
Skinner, D. J. (1993). 'The investment opportunity set and accounting procedure choice: Preliminary evidence', *Journal of Accounting and Economics,* **16,** pp. 407-445.

Van de Ven, W. P. M. M. and B. M. S. Van Praag (1981). 'The demand for deductibles in private health insurance: A probit model with sample selection', *Journal of Econometrics,* **17,** pp. 229–252.
Volpin, P. F. (2002). 'Governance with poor investor protection: Evidence from top executive turnover in Italy', *Journal of Financial Economics,* **64,** pp. 61–90.
Wall Street Journal (2006). A Growing Number Of Interim CEOs Add To Companies' Turmoil. http://www.wsj.com/articles/SB116639701958852918 [April, 2016].
Wall Street Journal (2012). SABMiller Unveils CEO Succession in 2013. http://online.wsj.com/article/SB10001424052702303459004577361703540451194.html [April, 2016].
Walsh, J. P. and J. K. Seward (1990). 'On the efficiency of internal and external corporate control mechanisms', *Academy of Management Review,* **15,** pp. 421–458.
Wang, H. C. and J. B. Barney (2006). 'Employee incentives to make firm-specific investments: Implications for resource-based theories of corporate diversification', *Academy of Management Review,* **31,** pp. 466–476.
Wang, H. C., J. Y. He and J. T. Mahoney (2009). 'Firm-specific knowledge resources and competitive advantage: The roles of economic- and relationship-based employee governance mechanisms', *Strategic Management Journal,* **30,** pp. 1265–1285.
Watts, R. L. and J. L. Zimmerman (1990). 'Positive accounting theory: A ten year perspective', *Accounting Review,* **65,** pp. 131-156.
Weisbach, M. S. (1995). 'CEO turnover and the firms' investment decisions', *Journal of Financial Economics,* **37,** pp. 159–188.
Wiersema, M. F. (2002). 'Holes at the top – why CEO firings backfire', *Harvard Business Review,* **80,** pp. 70–77.
Wiersema, M. F. and Y. Zhang (2011). 'CEO dismissal: The role of investment analysts', *Strategic Management Journal,* **32,** pp. 1161–1182.
Wooldridge, J. M. (2002). *Econometric Analysis of Cross Section and Panel Data,* MIT Press, Cambridge, MA.
Yoshikawa, T., P. H. Phan and P. David (2005). 'The impact of ownership structure on wage intensity in Japanese corporations', *Journal of Management,* **31,** pp. 278–300.
Zajac, E. J. and J. D. Westphal (1996). 'Who shall succeed? How CEO board preferences and power affect the choice of new CEOs', *Academy of Management Journal,* **39,** pp. 64–90.
Zelner, B. A. (2009). 'Using simulation to interpret results from logit, probit, and other nonlinear models', *Strategic Management Journal,* **30,** pp. 1335–1348.
Zhang, Y. (2008). 'Information asymmetry and the dismissal of newly appointed CEOs: An empirical investigation', *Strategic Management Journal,* **29,** pp. 859–872.
Zingales, L. (2000). 'In search of new foundations', *Journal of Finance,* **55,** pp. 1623–1653.

