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Is exposure to the family firm always good for the next CEO? How successor pre-succession firm experience affects post-succession performance in family firms

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ABSTRACT

The benefits of pre-succession family firm experience have frequently been emphasized. However, empirical research on the impact of such experience on firm performance is dichotomy-driven and offers contradictory results. Further, there are also unresolved theoretical fault-lines. While psychology-inspired managerial decision-making literature highlights negative aspects of such experience, stewardship-inspired arguments highlight positive effects. In this study, we integrated arguments from both perspectives to investigate how pre-succession firm experience affects firm performance. Based on a sample of 405 German firms, our regression analyses show that although the main performance impact of pre-succession family firm experience is negative, this effect has important boundary conditions. In particular, our results show that this relationship takes an inverse u-shaped form for non-family successors. Further, our study reveals that the main negative relationship is stronger when the successors do not have academic education or if the innovation impetus of the firm and industry is high.

1. Introduction

Whether experience 'inside' the family firm before succession as a CEO has merit is subject to an ongoing debate which finds a particular expression in a still unresolved theoretical fault-line between two research streams. First, modern psychology-inspired managerial decision-making research (Hambrick & Mason, 1984; J. G. March & Simon, 1958; Simon, 1947) provides a series of arguments suggesting that family firm experience may cause dysfunctional cognitive biases. These biases are rooted in hindsight inference, corporate stories, authority halos, misguided attribution, and false or outdated wisdom (Asch & Guetzkow, 1951; Blank et al., 2007; Hambrick et al., 1993; Milgram, 1963; Ross, 1977; A. Tversky & Kahneman, 1973). Thus, firm experience may invoke conformist decisions harming the family firm performance (Hambrick et al., 1993; Huson et al., 2004; Venkatraman & Camillus, 1984). A second, younger literature stream—driven by stewardship considerations—argues exactly the opposite. These scholars highlight the value of family firm experience as an important mode of gaining performance-enhancing stewardship behavior that aligns the leader's utility with corporate success (Donaldson & Davis, 1991; Konopaski et al., 2015; Le Breton-Miller & Miller, 2015). Consequently, such researchers and practitioners emphasize the merit of exposure to the family firm's cosmos (Jaskiewicz et al., 2015; Kammerlander et al., 2015; Minola et al., 2016). Moreover, adding to the complication, empirical evidence on the firm performance effect of pre-succession firm experience is dichotomy-driven (narrowed to insider versus outsider comparisons), and thus inconclusive (Cannella et al., 2008). Thus, the question 'Is pre-succession firm experience *really* a merit in family firm context?' deserves deeper academic scrutiny (Wennberg et al., 2011).

Therefore, we theorize how both theoretical views can be integrated into a more general contingency view and formulate a series of hypotheses. We identified *boundary conditions* at CEO, firm, and industry levels (Datta & Rajagopalan, 1998; Kimberly & Evanisko, 1981), influencing the relationship between pre-succession firm experience and performance. These contingencies address: (1) that CEOs benefit divergently from learning positive stewardship attributes via pre-

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succession experience which affects its performance impact (family versus non-family insider CEO successor), (2) that their academic background might initially dampen their vulnerability to respective biases and that the (3) innovativeness of the firm and (4) dynamism of the context affect how strongly the evoked biases affect the CEO's decisions. Together, these contingencies offer a new reconciliatory perspective and show that there is some truth in both stewardship and managerial decision arguments.

Our work contributes to multiple strands of literature. First, it harmonizes opposing arguments from managerial decision and stewardship literatures. By taking a contingency perspective, we add to an ongoing debate that the true question is not *whether* CEO pre-succession firm experience is detrimental to family firm performance, but *under which circumstances* it entails more negative biases than valuable effects for a family firm—as well as *how this interplay unfolds over time*. This study reveals that to accurately theorize on its performance implications, a non-linear conceptualization of CEO pre-succession firm experience is needed—one that encompasses both positive and negative sides. Second, our work challenges current narratives in stewardship-inspired family firm literature. Scholars should consider that beyond *functional* learning, *dysfunctional* cognitive biases that compromise the CEO's decision-making can also be evoked by experience inside the firm. Positive arguments of entrepreneurial legacy and story-sharing must therefore be rethought and complemented by this adverse effect (Jaskiewicz et al., 2015; Kammerlander et al., 2015; Zellweger et al., 2012) and linked with the peculiarities of family firms. This implies a counterintuitive and unnoted detail for the literature on relay successions as a mechanism to assure transgenerational entrepreneurship (Minichilli et al., 2014; Shen and Cannella, 2003).

2. Theory and hypotheses

2.1. Cognitive biases and pre-succession firm experience

UET recognizes the significance of the CEO—as a behavioral decision-making authority—for a firm's configuration and performance (Hambrick & Mason, 1984; Hambrick & Quigley, 2014). It puts forward that the sociological, psychological, and demographic characteristics of upper echelons partially affect how they cognitively perceive administrative decision tasks. This perception will then be reflected in their decision-making, thus their strategies, and ultimately in firm performance (Haleblian & Finkelstein, 1993; West and Schwenk, 1996).

