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Performance Implications

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Abstract

Countering the widely-held view that CEO succession is generally beneficial in turnaround situations, we adopt an executive fit/refit logic, proposing that the implications of CEO replacement depend integrally on *the incumbent's degree of misfit* and *the successor's degree of fit* to the contextual conditions at hand. Drawing from prior turnarounds research, we identify several prominent forms of CEO fit/misfit that are especially germane for troubled firms. In testing our hypotheses, we find substantial support for the fit/refit theory: Troubled companies have substantially better performance to the extent that they replace incumbents who are poorly suited to the conditions at hand, and when they appoint new CEOs who are well matched to those conditions. Further reaffirming the fit/refit model, we find that CEO replacement, *per se*, has no general effect on the improvement of troubled firms.

Research on chief executive officer (CEO) succession has evolved from an initial interest in whether CEO replacement is generally beneficial or harmful to organizations (Guest 1962, Trow 1961), to an emphasis on the contexts, or conditions, under which succession will have its most positive and negative consequences (e.g., Karaevli 2007, Tushman and Rosenkopf 1996, Zhang and Rajagopalan 2004). Among the classes of firms studied, however, very little theoretical or empirical work has pointedly considered the one setting where CEO replacement is especially prevalent and believed by many to bring about improved performance: companies in turnaround situations, or *established firms that once performed satisfactorily, specifically in terms of profitability, but no longer do.*[1]

Many turnaround experts see CEO replacement as an essential ingredient for business recovery (Bibeault 1982, Hofer 1980, Kanter 2003), relying upon two main arguments: 1) poor performance is a *prima facie* indication that incumbent leaders are not very effective, and 2) poor performance typically necessitates major strategic and organizational changes, which incumbent CEOs are not inclined to undertake. But, as noted, there is an absence of rigorous evidence that CEO succession is even marginally helpful in turnaround situations.

The general literature on succession raises doubts about the benefits of CEO replacement, showing that CEO turnover often causes trauma and imprudent changes which more than offset any positive consequences (Carroll 1984, Haveman 1993). Firms in turnaround situations might *especially* exhibit little improvement following CEO succession. The boards of such firms are often under pressure to make prompt leadership changes, thus lacking deliberateness or care in such actions (Khurana 2002, Zhang 2008). Boards of troubled companies are susceptible to seeing CEO replacement as a ceremonial purging, in which the mere occurrence of succession is the important thing (Khurana 2002). And talented incumbents, who may not be the source of their companies' problems, may depart voluntarily due to fatigue or wariness about their prospects (Semadini et al. 2008).

Doubts about any general benefits of CEO succession – even in troubled companies – can be raised on logical grounds: For succession to bring about improved performance, the new CEO must be

better suited to the circumstances at hand than the predecessor. Simply changing the CEO for the sake of change will not accomplish much. This is precisely the view taken by Finkelstein, Hambrick, and Cannella (2009) in their portrayal of CEO succession as an occasion for boards to realign company leadership with contextual conditions. According to Finkelstein et al's "fit-drift/shift-refit" model, when a board selects a new corporate leader, it has an opportunity to appoint a person whose competences *fit* current and foreseeable contextual requirements. Over time, as contextual conditions *drift* (or possibly radically *shift*), the CEO's capabilities and mindset tend to become less suitable. Succession provides the board a new opportunity to once again *refit* executive competencies to the altered context.

The fit/refit model provides a new vantage for considering the consequences of succession in turnaround situations. Countering the view that CEO turnover, *per se,* is generally helpful for troubled companies, we propose that the benefits of CEO replacement depend integrally on the attributes of the two individuals involved: the *incumbent's degree of misfit* and the *successor's degree of fit* to the context at hand. Consistent with prior research on organizational transformation and adaptation (e.g., Tushman and Rosenkopf 1996, Virany et al. 1992, Volberda, 1999), the model highlights the importance of alignment between managerial capabilities and contextual requirements. As such, it provides a corrective to the assumption that incumbents in troubled companies are inherently unsuited for their positions and that new CEOs will do better.

The challenge for scholars interested in applying fit/refit theory, as well as for boards who might wish to use its insights, is in identifying, *a priori*, important attributes on which incumbents and potential successors should be gauged. That is, the fit/refit model requires an *a priori* stipulation of contextual conditions and the executive qualities most relevant for those conditions. To do this for companies in turnaround situations, we followed a two-step process. We started by carefully reviewing the turnarounds literature, ranging from early (e.g., Bibeault 1982, Hambrick and Schecter 1983, Hofer 1980, Robbins and Pearce 1992, 1993, Pearce and Robbins 1993) to more recent works (e.g., Barker and Duhaime 1997, Barker et al 2001, Burton et al 2003), to identify the most commonly-recurring prescriptions for

enhancing the chances of turnaround success. We were particularly interested in identifying "contingent logics," or "if/then prescriptions" (i.e., *If* a troubled company has a condition *x*, *then* it should emphasize actions *y* to maximize chances of successful turnaround). It is only these types of contingent arguments that allow us to specify certain forms of executive (mis)fit. As our second step, we narrowed to the subset of prescriptions for which we could develop cogent arguments about the ideal CEO needed to fulfill, or execute on, those normative premises.

This two-step process led us to three testable premises, which we develop below: 1) the more severe a company's losses, the more important it is for the CEO to be open to major change in general; 2) the more severe the company's losses, the more important it is for the CEO to be specifically oriented toward, and adept at making, major cost and asset reductions; and 3) if the troubled firm is in a struggling industry, it is important for the CEO to be cognitively unconstrained by the recipes of that industry. Following the tradition of upper echelons research (Finkelstein et al. 2009), we conceptualized an executive's professional experience as reflective of one's orientation.

These testable hypotheses do not encompass every possible contextual condition, or corresponding executive characteristic, that might be relevant for companies in turnaround situations. Collectively, however, they incorporate several of the most important conceptual elements that theorists have used in models of the turnaround process: a) *situation severity*, or the criticality of the performance shortfall; b) *the cause of the problem* (including industry problems, such as we feature); c) the role of *retrenchment*, or asset/cost reductions, as part of the turnaround effort; and d) *recovery*, the degree to which satisfactory performance is re-attained (e.g., Arogyaswamy et al. 1995, Hambrick and Schecter 1983, Pearce and Robbins 1993, Robbins and Pearce 1992).

Based on a sample of companies in turnaround situations, and with a comprehensive set of controls, we find considerable support for our hypotheses. When boards of troubled companies remove incumbents who are substantively mismatched for the contextual circumstances at hand, and when they appoint new CEOs who are well matched to those conditions, the companies have greatly increased

4

chances of improvement. We find that CEO succession *per se* does not have any effect on subsequent performance of troubled companies, further highlighting the importance of considering executive fit and misfit rather than the mere occurrence of succession.

Theory and Hypotheses

Prior Literature on Consequences of CEO Replacement Under Poor Performance

Research bearing on the consequences of turnover in poorly performing organizations is distinctly equivocal (Finkelstein et al. 2009). On one side is the conclusion that CEO replacement under poor performance conditions amounts to ritualistic scapegoating. Because successions occur disproportionately in low-performance situations, some studies show performance increases after successions; but these improvements are due to regression-to-the-mean, and once prior performance is controlled for, succession has no effect (Brown 1982, Khurana and Nohria 2000).

This "no effects" view is reinforced by literature on the "romance of leadership," which asserts that humans, in their quest for simple explanations for complex phenomena, tend to attribute extreme organizational performance – either good or bad – to leaders (Meindl et al. 1985), but that such attributions far exceed the amount of influence that top executives actually have on organizational outcomes (Lieberson and O'Connor 1972). The "no-effects" view is also supported by evidence that executive succession can carry substantial liabilities (e.g., Carroll 1984, Haveman and Khaire 2004), such that any benefits of CEO succession are offset by its drawbacks.

The opposite perspective exists in the literature on managerial entrenchment (Boeker 1992, Denis et al. 1997). Under this view, grounded in agency theory, CEO replacement needs to happen more often than it does (Faleye 2007, Warner et al. 1988). Because of passive or coopted boards, incumbent CEOs who have brought about their companies' problems – or who are not equipped to solve the problems – are often able to hold onto their jobs well beyond their point of adequacy (Weisbach 1988). Additionally, prior research suggests that hiring new CEOs and executives has both symbolic and substantive effects, for instance, to impress the market (Chen et al 2008, Warner et al 1988), to bring new resources and

5

different behavior patterns into the firm (Chen et al 2009, Shen and Cannella 2002), and to facilitate the reconfiguration of organizational policies and strategies to adapt to the environment (Virany et al 1992).

The literature on business turnarounds explicitly asserts the desirability of CEO replacement in troubled companies (Bibeault 1982, Castrogiovanni et al. 1992). According to this view, poor performance is evidence of executive inadequacy; incumbents are unable or unwilling to make the major changes necessary to fix struggling companies; and, beyond the need for substantively new directions, there is the need to reassure stakeholders that changes are coming and that the company is in good hands – a reassurance that is difficult for incumbents to convey (Barker et al. 2001, Hofer 1980). As evidence of the importance of CEO replacement in turnaround situations, Bibeault (1982) reported that about three-fourths of the troubled companies he studied had replaced their CEOs.

In sum, troubled companies tend to experience CEO replacement, but no reasonable prediction can be made as to whether such successions are generally beneficial or not. Some – perhaps many – successions amount to ceremonial acts, in which talented CEOs are fired or encouraged to leave, and their successors merely possess the main qualification of being new. But some successions may indeed be adaptive events, involving the removal of incumbents who are not well suited for the conditions at hand, and the appointment of successors who have qualities that match the firm's contextual circumstances.