Table 1 Theoretical perspectives on CEO succession

	Agency Theory	**Property Rights Theory**
Variant in the literature	We consider the classical variant that underpins most studies on CEO succession (Fama and Jensen, 1983, Jensen and Meckling, 1976).	We consider the pluralistic variant, suggesting that various stakeholders make investments that require protection (Donaldson and Preston, 1995).
Key idea	Shareholders delegate decision-making authority to the board and CEO. Incentive and control mechanisms help ensure that these agents act in shareholders' interests. Reason: Contracts between shareholders and the board/CEO are incomplete.	Stakeholders rely on the board and CEO to protect their investments in the firm. Effective protection helps ensure that stakeholders keep making value-creating investments. Reason: Contracts between stakeholders and the board/CEO are incomplete.
CEO's latitude of objectives	Low. Shareholders can hold CEOs to account using measures of financial performance.	High. There is no single objective criterion to hold CEOs to account (see, e.g., Jensen, 2010).
CEO's role	CEOs are directly responsible for enhancing firm performance.	CEOs are responsible for protecting implicit contracts with stakeholders. This protection, in turn, can enhance firm performance.
CEO succession	Boards should replace CEOs in the event of poor firm performance. A high sensitivity of CEO turnovers to firm performance is a sign of good corporate governance.	Boards should support CEOs in protecting implicit contracts. CEO turnovers create disruption and uncertainty about the future protection of implicit contracts.
Illustrative references	General theory • Berle and Means (1932); Eisenhardt (1989); Fama and Jensen (1983); Jensen and Meckling (1976) CEO succession • Brickley (2003); Engel, Hayes and Wang (2003); Volpin (2002)	General theory • Antras (2014); Grossman and Hart (1986); Klein, Mahoney, McGahan and Pitelis (2012); Zingales (2000)

Table 2 Descriptive statistics

	Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9
1.	CEO continuity	0.91	0.29									
2.	Relational ownership	0.46	0.29	0.02								
3.	Capital intensity	4.73	1.43	0.02	0.14							
4.	Stock return	0.06	0.44	0.06	0.04	0.03						
5.	Adjusted ROA	-0.01	0.16	0.01	-0.05	0.05	0.18					
6.	CEO duality	0.15	0.36	0.07	-0.02	-0.10	-0.01	-0.02				
7.	CEO founder	0.01	0.12	0.02	-0.04	-0.07	-0.03	0.02	0.16			
8.	Predecessor founder	0.04	0.20	0.04	-0.07	-0.07	-0.01	-0.03	-0.06	-0.03		
9.	Firm size	7.53	1.82	-0.03	-0.27	-0.38	-0.02	0.19	0.03	-0.07	-0.05	
10.	Firm growth	0.05	0.13	0.02	-0.04	0.02	-0.07	0.11	0.05	0.11	0.03	0.11

N = 1,406. This table shows the means, standard deviations, and correlations between the variables. Correlations with an absolute value greater than 0.07 are significant at the 0.01 level.

Table 3 Discrete-time analysis predicting CEO continuity: Direct effects

	Model 1	Model 2	Model 3
Relational ownership			0.390**
			(0.172)
Capital intensity			0.171***
			(0.0303)
Stock return	0.294***		0.294***
	(0.113)		(0.112)
Adjusted ROA		-0.319	
		(0.205)	
CEO duality	0.429**	0.388**	0.550***
	(0.195)	(0.196)	(0.197)
CEO founder	0.459	0.517	0.708
	(0.486)	(0.500)	(0.450)
Predecessor founder	0.743**	0.682**	0.781**
	(0.354)	(0.340)	(0.370)
Firm size	0.163***	0.163***	0.112***
	(0.0117)	(0.0117)	(0.0173)
Firm growth	0.303	0.308	0.224
	(0.353)	(0.352)	(0.363)
Tenure year dummies	Yes	Yes	Yes
Observations	1,372	1,372	1,323
Number of CEOs	337	339	334
Wald chi^2	681.1***	657.7***	796.6***
Log likelihood	-441.5	-447.8	-399.8

Standard errors in parentheses. Tests are two-tailed; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Coefficients are estimated using robust standard errors clustered by CEOs.

Table 4 Discrete-time analysis predicting CEO continuity: Interaction effects

	Model 1	Model 2	Model 3
Relational ownership	0.395**	0.392**	1.977***
	(0.174)	(0.173)	(0.496)
Capital intensity	0.171***	0.166***	0.310***
	(0.0303)	(0.0302)	(0.0626)
Relational ownership * stock return	-0.192		
	(0.426)		
Capital intensity * stock return		0.121	
		(0.101)	
Relational ownership * capital intensity			-0.373***
			(0.113)
Stock return	0.377*	-0.221	0.309***
	(0.199)	(0.440)	(0.116)
CEO duality	0.551***	0.556***	0.492**
	(0.197)	(0.197)	(0.193)
CEO founder	0.700	0.707	0.594
	(0.452)	(0.446)	(0.430)
Predecessor founder	0.781**	0.807**	0.770**
	(0.371)	(0.374)	(0.369)
Firm size	0.112***	0.114***	0.0645**
	(0.0173)	(0.0174)	(0.0279)
Firm growth	0.233	0.201	0.338
	(0.362)	(0.364)	(0.374)
Tenure year dummies	Yes	Yes	Yes
Observations	1,323	1,323	1,323
Number of CEOs	334	334	334
Wald chi^2	800.4***	794.4***	772.9***
Log likelihood	-399.7	-399.2	-394.1

Standard errors in parentheses. Tests are two-tailed; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Coefficients are estimated using robust standard errors clustered by CEOs.

Table 5 Probit regression predicting interim CEO succession provided that a CEO turnover occurs

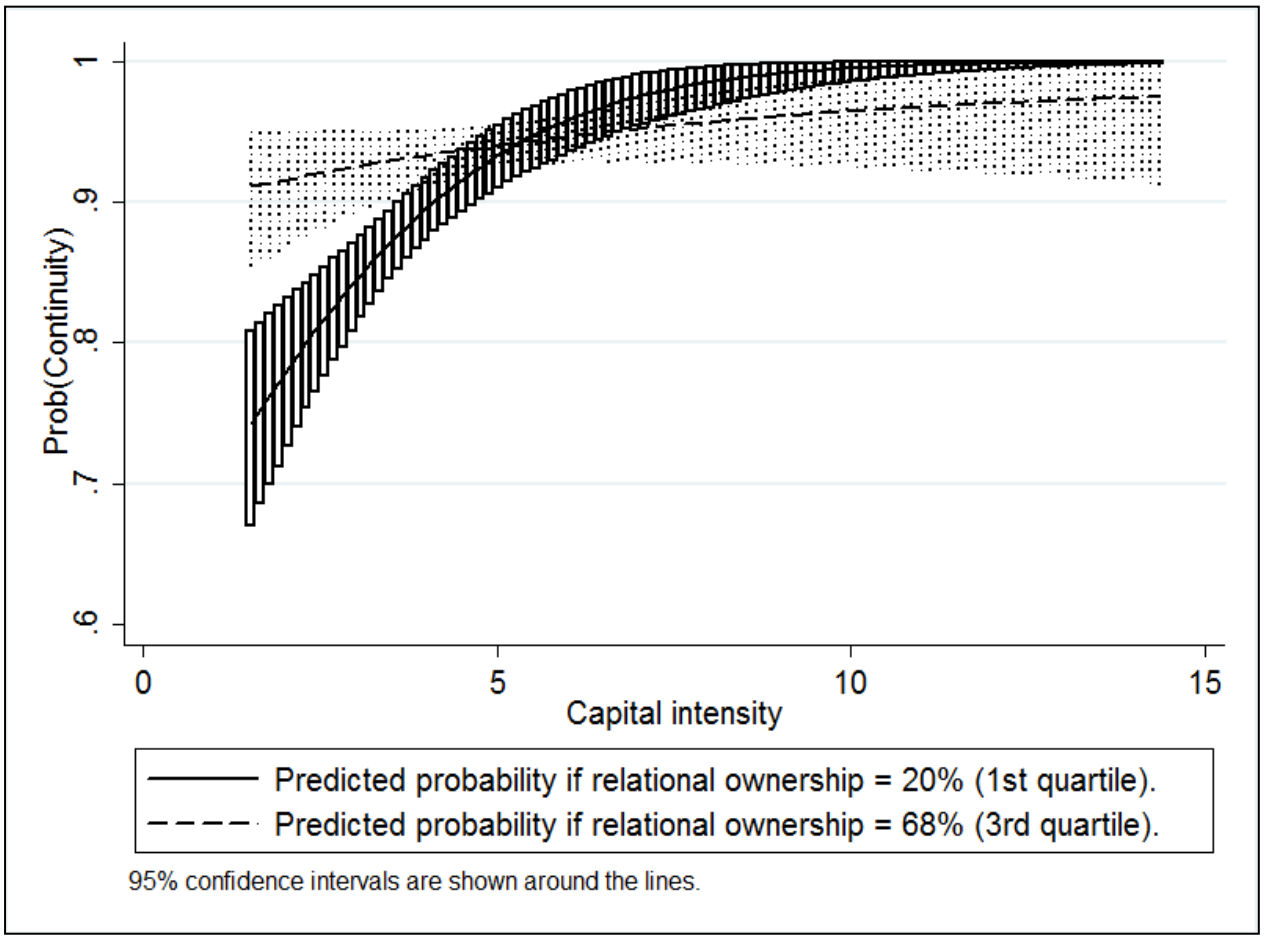
	Model 1	**Model 2**
Main model	Interim CEO succession	
Relational ownership	-0.909**	-1.184
	(0.386)	(1.117)
Capital intensity	-0.212***	-0.241**
	(0.0582)	(0.109)
Relational ownership * capital intensity		0.0585
		(0.264)
Stock return	-0.627**	-0.662**
	(0.256)	(0.269)
CEO duality	-4.863	-5.983***
	(4.868)	(1.241)
CEO founder	-4.888***	-6.544*
	(0.229)	(3.600)
Predecessor founder	0.178	0.362
	(0.780)	(0.863)
Firm size	-0.0866**	-0.0645
	(0.0403)	(0.0589)
Firm growth	-0.622	-0.723
	(0.705)	(0.717)
Selection model	CEO turnover	
Relational ownership	-0.388**	-1.946***
	(0.171)	(0.496)
Capital intensity	-0.168***	-0.304***
	(0.0306)	(0.0629)
Relational ownership * capital intensity		0.367***
		(0.113)
Stock return	-0.297***	-0.312***
	(0.113)	(0.117)
CEO duality	-0.551***	-0.496**
	(0.197)	(0.193)
CEO founder	-0.726	-0.615
	(0.447)	(0.428)
Predecessor founder	-0.775**	-0.766**
	(0.368)	(0.368)
Firm size	-0.108***	-0.0611**
	(0.0178)	(0.0281)
Firm growth	-0.233	-0.346
	(0.358)	(0.371)
Tenure year dummies	Yes	Yes
Observations	1,323	1,323