Fit/Refit Model of CEO Succession

Finkelstein, Hambrick, and Cannella's (2009) fit-drift/shift-refit model provides a basis for predicting which CEO successions will have the most positive consequences. The fit/refit model rests on two interconnected logics. First, executives have finite repertoires and context-specific capabilities. As such, a given executive may be highly suited for one context but not for another (Gupta and Govindarajan 1984, Carpenter et al. 2001); an executive who is well suited to lead a firm during one period may be ill-suited for the next period (Henderson et al. 2006, Miller and Shamsie 2001). Second, succession provides a periodic occasion for firms to realign leadership qualifications with new contextual conditions (Barker et al. 2001, Pfeffer and Salancik 1978).

According to the fit/refit model, when a board selects a new corporate leader, it has an opportunity to appoint a person whose qualifications and expertise *fit* the contingencies that are currently at hand (or imminent). As time passes, however, the CEO who initially fit the contextual requirements will typically fit less well. This change may be due to the gradual *drift*, or radical *shift*, of contextual conditions in directions that require capabilities other than those possessed by the incumbent (Miller 1991). It will be the rare executive who can transform his or her mindset and repertoire to match such contextual changes, and therefore a misfit arises. When the incumbent is replaced, the board has an opportunity to *refit* a new CEO's competencies to the changed conditions facing the firm.

Although Finkelstein et al. imply that boards try to prudently take advantage of these realignment opportunities, those authors acknowledge that successions often deviate from this ideal. They note that some capable incumbents are scapegoated or depart voluntarily; and some new executives may not be suitable, as board politics, cloning tendencies, or inappropriate attraction to colorful candidates may drive the selection process (Khurana 2002, Zajac and Westphal 1996). We adopt this more liberal view of the fit/refit model; thus, instead of envisioning that CEO successions *generally* involve the departure of unsuitable incumbents and the selection of suitable successors, we propose that *if* CEO successions have these features, there is an increased chance of favorable performance outcomes.

Specific Forms of Predecessor Misfit and Successor Fit

As we have discussed, the fit/refit logic has two discrete parts. On the one hand, replacement will be beneficial to the extent that the incumbent is ill-suited to the contextual conditions facing the firm. If the incumbent actually has the requisite qualities, but perhaps simply has had bad luck or been buffeted by factors outside his or her control, there is little reason to expect that a new person would do any better. But if the incumbent *is* lacking the qualities called for, then his or her departure, *ceteris paribus*, heightens the chances of performance improvement. The second aspect of the fit/refit logic resides in the qualities of the successor CEO and their alignment with contextual requirements. Executive replacement will tend to be efficacious to the extent that the newly-appointed person has qualifications that align with

the contingencies at hand. Merely having a new CEO, but who lacks the specific orientation called for, confers little chance for performance improvement.

Thus, in developing specific ideas about context-executive fit, we present a series of mirrored pairs of hypotheses: one addresses the predecessor's degree of misfit, and an accompanying one addresses the successor's degree of fit. It is useful to note the importance of separately specifying (and empirically analyzing) the hypotheses about predecessor misfit and successor fit. Not all predecessors are replaced; therefore the relevant assessment for predecessor misfit involves three considerations: What is the context? What are the incumbent's characteristics? And is the incumbent replaced? By comparison, successors can only be assessed in those cases where replacement in fact has occurred (Thus, our hypotheses regarding successor fit all carry the preface, "Given CEO replacement…"). Here, only two conceptual elements are relevant: What is the context? And what are the successor's characteristics?

We should emphasize that "context" enters into our theorizing at two levels. At the broad level, constituting the boundary condition for our entire project, we only study firms in turnaround situations. This type of framing is in keeping with the thrust of succession researchers to focus on specific classes of firms (Carroll 1984, Haveman 1993), rather than attempting to theorize any universal succession effects. As such, all of our hypotheses carry an implied preface, "In the context of a turnaround situation…"

At the narrower level, however, we consider more specific contextual conditions which firms in turnaround situations face *in varying degrees*. From the literature on turnarounds, we examine how performance severity (the gravity of the company's problems) and industry problems (poor industry profitability) impose certain imperatives on some troubled companies more than on others – in ways that allow *a priori* predictions about preferred executive characteristics (e.g., Arogyaswamy et al. 1995, Pearce and Robbins 1993). While well justified by the turnarounds literature, these contextual conditions are not the only ones that might reasonably be considered. As such, our hypotheses illustrate the logic and implications of CEO fit and misfit but do not constitute a comprehensive inventory of all possibilities.

Firm performance severity and CEO tenure/origin. Firms in turnaround situations vary in the

severity of their situations (e.g., Barker and Duhaime 1997, Hofer 1980, Pearce and Robbins 1993), specifically the magnitudes of their losses. If a firm is experiencing only minor losses, refinements of the current strategy may be most sensible. But, if the firm's losses are severe, substantial changes are needed. Severe performance shortfalls call for major transformations; fine-tuning will not yield a turnaround (D'Aveni 1989, Tushman and Rosenkopf 1996).

As noted earlier, one of the main reasons CEO replacement is often seen as an essential ingredient for troubled firms is that incumbents are seen as cognitively and socially committed to the *status quo*, and only new leaders are able to undertake the requisite changes (Castrogiovanni et al. 1992). But we can envision that incumbents vary in their commitment to the *status quo*; similarly, successors vary in the degree to which their repertoires deviate from the *status quo*.

CEO tenure has been shown to be a major determinant of an executive's disinclination to consider or execute major changes (Barker and Mueller 2002, Miller and Shamsie 2001, Wiersema and Bantel 1992). Longer-tenured CEOs have made more of an accumulated imprint on their firms, and it is difficult for them to reverse past choices (Miller 1991); they have developed strong social commitments within their firms (Simsek et al. 2005); and their paradigms are more rooted in the distant rather than the more recent past (Hambrick and Fukutomi 1991). As such, long-tenured executives are often cognitively constrained, possessing limited perspectives on alternatives (Hatum 2007, Miller and Shamsie 2001). As evidence of these effects, studies have shown that executive tenure (either on the job or in the firm) is associated with strategic persistence (Finkelstein and Hambrick 1990) and "commitment to the *status quo*," or an executive's conviction that current strategies and policies will remain appropriate for the future (Hambrick et al. 1993). As such, a long-tenured incumbent is ill-suited for the major changes called for by severely poor performance; replacing the incumbent will tend to improve the chances of successful turnaround.

Hypothesis 1: The interactive combination of severe losses, incumbent CEO's tenure length, and CEO replacement will be positively associated with subsequent company performance.[2]

Correspondingly, performance severity has implications for the ideal profile of a new CEO. Again, if performance is extremely poor, incremental changes will probably not be sufficient (Tushman and Rosenkopf 1996). Such firms need the fresh perspective of an outsider, who will tend to be cognitively and socially open to change (Shen and Cannella 2002). Although CEOs hired from outside the company carry the drawback of limited understanding of their firms' operations (e.g., Karaevli 2007), they often provide the best chance for the requisite magnitude of change under extremely poor performance. We expect that a company-outsider successor, without historical embeddedness with the focal firm or its strategy, and thus with few social or cognitive constraints, is most likely to undertake the major changes needed to reverse a severe performance.

Hypothesis 2: Given CEO replacement, the interactive combination of severe losses and a company-outsider successor will be positively associated with subsequent company performance.

Firm performance severity and throughput-oriented CEO. Turnaround scholars have proposed a link between the severity of a firm's losses and the degree to which cost and asset reductions, or a retrenchment strategy, are essential for recovery (Arogyaswamy et al. 1995, Burton et al. 2003, Robbins and Pearce 1992). The underlying logic is that if a troubled firm is operating substantially below its break-even point, it is very difficult, if not impossible, to increase revenues enough to achieve a profit position (Hofer 1980, Slatter 1984). Instead, it is only by reducing the breakeven point, by eliminating costs and/or assets, that successful turnaround becomes feasible. In contrast, firms that are in less severe situations, operating slightly below breakeven, have more flexibility in choosing either revenue-generating or minor cost-cutting strategies to become profitable again.

Given that firms in deep trouble are in greater need of cost and/or asset reduction, CEOs who have competencies in these domains represent the ideal fit. In this vein, we highlight the importance of an executive's functional experience, following prior research using background characteristics to represent cognitive orientations (Hambrick and Mason 1984, Barker and Mueller 2002, Wiersema and Bantel 1992). Executives who have been immersed in a particularly function will attend to certain information in

complex business situations and interpret that information in ways that suit their functional expertise (Dearbon and Simon 1958). Thus, functional backgrounds provide a lens through which managers see business problems and their solutions (Carpenter et al. 2004, Fligstein 1990). With the passage of time and the accumulation of career successes in a given area, executives tend to develop a mode of thinking and acting that is typical for that specific expertise (Schein 1968, Schneider 1987).

An executive whose primary experience has been in throughput-oriented functions (e.g., operations or accounting) tends to emphasize cost control, asset rationalization, and efficiency; these are the approaches that the executive has become adept at and will tend to rely on to execute a turnaround. By contrast, an executive with an output-oriented background (e.g., marketing, sales, or product development) tends to emphasize revenue growth and market expansion as recovery strategies, which are less appropriate for firms in deep trouble. Even if an output-oriented incumbent CEO were to recognize the need for retrenchment, he or she might have great difficulty actually executing such a strategy, because it differs from his or her core skills. Given that retrenchment is necessary for firms incurring severe losses, incumbents who lack experience primarily in throughput functions will be ill-suited for the requirements at hand. Replacing such executives should enhance chances of a successful turnaround.

Hypothesis 3: The interactive combination of severe losses, an incumbent lacking experience primarily in throughput functions, and CEO replacement will be positively associated with subsequent company performance.

Correspondingly, successor CEOs who have significant throughput-oriented experience will tend to fit with the requirements imposed by severe performance; such executives will have the efficiency-oriented expertise needed to enhance the chance of successful turnaround.

Hypothesis 4: Given CEO replacement, the interactive combination of severe losses and a successor with experience primarily in throughput functions will be positively associated with subsequent company performance.

Industry performance severity and CEO tenure/origin. Turnaround researchers have long drawn a distinction between troubled firms that are in relatively healthy industries versus those that are in struggling, low-profit industries (Arogyaswamy et al. 1995, Castrogiovanni et al 1992). For companies in

poorly performing industries, the challenge is to find creative ways to deviate from the conventions of

peer companies. The worse the industry's health, the greater the call for strategic deviance from industry

norms. However, doing so is often difficult, as industries tend to develop entrenched paradigms which

participant firms – and their executives – come to take for granted (Spender 1989).

Just as a CEO's tenure on the job tends to bring about a commitment to the company's *status quo*,

so too does tenure in the industry bring about an adherence to the industry's norms and mindsets

(Geletkanycz 1997, McDonald and Westphal 2003). For the troubled company in a struggling industry,

then, the chances are very slight that an incumbent CEO with long industry tenure will be able to design

and executive a strategy – or even expedient tactics – that deviate from industry practices. Thus:

Hypothesis 5: The interactive combination of industry performance severity, incumbent's industry tenure length, and CEO replacement will be positively associated with subsequent company performance.

Correspondingly, a troubled firm in a struggling industry will benefit from having a new CEO

who has minimal commitments to the focal industry's norms and practices —an industry outsider. Such

an executive provides fresh perspectives, new knowledge, and expertise to facilitate the requisite

departure from industry recipes (Hatum 2007, Zhang and Rajagopalan 2004). Thus:

Hypothesis 6: Given CEO replacement, the interactive combination of industry performance severity and an industry-outsider successor will be positively associated with subsequent company performance.

METHODS

Sample and Identification of Firms in Turnaround Situations

Since our aim was to study established firms that encountered turnaround situations, we drew our

sample from Standard and Poor's 1500 index companies, in the years 1990 to 2003. We excluded

financial firms; and, to allow meaningful industry-level controls, we limited our sample to companies that

derived at least 70 percent of their revenues from their primary 3-digit SIC industry (Zhang and

Rajagopalan, 2004). From this set, we used data from COMPUSTAT to identify companies in

turnaround situations: those that had operating returns on equity (ROE, before extraordinary items)

greater than their cost of equity (COE) for at least two consecutive years in our sample period, immediately followed by a year of operating losses (again, before extraordinary items).[3] Thus, these were companies that abruptly swung from satisfactory performance to very poor performance.

In keeping with prior studies, we drew our sample from listings of established companies, excluding small and embryonic firms (Bibeault, 1982); and we stipulated multiple years of satisfactory performance, as a way to confirm that the companies had been somewhat reliably high-performing (e.g., Robbins and Pearce 1992). Our requirement that satisfactory performance needed to be followed by absolutely poor performance (an operating loss) is a criterion on which prior researchers have differed. Some have stipulated that declining performance, regardless of absolute level, constitutes a turnaround situation (e.g., Schendel et al. 1976,), while others have argued that performance needs to be below some absolute threshold (e.g., Barker and Mone 1994, Hambrick and Schecter 1983). We adopted the latter approach to ensure that we were sampling genuinely troubled firms, rather than simply stagnant or slowly deteriorating firms. Our identification of turnaround firms without regard to industry profitability is also a matter on which prior researchers have taken varying approaches (e.g., Barker and Duhaime 1997, Robbins and Pearce 1992). Although our analyses comprehensively control for industry profitability (as we shall discuss), we believe it is most logical to consider a firm that is incurring losses as in a turnaround situation; regardless of industry conditions, the company cannot continue as it is.

Where our operationalization differs most appreciably from prior studies is that we did not stipulate that sampled firms had to experience *multiple years* of poor or declining performance (Barker and Duhaime 1997, Pearce and Robbins 1993) to qualify as being in a turnaround situation. We adopted our approach to address some important issues relevant to our specific research question. Most notably, our approach acknowledges that the incidence of CEO replacement increases sharply upon the very onset of poor performance. In our sample, for instance, the rate of CEO departures in the first year of operating losses was about double the typical rate of CEO turnover – probably reflecting a combination of well-considered dismissals, scapegoating, and hastened voluntary exits. Our operationalization thus allows us

13

to address whether early departures, or *which* early departures, are helpful (or possibly harmful) for abruptly troubled firms. Moreover, our approach allows us to consider the timing of CEO replacement in troubled firms. If we were to examine only companies that had already experienced multiple years of problems, we would be prevented from exploring whether swift CEO replacement, upon the onset of initial problems, tends to arrest (or aggravate) the problem. More generally, by relaxing the stipulation that a turnaround situation exists only after multiple years of poor performance, researchers have an opportunity to pursue a new, important question: How might a company that plummets into losses minimize the continuation or worsening of those losses?

We should further emphasize that our operationalization of a turnaround situation, requiring a one-year swing from healthy profits to operating losses, does not mean that the problems confronting these companies were minor or necessarily short-lived. Our criterion is more stringent than one of the operationalizations used by Bibeault (1982) in his widely-noted book on turnarounds: a profit decline of 80 percent or more in a single year. About 73 percent of our sample had an Altman's Z-score below 3.00 in the year of initial losses (Altman 1983), and thus faced considerable threat of bankruptcy, a criterion sometimes used to identify firms in turnaround situations (Barker and Duhaime 1997). Moreover, the seriousness of our companies' situations is evidenced by their performance profiles four years after the first onset of losses: only a third had re-attained profit levels above their cost of equity; another third were making marginal profits; and a third were still incurring losses.

In sum, we examined a specific type of turnaround situation: established companies that abruptly swung from satisfactory profits to losses.[4] Applying the above criteria, we identified 223 firms in turnaround situations. Treating the initial year of losses as Year 0, the median ROE of sample firms in Years -2, -1, and 0 were .18, .17, and -.07, respectively. Median revenues of sample firms in Year 0 were $1.3 billion, and the median age (as public companies) was 22 years.

Measurement of Subsequent Performance

We assessed a firm's subsequent performance, or its degree of turnaround success, by examining

two measures: ROE and market-to-book value of common equity (MTB).[5] ROE is an accounting-based indicator; MTB captures market-based performance. We investigated firm performance at Years +2, +3, and +4 (where Year 0 was the year of initial losses), a timeframe consistent with prior research on the consequences of CEO succession (Karaevli 2007, Shen and Cannella 2002).

CEO Replacement and Fit/Misfit Variables

CEO replacement: We used the Execucomp and Factiva databases to identify whether and when firms replaced their CEOs. We analyzed replacements occurring in Years 0 and +1. If there was replacement in either of these years, we coded a "CEO replacement" dummy variable as a one. As a control (described below), we also coded the timing of succession. In our sample of 223 firms, 98 replacements occurred during Years 0 and +1. This represents an annual rate of 22 percent, which is double the incidence of CEO succession in major U.S. firms (Lucier et al. 2005).

To measure predecessor misfit and successor fit, we used the following component variables:

Firm performance severity: This was measured by reverse coding firm performance at Year 0, i.e., the year when the firm entered its turnaround situation. The worse the ROE (or market-to-book ratio, to correspond to the measures of subsequent performance), the more severe the performance crisis. This variable also served to control for regression to the mean.

Industry performance severity: To test Hypotheses 5 and 6, which dealt with the degree of performance severity in struggling industries, we first identified an industry as struggling if its median ROE-COE spread was negative during all the years -2, -1 and 0. This three-year period was used to ensure that industry problems were not temporary. Then, among the struggling industries, we reverse coded industry median performance at Year 0 to measure industry performance severity. In turn, firms that were in non-struggling industries were given industry performance severity scores of zero. All indicators of industry performance were based on *all* the firms in the 3-digit industry in the COMPUSTAT database, not just those in our sample.

Incumbent CEO's tenure: This was measured by the number of years the incumbent had been

CEO in the focal firm. Data on employment histories were drawn from proxy statements, *Dun and Bradstreet's Reference Book of Corporate Management*, *Capital IQ,* and *Standard and Poor's Register of Corporations, Directors, and Executives*.

Incumbent's industry tenure: This was the number of years the incumbent CEO had worked in the focal firm's primary industry (3-digit SIC).

Functional experience: A CEO's primary functional background was that in which he or she had the longest employment history. Following prior research, functional experience was categorized as output (marketing, sales, and product development), throughput (operations, engineering, and accounting), or other (law, consulting, finance, general management) (Hambrick and Mason 1984, Rajagopalan and Datta 1996). Based on this categorization, a dummy variable – "non-throughput incumbent" – was coded as one if the incumbent's primary function was *not* throughput-oriented, and zero otherwise. Similarly, if the successor CEO's primary function *was* throughput-oriented, we coded the dummy variable, "throughput-oriented successor," as a one.

Company-outsider CEO: Consistent with prior research, we coded a dummy variable as a one if the new CEO had less than two years' tenure in the firm (Shen and Cannella 2002).

Industry-outsider CEO: This was measured as a dummy variable, coded as a one if the new CEO was hired from a different industry (3-digit SIC).