Censored observations	1,196	1,196
Number of CEOs	334	334
Log likelihood	-447.6	-442.0
Wald chi^2 of independent equations (rho = 0)	0.962	0.796
Prob > chi^2 of independent equations	0.327	0.372

Standard errors in parentheses. Tests are two-tailed; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Coefficients are estimated using robust standard errors clustered by CEOs.

When applying a simple probit regression, we obtain results similar to the upper part of this table. However, such a model would be imprecise because an interim CEO succession can occur only if a CEO turnover takes place. Therefore, this table presents a selection estimation of a CEO turnover occurring (lower part of the table) and an estimation of the probability of interim CEO succession provided that a CEO turnover has occurred (upper part). To this end, we apply a variant of Heckman's (1979) sample selection model that has been adapted to probit regressions (i.e., Heckman probit estimation) (see Van de Ven and Van Praag, 1981).

Figure 1 Predicted probability of CEO continuity: Simulation of interaction effect



This figure shows a statistical simulation of the interaction between relational ownership and capital intensity on CEO continuity. The two lines illustrate different levels of relational ownership: 20 percent (i.e., the first quartile) and at 68 percent (i.e., the third quartile). The bands around the lines indicate the 95 percent confidence intervals. When relational ownership is low, CEO continuity is highly sensitive to the degree of capital intensity (i.e., the line has a considerable upward slope).