Control Variables

Prior performance: Because a company's performance prior to its problems could indicate its fundamental strength, we included a variable, prior performance, which was measured as the company's average performance for Years -2 and -1 (either ROE or MTB, depending on the dependent variable).

Industry performance: We controlled for the median performance in the company's primary industry, both in Year 0 and in each subsequent year (Year +2, +3 and +4), to account for industry effects. (Again, depending on the dependent variable, we use industry ROE or MTB in the corresponding models.) Initial analyses revealed collinearity between industry median MTB in Year 0 and subsequent years.

Thus, we created an instrumental variable by regressing industry median MTB in Year 0 on median MTB in subsequent years, and included the residuals in our models.[6] To ease interpretation, untransformed variables are used when reporting our descriptive statistics.

Firm characteristics: We also controlled for several firm characteristics, including *firm age* (the log of the number of years a firm had been public), *firm size* (the log of sales), *leverage ratio* (total debt divided by total assets), and *liquidity ratio* (the quick ratio).

Replacement year dummy: As noted, we analyzed CEO replacements that occurred in Years 0 or +1. To control for the potential effect of how early the CEO was replaced, we created a dummy variable: replacement in Year 0 (coded as "1" if the replacement occurred in Year 0, and "0" otherwise).

Multiple replacement dummy: A few firms in our sample had an additional CEO change after replacing their CEO in Years 0 or +1, probably indicating ongoing trauma (e.g., Allen et al. 1979); thus, we included a dummy variable for such cases.

Later replacement: We included another control dummy variable – later replacement – to account for the possibility that a firm might make a delayed change in its CEO. This dummy variable was coded as "1" if a firm had no succession in Years 0 or +1 but did change its CEO in Years +2 or +3.

Incumbent's talent: Even though all the companies in our sample were experiencing problems, their incumbent CEOs varied greatly in their track records, i.e., their evidence of talent. To proxy for the CEO's talent level, we used a method developed by Bertrand and Mullainathan (2001) and Garvey and Milbourn (2006). Focusing on the four years preceding the year of initial performance problems (Year 0), we used up to 48 monthly return (depending on the incumbent's start date) for each firm. We regressed firm monthly raw stock returns on equally weighted industry stock returns (defined by SIC-3 digit codes) and year dummies. Each firm's average residual from this regression reflects the firm-specific element of performance, which was used to proxy for the incumbent's talent level.[7] This control helps to account for the possibility that the departure of a highly talented incumbent might be more damaging to a firm's prospects than the departure of a less talented incumbent. Indeed, in our analyses of incumbent misfit, we

included an interaction control variable: CEO replacement times incumbent talent.

Correction for endogeneity. To control for endogeneity, or the possibility that some conditions particularly increase the likelihood of succession, we regressed CEO replacement on firm performance (ROE in Year 0), leverage ratio, CEO characteristics (age, tenure and talent), agency conditions (e.g., outside director ratio, CEO ownership, CEO duality, institutional shareholders' ownership) and industry characteristics (e.g., industry performance severity, industry dynamism [a measure of five-year sales volatility]). Based on this model, we calculated each firm's likelihood of replacing its CEO, and included the probability score as an endogeneity control in our second-stage analysis.[8]

Control for selection bias: In testing our successor fit hypotheses, we necessarily used the subsample in which CEO replacement in fact occurred, representing a truncated distribution. To control for potential selection bias, following prior research (e.g., Zajac and Westphal 1996), we used the Heckman two-stage model (Heckman 1979). The first-stage model was the same as for endogeneity, but a probit model predicting the likelihood of CEO replacement. Here we generated an inverse Mills ratio, a probability density function which corrects for the estimation bias due to the truncated observations. This inverse Mills ratio was then included in the second-stage analysis as an instrumental variable to correct for any selection bias.

Estimation Methods

In estimating the effects of succession on subsequent performance, we adopted a multi-year approach (examining Years +2, +3, and +4), rather than arbitrarily focusing on just one year. Because each firm thus contributed three observations, we had 669 (223*3) firm-year observations in our analysis of predecessor misfit, and 294 observations (98*3) in our analysis of successor fit. We included year dummies in our models to indicate the specific year being assessed (Year +4 was omitted).

Because our panel data included repeated measures, and because some predictor variables were time-invariant, we used random-effects regressions with robust standard errors (Greene 2003, Petersen 1993, Pfarrer et al. 2010).[9] We used the *coldiag* command in Stata 10 to assess multicollinearity; none of

18

the condition statistics were high enough to cause concern (Belsley et al. 1980).

RESULTS

Table 1 presents descriptive statistics and correlations for all variables.

----- Insert Table 1 here -----

Predecessor Misfit

Table 2 reports results for our tests of the effects of predecessor misfit. Because we have two performance measures, ROE and MTB, we present two sets of models. For each set, the first model includes all controls as well as the component variables of all interactions. In these base models, two results are particularly noteworthy. First, CEO replacement itself had no effect on subsequent performance. At odds with the prescription of some turnaround experts (e.g., Bibealt 1982, Hofer 1980, Kanter 2003), our sample of companies did not improve their prospects simply by changing their CEOs. Second, and relatedly, the interaction of CEO replacement and incumbent talent was significantly negatively associated with subsequent performance. Thus, replacing a relatively untalented CEO yielded beneficial results, while replacing a talented CEO was harmful to subsequent performance.

----- Insert Table 2 here -----

In Models 2-4, we test each respective hypothesis by including relevant 2-way interactions, as well as hypothesized 3-way interactions (context x predecessor characteristic x replacement; in bold). All interactions were mean-centered. Model 5 includes all variables.

In support of Hypothesis 1, the combination of firm performance severity *and* long incumbent tenure *and* CEO replacement was significant in its positive effect on performance (although only marginally in the full model of MTB). There was also a significant negative effect for the 2-way interaction between firm performance severity and incumbent's CEO tenure. Thus, in cases of severe performance troubles, having a long-tenured incumbent is generally harmful; replacing such a CEO is helpful, on average. Figure 1a shows these effects graphically (assuming median values of all controls).

19

We also found support for Hypothesis 3: the combination of firm performance severity *and* a non-throughput incumbent *and* CEO replacement was positively associated with both forms of performance. There was also a significant negative effect for the 2-way interaction between performance severity and a non-throughput incumbent. Thus, when losses are severe, a non-throughput incumbent exerts a negative effect on performance; replacing such a CEO tends to help performance. Figure 1b shows these results graphically for ROE.

Finally, we found support for Hypothesis 5. The combination of industry performance severity *and* incumbent's long industry tenure *and* CEO replacement was positively associated with both forms of performance. There were also two significant 2-way interactions: the interaction between industry performance severity and CEO replacement, and the interaction between industry performance severity and incumbent's industry tenure (although this effect was not observed in the full ROE model). Thus, CEO replacement is beneficial if the industry is deeply struggling, and this positive effect is amplified when the replaced CEO is a long-term industry veteran. These results are portrayed in Figure 1c.

Successor Fit

Our results for successor fit are presented in Table 3. The models for successor fit differed from those for predecessor misfit in two main ways. As noted earlier, we could only include those firms which replaced their CEOs, and thus used a Heckman two-stage analysis to control for potential selection bias. In addition, we included the predecessor misfit variables in our analysis. Thus, results in Table 3 show the net influence of successor fit on subsequent performance, while controlling for the degree of predecessor misfit. Model 1 includes all control and component variables; Models 2 to 4 add the hypothesized successor fit 2-way interactions (bold) (mean-centered); and Model 5 is the full model.

To test Hypothesis 2, we examined the interaction between firm performance severity and company-outsider successor (Model 2). Results were positive and significant for both ROE and MTB,

including in the full models. Thus, in cases of performance severity, company-outsider successors had an improved chance (compared to insiders) of bringing performance improvement, supporting Hypothesis 2. Figure 2a shows these results graphically for ROE.

----- Insert Figure 2 here -----

Model 3 included the interaction between firm performance severity and throughput-oriented successor. We found positive and significant results for both ROE and MTB, including in the full Model 5. Thus, Hypotheses 4 was generally supported. Figure 2b portrays the ROE results graphically.

Finally, we examined another form of successor fit, as expressed in Hypothesis 6: industry performance severity and a successor hired from another industry. Results in Model 4 show that this interaction was positively significant both for ROE and MTB, and these significant results remained in the full models (although only marginally for MTB). Thus, Hypothesis 6 was generally supported. The ROE results are portrayed in Figure 2c.

DISCUSSION

Scholars have long sought to identify the general effect of CEO succession on organizational performance, with largely null results. A more recent tradition has been to examine successions in certain classes of firms – e.g., relatively young firms or firms in dynamic industries – a refinement which sheds somewhat more light on the consequences of CEO replacement (e.g., Haveman and Khaire 2004, Tushman and Rosenkopf 1996). But even these studies have stopped short of what may be the most promising logic for predicting the consequences of CEO succession: Replacement will be efficacious to the extent that the incumbent is poorly suited, and the new CEO is well suited, for the conditions at hand. We pursued this logic, conducting an initial test of Finkelstein et al's (2009) fit/refit model, which views CEO succession as a periodic opportunity for boards to re-align leadership capabilities with contextual conditions.

As a counterpoint to the common assertion that troubled companies benefit from CEO replacement, we drew from the turnarounds literature to identify several forms of predecessor misfit and

successor fit. We found considerable support for the following propositions about CEO (mis)alignment in turnaround situations: 1) if performance problems are severe, the company will benefit from replacing a long-tenured CEO, and it will benefit from an outside successor; 2) If performance problems are severe, the company will benefit from replacing a CEO who lacks throughput experience (for managing major asset/cost rationalization), and it will benefit from appointing a successor who has such credentials; and 3) if the industry performance problems are severe, the company will benefit from replacing a long-tenured industry veteran, and it will benefit from hiring an industry-outsider.

Although other forms of CEO (mis)alignment could be envisioned, just our three pairs of hypotheses allow a substantially improved understanding of turnaround success. The predecessor misfit characteristics we examined added six percent to the explained variance of subsequent ROE (Table 2). And for those firms that did replace their CEOs, the successor fit characteristics we examined added nine percent to the explained variance of subsequent ROE (Table 3).

Further highlighting the importance of the fit/refit logic, we found that CEO replacement, *per se*, had no effect on the subsequent performance of troubled companies.   A less flattering interpretation is that boards of turnaround companies are not, in the aggregate, very adept in their replacement decisions. Boards may succumb to any number of well-known distortions in CEO hiring, including political compromises (Cannella and Lubatkin 1993, Zajac and Westphal 1996), an undue emphasis on executive charisma (Khurana 2002), or simply superstition that CEO replacement – in and of itself – is a cure-all, regardless of who is leaving and who is arriving.

Combinations of Predecessor Misfit *and* Successor Fit

We purposely set up our hypotheses, and tests of them, so as to consider predecessor misfit and successor fit as separate *ceteris paribus* conditions. However, the logic of the fit/refit model ultimately envisions that succession will be most beneficial to the extent that the predecessor is unsuitable *and* the successor is suitable, or that the new person is "better suited" than the old. This line of thought, in turn, necessitates a focus on *combinations* of predecessor characteristics and successor characteristics, which is

analytically complex – essentially involving 4-way interactions – but tractable.

As an indication of how such a line of inquiry might progress in the future, we provide an illustrative analysis of predecessor-successor combinations. We focus here on the logic behind Hypotheses 1 and 2, the idea that severe performance problems call for the departure of a long-tenured predecessor and the appointment of an outside successor. Drawing from our sub-sample of companies in which succession occurred, we selected those that had the most severe losses in Year 0, using a *median split* (ROE -.07). We then coded four succession conditions: 1) short-tenured predecessor (split at median, seven years) *and* insider successor, 2) short-tenured predecessor *and* outsider successor; 3) long-tenured predecessor *and* insider successor; and 4) long-tenured predecessor *and* outsider successor. The first category is one in which the predecessor is *not* a misfit and the successor is *not* a fit; this combination should accomplish the least in terms of performance improvement. The next two categories (2 and 3) are cases in which *either* the predecessor is a misfit *or* the successor is a fit, but not both; these combinations should have a moderate effect on performance. Finally, group 4 is those firms in which an unsuitable CEO departs and a suitable one arrives; they should show the most improvement.

We then conducted similar regression analysis as described earlier, using ROE as the dependent variable. We included all the controls in Model 1 of Table 3, as well as the predecessor-successor combination dummies (omitting Category 1). Regression coefficients for the categories are presented in the first column of Appendix 1. As expected, the coefficient for Category 4 (predecessor misfit *and* successor fit) is significant and largest (.16, indicating a 16 percent ROE improvement relative to Category 1, the omitted group). Groups 2 and 3, as expected, have moderate coefficients. In sum, this limited analysis suggests that, under conditions of severe performance problems, the combined departure of a long-tenured incumbent *and* appointment of an outsider is highly beneficial; at the other extreme, departure of a short-tenured incumbent *and* appointment of an inside successor accomplishes the least.

It is beyond our scope to examine every combination, and such a discussion would quickly become tedious. But this partial analysis indicates the promise in considering predecessor and successor

attributes in tandem, which may be an important new avenue for succession researchers.

Executive Actions in Turnaround Situations: An Illustrative Analysis

In line with most studies of CEO succession, we focused on company performance as our dependent variable. However, one might reasonably ask how succession affects the *actions* of firms in turnaround situations. We undertook a limited inquiry to illustrate how researchers might apply the fit/refit model to predict post-succession executive behaviors.

Our illustrative analysis focused on the same context as reported in Appendix 1: those companies that faced the most severe performance shortfalls in Year 0. Recall that prior literature suggests that the most severe turnaround situations warrant the greatest amount of change, particularly aggressive retrenchment (Hofer 1980, Pearce and Robbins 1994, Robbins and Pearce 1992, 1993); moreover, we argued that long-term insiders would be least likely, and outsiders most likely, to make these changes.

As shown in Appendix 1, we examined how four distinct predecessor/successor combinations were related to three types of actions commonly associated with retrenchment: changes in fixed assets, changes in employee headcount, and changes in selling/general/administrative (SGA) expenses. We again used random-effects regression, in which all control variables in Table 3, as well as the predecessor/successor category dummies, were included (omitting Category 1). As expected, Category 4 – departure of a long-tenured predecessor *and* appointment of an outside successor – was associated with the biggest cuts in fixed assets, employees, and SGA spending. Categories 2 and 3 exhibited various intermediate patterns; and, by extension, Category 1 – the departure of a short-tenured predecessor *and* appointment of an insider successor – brought about the smallest cuts.

Appendix 1 suggests a coherent theme: When a company faces a severe situation, requiring major changes and especially retrenchment, the chances of these actions occurring – and of recovery – are greatest when a long-tenured incumbent departs and an outsider arrives. Conversely, the chances of these outcomes are slight when a short-tenured incumbent leaves and an insider successor is appointed. This partial analysis further reaffirms the general logic of the fit/refit model, and it highlights the opportunity

for researchers to consider the *actions* that follow succession, as well as performance.

Limitations and Future Directions

As with any study, ours has limitations, which in turn suggest additional avenues for research. First, in keeping with the recent trend among succession scholars to focus on specific classes of firms, we purposely limited our scope to companies in turnaround situations. It would be highly fruitful for researchers to apply and extend the fit/refit theory to other distinct classes of firms, possibly including founder-led and rapid-growth companies.

Second, we focused on a limited set of predecessor misfit and successor fit conditions among turnaround companies. While just these few forms of CEO (mis)alignment add substantially to explaining subsequent performance of troubled firms, other forms might be considered. For example, a company that has suffered severe ethical or legal lapses may benefit from a CEO who has legal or other relevant expertise. Or a company with severely lagging product innovation might benefit from a CEO who has technology or marketing expertise.

Third, we examined the effects of CEO replacement on subsequent performance, without fully considering the intervening actions taken by the CEOs. Our illustrative *post hoc* analysis suggests the promise of examining post-succession strategic behaviors.

Finally, we treated CEO replacement as having potentially uniform implications for all companies, even though it is known that CEOs have more discretion in some settings than in others (e.g., Finkelstein and Boyd 1998). It might be, for instance, that our logic of CEO fit/refit would be most strongly supported in high-discretion industries (high growth, differentiable products, not highly regulated), but barely at all observed for companies in low-discretion industries.

Theoretical Implications and Summary

Our study has implications for multiple research streams, most notably upper-echelons theory. We extend, to a new arena, the centrally important idea that executives have finite, bounded repertoires (Henderson et al. 2006, Miller and Shamsie 2001), and that the value of a given executive's repertoire

depends on the business context. Such ideas of executive "fit" have been applied in other ways, but not in the study of CEO succession. We also extend the basic concept of executive fit to include its obverse, "executive misfit." Interestingly, when theorists apply the resource-based view to describe a firm's managers as key resources (Castanias and Helfat 1991), they rarely consider the possibility that executives are sometimes liabilities for their firms, depending on the business context.

We also contribute to the literature on turnarounds. Our results indicate that CEO change, in itself, accomplishes very little for such companies. We suspect that the conventional wisdom about CEO replacement, coupled with the "romance of leadership" (Meindl et al. 1985), propel boards of troubled companies to view replacement as a ritualistic act, instead of as an occasion to deliberately recalibrate the company's executive competencies with the conditions facing the firm, as envisioned in the fit/refit model. We anticipate that some highly suitable CEOs – who may have substantial firm-specific expertise and may have corrective measures underway – are unwisely forced out of troubled firms. And we envision that some successors are hired simply because they represent a fresh face or possess colorful qualities which may be largely irrelevant for the job that needs to be done (Khurana 2002). Our study also provides indirect support for some propositions in earlier turnaround research, for instance the need for retrenchment if the performance problem is severe (e.g., Hofer 1980, Pearce and Robbins 1994).

Finally, our study has implications for agency theory and governance research. Our results suggest that CEO replacement decisions in troubled companies, on average, are not very efficacious; but the departure of ill-suited incumbents and the hiring of well-suited successors help to bring about improvement. The question then arises: Which boards get it right? Prior research has addressed how governance conditions influence the likelihood of CEO departure (Boeker 1992), but few studies have considered how boards differ in their inclinations to dismiss or hire "correctly" (Zhang 2008).

In sum, our study provides a foundation for additional inquires into the implications of CEO replacement. More broadly, our project highlights the promise of extending the classic idea of executive

fit to the arena of CEO turnover, particularly by considering two individuals' qualities: the predecessor's

degree of misfit and the successor's degree of fit for the conditions at hand.

Endnotes

1 Our definition is adapted from those in prior prominent works on turnarounds, including: "when performance declines and the survival of the firm is threatened" (Barker et al. 2001: 235) and "when a firm encounters multiple years of declining financial performance subsequent to a period of prosperity" (Pearce and Robbins 1993: 623). The performance thresholds vary in different studies, which we discuss in our method section.

2 It is important to emphasize that the fit/refit model allows no predictions about the main effects of these component variables, or of any two-way interactions, on performance. It is only the *combination* of context, incumbent attributes, and replacement that allows any cogent expectations. Still, our analysis will show the various main- and two-way effects.

3 Cost of equity was calculated as follows: $COE_{it} = Risk_{ft} + \beta_{it} * Risk_p$, where $Risk_{ft}$ is the risk-free rate for 1-year U.S. treasury bills in year$_t$; β_{it} is the beta for the firm$_i$ in year$_t$ estimated with its prior five-year monthly return data provided by CRSP database; and $Risk_p$ is the market risk premium, estimated at seven percent (Brealey and Myers 2000, Stewart 1991). While some studies have used return of investment (ROI) to operationalize turnaround situations, we wished to compare a firm's ROE and COE to ensure that the firm's return was above the cost of equity during the pre-turnaround period.

4 As a sensitivity test, we conducted our analyses on a subsample of firms that had two consecutive years of losses (instead of just one year), and the results were similar to what we report. Still, our findings may not apply for other conceptualizations of turnaround situations.

5 We also examined ROA, with results were very similar to what we report for ROE.

6 We also used the performance change in the focal industry as an alternative to address this issue. The results were similar to what we report here.

7 We cannot use this method to measure successor CEOs' talents, because most successors were not previously CEOs of public companies.

8 Results of this endogeneity model are available from the authors.

9 An advantage of random effects models is that time invariant variables can be included, whereas in fixed effects models their effects are absorbed by the intercept. The random effects model enables us to control for within-firm variance, allowing between-firm comparisons (Petersen 1993) and limiting losses of observations that can lead to model convergence problems (Rao et al. 2000). A Hausman test based on models with time-varying variables that compared random to fixed effect models was insignificant, indicating that the random-effect approach was suitable (Hausman 1978, Greene 2003). As a robustness check, we also applied a generalized estimating equations (GEE) regression model, a method found suitable for panel data because it measures both within and between firm variance and generates robust estimates of standard errors (Ballinger 2004, Pfarrer et al. 2010). Our results in these different models remained consistent.

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**Figure 1: Effects of Predecessor Misfit on Subsequent Performance (ROE),
Under Conditions of CEO Replacement**

Figure 1a

ROE

0.30
0.25
0.20
0.15
0.10
0.05
0.00

Replaced incumbent with long CEO tenure
(1 s.d. above mean)

Replaced incumbent with short CEO tenure
(1 s.d. below mean)

Low severity in firm perf.
(1 s.d. below mean)

High severity in firm perf
(1 s.d. above mean)

Figure 1b

ROE

0.30
0.25
0.20
0.15
0.10
0.05
0.00

Replaced incumbent with primary experience in non-
throughput function

Replaced incumbent with primary experience in
throughput function

Low severity in firm perf.
(1 s.d. below mean)

High severity in firm perf
(1 s.d. above mean)

Figure 1c

ROE

0.30
0.25
0.20
0.15
0.10
0.05
0.00

Replaced incumbent with long industry tenure
(1 s.d. above mean)

Replaced incumbent with short industry tenure
(1 s.d. below mean)

Low severity in
industry perf. (1 s.d.
below mean)

High severity in
industry perf. (1 s.d.
above mean)

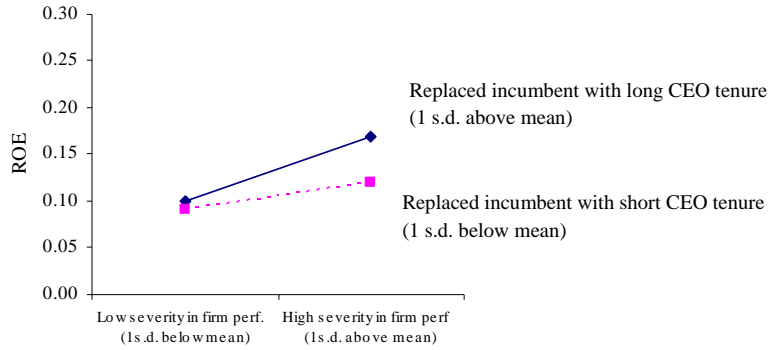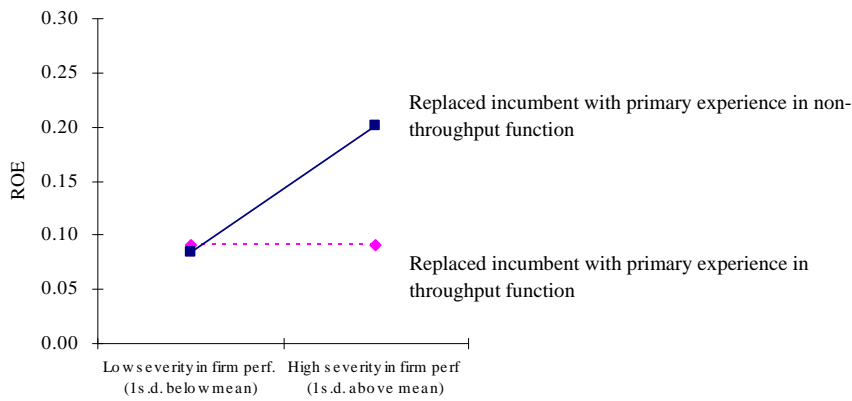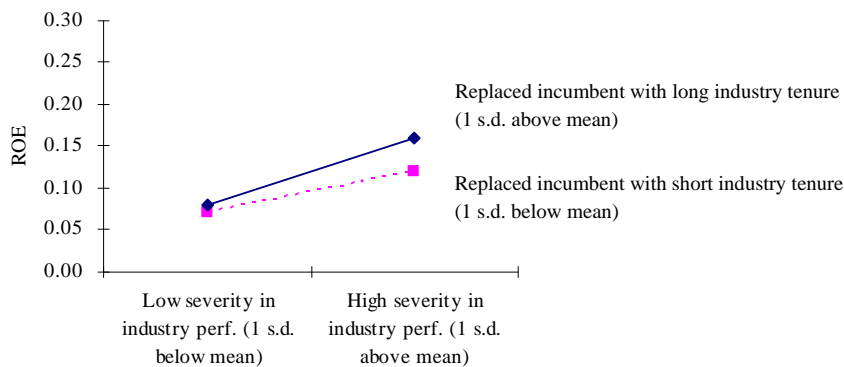**Figure 2: Effects of Successor Fit on Subsequent Performance (ROE)**

Figure 2a
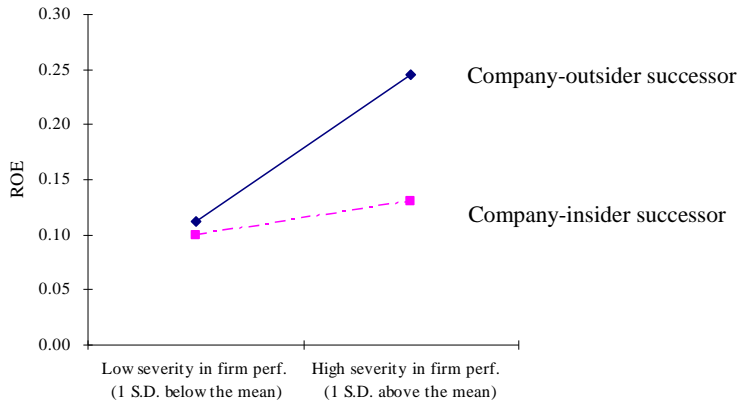
Figure 2b
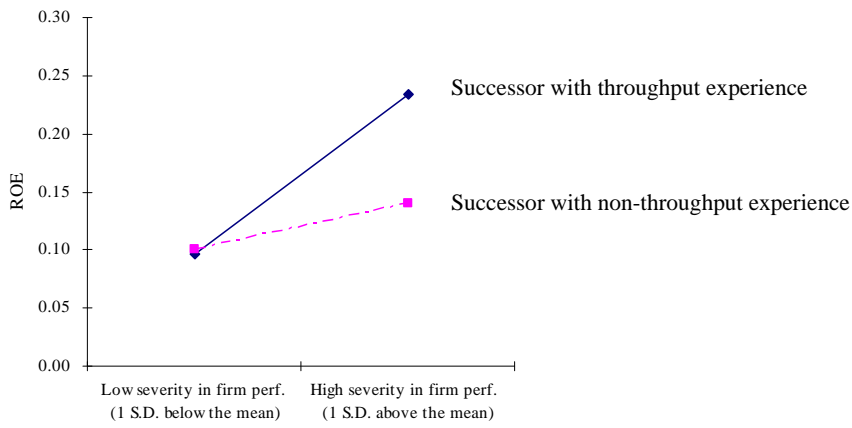
Figure 2c
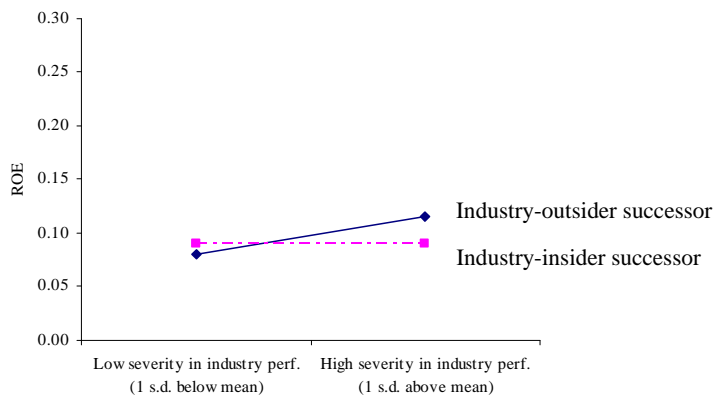
Table 1: Descriptive Statistics and Correlations [a]

		Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	ROE in Years -2 and -1	.19	.06																											
2	MTB in Years -2 and -1	1.69	1.26	.54																										
3	ROE in Year 0 (reverse-coded as firm perf severity)	-.14	.11	.01	.09																									
4	MTB in Year 0 (reverse-coded as firm perf severity)	1.14	.96	.48	.58	.13																								
5	Industry median ROE in Year 0	.06	.05	-.24	-.31	.07	.29																							
6	Industry median MTB in Year 0	1.03	.55	.33	.40	.12	.45	.38																						
7	Industry median ROE in subsequent years	.07	.07	.21	.35	.02	.36	.19	.33																					
8	Industry median MTB in subsequent years	1.13	.63	.28	.48	.09	.63	.33	.66	.37																				
9	Firm size [b]	8.11	3.59	.00	-.07	.05	.04	.02	-.01	.02	.02																			
10	Firm age [b]	3.21	2.92	-.05	-.29	-.02	-.18	.08	-.06	.14	-.20	.41																		
11	Leverage ratio	0.57	0.17	-.31	-.52	-.30	-.38	.13	-.17	.20	-.33	.33	.31																	
12	Liquidity ratio	1.42	0.94	.38	.39	.13	.32	-.20	.19	-.18	.29	.29	-.16	-.53																
13	CEO replacement	.44	.49	.12	.06	.02	.08	-.08	.11	-.04	.01	.08	.10	-.18	.29															
14	CEO replacement during Year 0	.21	.41	-.06	-.03	.00	-.04	.10	-.01	.07	-.11	.00	.07	-.03	-.03	.34														
15	Multiple CEO replacement	.11	.31	.16	.10	.09	.02	.03	-.04	.01	-.04	.13	.15	-.08	.05	.44	.04													
16	Later replacement	.21	.36	-.16	-.13	.05	-.11	.19	-.24	.12	-.18	.16	.05	.18	-.29	-.39	.11	-.17												
17	Incumbent's talent	-.01	.10	-.07	.00	-.01	.10	.02	.02	-.13	.15	.05	.11	-.08	.02	-.11	.00	.06	-.02											
18	Control for selection bias	.96	.24	-.01	.01	-.03	.10	-.01	.13	-.02	.09	-.12	-.19	.02	-.13	-.24	-.13	-.15	-.11	-.04										
19	Control for endogeneity	.39	.15	-.05	.01	.05	-.06	-.04	-.18	.01	-.07	.06	.13	-.04	.13	.31	.16	.14	.11	-.17	-.58									
20	Industry performance severity	-.01	.07	.18	.29	-.11	.16	-.48	.05	-.02	.20	-.07	-.17	-.20	.12	.01	-.01	-.00	-.01	-.02	-.01	.08								
21	Non-throughput incumbent	.70	.37	.04	.06	-.02	.03	.02	.05	-.02	-.07	.01	.09	.05	-.05	.00	.10	.08	.05	-.06	.16	-.17	-.21							
22	Incumbent's CEO tenure [b]	1.99	.68	-.01	.06	-.03	.05	.08	.01	-.05	.02	-.10	-.05	-.03	-.06	-.07	.03	-.16	.19	-.01	-.11	.03	.24	.13						
23	Incumbent's industry tenure [b]	2.55	.46	.02	.07	.00	.04	.06	.01	-.04	.01	-.05	-.01	-.06	.02	.11	.11	-.01	.22	-.01	-.16	.10	.27	.15	.63					
24	Throughput-oriented successor	.37	.28	.16	.09	-.14	.09	-.02	.19	-.17	.00	.30	.11	-.12	.17	-.03	.07	-.05	.03	.09	-.12	.07	-.02	.04	.02	.02				
25	Company-outsider successor	.36	.48	.02	.03	-.11	-.08	.03	.08	.06	.04	-.02	-.14	-.05	.03	.09	-.10	.12	-.09	.10	-.09	.02	.04	-.18	-.04	-.03	.11			
26	Industry-outsider successor	.09	.29	-.04	-.05	.01	-.14	.05	-.09	.20	.01	.05	-.07	.03	-.02	.04	-.03	.20	-.04	.07	-.03	.09	.00	-.15	-.11	-.10	.04	.62		
27	ROE in subsequent years	.10	.19	.16	.14	-.07	.07	-.01	.13	.14	.06	.19	.20	.18	-.14	-.05	-.04	-.05	.04	-.01	.07	-.08	-.10	-.04	-.08	-.05	.13	.03	.04	
28	MTB in subsequent years	1.23	.96	.43	.55	.07	.37	-.12	.41	-.24	.61	.03	-.10	-.30	.18	-.04	.00	.00	-.10	.11	.13	-.09	.08	-.01	-.02	-.04	.14	.06	-.05	.33

[a.] Correlations above .08 are significant at .05 level; N=669, except variables 22-24, for which N = 294 ; [b] Log-transformed

Table 2: Effects of Predecessor Misfit on Subsequent Firm Performance [a]

	ROE					MTB				
	1	2	3	4	5	1'	2'	3'	4'	5'
ROE/MTB in Years -2 and -1	0.39**	0.41**	0.31**	0.41**	0.28**	0.30**	0.30**	0.31**	0.29**	0.32**
	(0.10)	(0.10)	(0.11)	(0.10)	(0.11)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
ROE/MTB in Year 0	-0.11*	-0.10*	-0.09*	-0.08*	-0.09*	0.05*	0.05*	0.04+	0.05*	0.06*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Industry median ROE/MTB in Year 0	-0.03	-0.04	-0.06	-0.03	-0.05	0.33**	0.34**	0.33**	0.32**	0.31**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.06)	(0.07)	(0.06)	(0.06)	(0.07)
Industry median ROE/MTB in subsequent years [d]	0.24**	0.20**	0.20**	0.23**	0.22**	0.16**	0.17**	0.16**	0.18**	0.19**
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Firm size [b]	0.01*	0.01*	0.01*	0.02**	0.01*	0.06*	0.06*	0.05*	0.06*	0.05+
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Firm age [b]	0.03**	0.03**	0.03**	0.03**	0.03**	0.01	0.01	0.02	0.01	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Liquidity ratio	-0.02*	-0.02*	-0.02+	-0.02+	-0.02+	0.05	0.05	0.06	0.06	0.06
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Leverage ratio	-0.02	-0.01	-0.02	-0.02	0.01	-0.60**	-0.64**	-0.52*	-0.57*	-0.54*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)
Control for endogeneity	-0.08+	-0.07	-0.08+	-0.08	-0.07	-0.24	-0.28	-0.31+	-0.28	-0.32+
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
CEO replacement	-0.03	0.02	-0.01	-0.06	-0.07	-0.15	-0.17	-0.18	-0.17	-0.13
	(0.02)	(0.02)	(0.02)	(0.04)	(0.05)	(0.10)	(0.11)	(0.12)	(0.17)	(0.18)
CEO replacement during Year 0 [c]	-0.01	-0.01	-0.01	-0.01	-0.02	0.10	0.08	0.11	0.07	0.10
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Multiple replacement of CEO	-0.06**	-0.05**	-0.06**	-0.05*	-0.03+	-0.11	-0.12	-0.14+	-0.15+	-0.17*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Later replacement	0.01	0.02	0.00	0.02	0.03	-0.10	-0.12	-0.16	-0.08	-0.12
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.10)	(0.10)	(0.10)	(0.10)	(0.11)
Incumbent's talent	0.01	0.02	0.02	0.02	0.03	-0.03	-0.05	-0.03	-0.03	-0.05
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
CEO replacement * Incumbent's talent	-0.08*	-0.06*	-0.07*	-0.06*	-0.06*	-0.33**	-0.36**	-0.33**	-0.36**	-0.35**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Incumbent's CEO tenure [b]	-0.01	-0.01	-0.01	-0.01	-0.00	-0.00	-0.03	-0.01	-0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Non-throughput incumbent	-0.02	-0.02	-0.03+	-0.03	-0.03+	-0.01	-0.00	-0.09	-0.03	-0.13
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.07)	(0.07)	(0.08)	(0.07)	(0.08)
Incumbent's industry tenure [b]	0.01	0.01	0.01	0.01	-0.00	-0.00	0.02	0.00	-0.00	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)
Industry performance severity	-0.16	-0.15	-0.16	-0.22	-0.11	-0.09	-0.18	-0.09	-0.20+	-0.21+
	(0.14)	(0.14)	(0.14)	(0.25)	(0.16)	(0.14)	(0.15)	(0.13)	(0.12)	(0.12)
Firm performance severity * CEO replacement		-0.02	-0.09		-0.19		-0.65	-0.06		-0.80
		(0.26)	(0.26)		(0.27)		(1.07)	(1.08)		(1.11)
Incumbent's CEO tenure * CEO replacement		0.00			-0.02		0.05			0.01
		(0.00)			(0.01)		(0.05)			(0.01)
Firm performance severity * Incumbent's CEO tenure		-0.02*			-0.03**		-0.04*			-0.04*
		(0.01)			(0.01)		(0.02)			(0.02)
Firm performance severity * Incumbent's CEO tenure * CEO replacement		**0.11****			**0.10***		**0.16****			**0.14+**
		(0.03)			**(0.04)**		**(0.05)**			**(0.07)**
Non-throughput incumbent * CEO replacement			0.05		0.05			0.19		0.08
			(0.04)		(0.04)			(0.14)		(0.15)
Firm performance severity * Non-throughput incumbent			-0.34**		-0.32**			-0.85**		-0.65**
			(0.12)		(0.12)			(0.18)		(0.20)
Firm performance severity * Non-throughput incumbent * CEO replacement			**1.39****		**0.86****			**1.25****		**0.95****
			(0.22)		**(0.28)**			**(0.29)**		**(0.31)**
Incumbent's industry tenure * CEO replacement				0.42	0.37				0.24	0.56
				(0.43)	(0.35)				(1.77)	(1.40)
Industry performance severity * CEO replacement				0.01*	0.02*				0.03**	0.02*
				(0.00)	(0.01)				(0.01)	(0.01)
Industry performance severity * Incumbent's industry tenure				-0.03*	-0.01				-0.08*	-0.06*
				(0.01)	(0.01)				(0.04)	(0.03)
Industry performance severity* Incumbent's Industry tenure * CEO replacement				**0.07***	**0.06****				**0.16****	**0.10***
				(0.03)	**(0.02)**				**(0.04)**	**(0.05)**
Constant	-0.07	-0.08	-0.04	-0.07	0.02	0.66**	0.64*	0.74**	0.68**	0.63+
	(0.06)	(0.06)	(0.06)	(0.06)	(0.08)	(0.25)	(0.25)	(0.25)	(0.25)	(0.34)
Overall R-square	0.12	0.13	0.14	0.14	0.18	0.41	0.45	0.47	0.46	0.49
Wald Chi-square	82.15**	97.15**	98.16**	99.13**	131.5**	427.2**	494.0**	519.4*	512.3**	560.6*

[a] N=669; Year dummies are included, but results are not reported to save space. $+: p < 0.10$; $*: p < 0.05$; $**: p < 0.01$; [b] Log-transformed;

[c]: CEO replacement during Year 1 is the omitted variable.

[d]: In MTB models, this variable is a residual of a regression, in which industry median MTB in Year 0 is regressed on median MTB in subsequent years.

Table 3: Effects of Successor Fit on Subsequent Firm Performance [a]

	ROE					MTB				
	1	2	3	4	5	1'	2'	3'	4'	5'
ROE/MTB in Year -2 and Year -1	0.55*	0.46*	0.43*	0.55+	0.54+	0.39**	0.37**	0.40**	0.39**	0.38**
	(0.20)	(0.22)	(0.21)	(0.29)	(0.29)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
ROE/MTB in Year 0	-0.24*	-0.38**	-0.31*	-0.22+	-0.22+	-0.09+	-0.09+	-0.10*	-0.10*	-0.09+
	(0.11)	(0.14)	(0.13)	(0.12)	(0.12)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Industry median ROE/MTB in Year 0	0.22	0.22	0.33	0.23	0.32	0.29**	0.33**	0.31**	0.32**	0.38**
	(0.25)	(0.24)	(0.25)	(0.25)	(0.25)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Industry median ROE/MTB in Subsequent years [d]	0.36*	0.35*	0.35*	0.37*	0.36*	0.54**	0.56**	0.51**	0.53**	0.53**
	(0.15)	(0.15)	(0.15)	(0.15)	(0.14)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Firm size [b]	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.04	-0.03	-0.04	-0.05
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Firm age [b]	0.08**	0.08**	0.08**	0.08**	0.09**	0.05	0.08	0.04	0.05	0.10
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)
Liquidity ratio	-0.04+	-0.04+	-0.04*	-0.04*	-0.04*	0.10	0.10	0.11	0.11	0.10
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Leverage ratio	0.05	0.06	0.03	0.04	0.03	-0.13*	-0.34	-0.15+	-0.13+	-0.11+
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.06)	(0.14)	(0.08)	(0.07)	(0.06)
Control for selection bias	0.22*	0.21*	0.23**	0.19*	0.19*	0.61*	0.63*	0.59*	0.65*	0.58*
	(0.08)	(0.08)	(0.08)	(0.09)	(0.09)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)
CEO replacement during Year 0	-0.05	-0.07+	-0.05	-0.05	-0.06	0.20	0.16	0.18	0.18	0.11
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.14)	(0.12)	(0.14)	(0.13)	(0.12)
Multiple replacement of CEO	-0.00	-0.01	-0.00	-0.02	-0.03	-0.48**	-0.44**	-0.48**	-0.52**	-0.45**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Incumbent's talent	0.02+	0.02	0.02	0.02	0.01	0.23*	0.22*	0.22+	0.24*	0.18
	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)	(0.11)	(0.11)	(0.11)	(0.11)	(0.12)
Industry performance severity	-0.72	-0.61	-0.63	-0.64	-0.46	-1.29*	-1.21*	-1.44*	-1.12*	1.13*
	(0.52)	(0.52)	(0.52)	(0.52)	(0.52)	(0.66)	(0.63)	(0.71)	(0.56)	(0.51)
Incumbent's CEO tenure [b]	-0.01	-0.00	-0.00	-0.01	-0.00	0.03	0.02	0.03	0.04	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Non-throughput incumbent	0.10*	0.12*	0.12*	0.09+	0.12*	0.23	0.28+	0.23	0.26	0.34*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Incumbent's industry tenure [b]	0.01	0.01	0.01	0.02	0.01	-0.01	-0.00	-0.01	-0.02	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Firm performance severity * Incumbent's CEO tenure	-0.05*	-0.03	-0.06*	-0.05*	-0.04	-0.20*	-0.19*	-0.18*	-0.20**	-0.18*
	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Firm performance severity * Non-throughput incumbent	-0.26	-0.67+	-0.44	-0.23	-0.79+	0.54	0.34	1.00	0.97	1.02
	(0.35)	(0.38)	(0.41)	(0.36)	(0.42)	(1.13)	(1.13)	(1.17)	(1.22)	(1.16)
Industry performance severity * Incumbent's industry tenure	-0.09**	-0.09**	-0.10**	-0.09**	-0.08**	-0.31**	-0.31**	-0.27**	-0.29**	-0.20+
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.09)	(0.09)	(0.10)	(0.09)	(0.11)
Company-outsider successor	0.06	0.07+	0.07+	0.07	0.06	0.12	0.11	0.11	0.11	0.09
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.14)	(0.14)	(0.14)	(0.14)	(0.13)
Throughput-oriented successor	0.08+	0.09*	0.04	0.07+	0.05	0.22	0.26+	0.22	0.23+	0.29*
	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)	(0.13)	(0.14)	(0.13)	(0.14)	(0.13)
Industry-outsider successor	-0.05	-0.03	-0.06	0.02	0.02	-0.01	0.00	0.06	-0.11	0.17
	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)	(0.18)	(0.18)	(0.19)	(0.21)	(0.20)
Firm performance severity * Company-outsider successor		**0.58***			**0.52***		**0.88***			**0.70***
		(0.25)			**(0.26)**		**(0.40)**			**(0.32)**
Firm performance severity * Throughput-oriented successor			**0.61***		**0.45***			**0.79***		**0.65***
			(0.29)		**(0.21)**			**(0.30)**		**(0.32)**
Industry performance severity * Industry-outsider successor				**0.18***	**0.12***				**0.48***	**0.32+**
				(0.06)	**(0.05)**				**(0.22)**	**(0.18)**
Constant	-0.51**	-0.53**	-0.50**	-0.54**	-0.55**	-1.11+	-1.39*	-0.95	-1.07+	-1.16+
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.60)	(0.61)	(0.61)	(0.60)	(0.63)
Overall R-square	0.19	0.23	0.23	0.24	0.28	0.43	0.46	0.46	0.45	0.48
Wald Chi-square	63.10**	69.60**	69.95**	71.40**	89.73**	180.8**	195.9**	197.4**	191.5**	219.1**

[a] N=294; Year dummies are included, but results are not reported to save space; +:$p < 0.10$; *: $p < 0.05$; **: $p < 0.01$; [b] Log-transformed;
[c]: CEO replacement during Year 1 is the omitted variable. The control variable of "later replacement" is dropped here because its value is consistently zero in the analysis of successor fit;
[d]: In MTB models, this variable is a residual of a regression, in which industry median MTB in Year 0 is regressed on median MTB in subsequent years.

Appendix 1
CEO Replacement Under Conditions of Severe Performance Problems:
Illustrative Examination of Predecessor Misfit and Successor Fit Combinations

	ROE	**Δ Fixed Assets**	**Δ Headcount**	**Δ SGA**
Category 1 (Short-tenured predecessor and insider successor combination)	Omitted Category	Omitted Category	Omitted Category	Omitted Category
Category 2 (Short-tenured predecessor and outsider successor combination)	.07	-0.07*	-0.02	-0.02
Category 3 (Long-tenured predecessor and insider successor combination)	.11*	-0.01	0.04	-0.03+
Category 4 (Long-tenured predecessor and outsider successor combination)	.16**	-0.08*	-0.12*	-0.04+

N=147; +p<0.10; *: p < 0.05; ** p < 0.01

Clarifying Notes:

1. The sample analyzed here consists of firms that had the most severe ROE performance in Year 0 (worse than -7.0%, the median for firms in which CEO succession occurred).
2. Short-tenured vs. long-tenured predecessors were determined by median split (7 years).
3. Shown in the cells are regression coefficients (and significance) for category dummy variables (Category 1 was the omitted variable). Not shown are results for control variables, which include all those in Model 1 of Table 3.
4. For estimating ROE, pooled random-effects analysis of Years 2, 3, and 4 were conducted.
5. For estimating other dependent variables, pooled random-effects analysis of Years 1, 2, and 3 were conducted, where the dependent variable was the percentage change relative to Year 0.

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