UET emphasizes the boundaries of 'administrative man' in rational decision-making (Simon, 1947). Timely and perfect information on reality is utopian and surpasses human computational capacity (Cyert & March 1963; J. G. March & Simon, 1958). As task complexity increases, the human mind increasingly relies on a finite and reduced picture of reality based on heuristics, approximation and simplification (J. G. March & Simon, 1958). This reduced picture will be crucially shaped by *prior experiences* and personal aptitudes, as these form an individual's cognitive and affective base for 'behavioral' decision-making (Hambrick & Fukutomi, 1991; J. G. March & Simon, 1958). However, such reliance on a relatively fixed cognitive and affective base implies that complex managerial decisions are susceptible to biases embroiled in simplification procedures (Ross, 1977; A. Tversky & Kahneman, 1974). Such cognitive biases, i.e., systematic deviations from rational norms (Powell et al., 2011), facilitate boundedly rational decision-making under conditions of imperfect information or pressure (Bingham & Eisenhardt, 2011; Gigerenzer & Todd, 1999), but also make decisions error-prone and second-best (Barnes, 1984; Tversky & Kahneman, 1974). In fact, all human behavior intended to be rational is only behavior within constraints—our complex decisions are rather the outcome of individual behavioral elements than of calculus (J. G. March 1978).

In line with UET, we conceptualize family firm experience as a crucial factor that shapes the cognitive and affective base of a CEO, thus partly predicting firm performance. Indeed, when an executive learns the modus operandi of the family firm's micro-cosmos as a 'local reality' (Mehan & Wood, 1975) via experiences 'inside' the firm prior to succession, this crucially shapes his or her cognitive and affective base for decision-making. For instance, social structures and shared values that emerge from continual interactions with the family firm's upper echelons and stakeholders over time may result in an unnoticed acceptance of the logic by which the firm runs its day-to-day operations in locally unquestioned ways (Pryor et al., 2016). Thereby, emerging heuristics may evoke detrimental biases. Shepherd et al. (2003) explain: *"with high levels of experience, decision-makers may become increasingly susceptible to the pitfall of cognitive or mental ruts […] channeled by their past experience"* (p. 383). In the following, we argue that pre-succession firm experience can induce four central classes of biases: (1) attribution biases, (2) story and organizational culture biases, (3) confirmation and status-quo biases, and (4) biases due to a lingering 'shadow' of the predecessor's authority.

Attribution biases are distortions in the ascription of causes and implications of events and may induce a decision maker to overestimate the importance of dispositional factors relative to environmental influences (Gooding & Kinicki, 1995; Ross, 1977; A. Tversky & Kahneman, 1974). Prior firm experience informs the successor about the firm's repertoire of tools to tackle challenges and the local 'wisdom' underlying the firm's configurations (Hambrick et al., 1993; Pryor et al., 2016). This repertoire, however, results from a sense-making process which is vulnerable to pitfalls of hindsight inference, misguided attribution, and the availability of heuristics (Bingham & Eisenhardt, 2011)—hence it carries the danger of false or outdated wisdom (Blank et al., 2007; J. G. March & Simon, 1958; A. Tversky & Kahneman, 1974). We argue that pre-succession firm experience may cause a successor to spuriously attribute the family firm's past performance to the firm's routines or past decisions, which may never have contributed to success or become erroneous over time due to changing conditions (Miller & Friesen, 1980). Further, we argue that this issue is worsened by availability heuristics that lead decision makers to favor easily available choices synthesized from their past experiences (A. Tversky & Kahneman, 1973). This issue is aggravated as prior exposure to the local 'wisdom' increases, given such exposure would further ossify this suboptimal knowledge (Sutcliffe & Huber, 1998). This process has recently also been described as a learning or competency trap (Hashai & Zahra, 2021; Liang & Mu, 2020, p. 392).

Story and organizational culture biases refer to how corporate stories and myths can twist reality by blinding out crucial details that are dissonant to sense-making (Turner, 1976). These biases are formed by learning the family firm's traditions by taking part in ceremonies and rituals, reinforcing and disseminating its values and stories. Such narratives serve as tools to preserve and distribute key experiences in a firm's history (Pryor et al., 2016), thus helping to interpret new events through them and formulate appropriate actions (J. H. Liu & László, 2007). However, social representations of reality can also be deliberately manipulated by their narrator, reducing their factual accuracy as they spread. Their details erode over time which results in a set of simple stereotypes and anecdotes (Haley & Stumpf, 1989; Lyons & Kashima, 2003) that lead to *selective interpretation* (J. H. Liu & László, 2007, p. 87). This biased retelling of events is found to yield biased memories (B. Tversky & Marsh, 2000) while, over time, artefacts related to negative memories fade faster than positive ones (Skowronski et al., 2014). Story and firm culture biases lead CEOs to frame current events wrongly through iconic, more positive, and simplistic narratives which may differ from reality. Thereby, the CEO is systematically inclined to reapply the story's historic decisions and strategies (Dutton, 1993) which may no longer be apt—undermining firm performance (Brown & Starkey, 1994). Pre-succession firm experience would aggravate these biases since it increases exposure to firm stories and culture through socialization (Asch, 1955; Louis, 1990; Milton, 2008).

Confirmation and status quo biases: "Status quo bias is defined as the tendency to select a previously chosen alternative disproportionately often"

(Burmeister & Schade, 2007, p. 340) and to irrationally cling to the endowments of the current state (Samuelson & Zeckhauser, 1988). Indeed, once acquired, people tend not to part easily from their psychological, social, and material endowments, and show a tendency to make decisions in ways that protect the current state. Confirmation biases thus lead individuals to seek out information that validates their current beliefs and to ignore contradictory external information (Hmieleski & Baron, 2009; Pryor et al., 2016). In line with this, we argue that pre-succession family firm experience builds up confirmation and status quo biases through increasing (1) psychological, (2) social, and (3) material endowments. Emergent endowments include (1) a stable notion of one's own role in the firm (e.g., once an engineer, always an engineer), (2) collective expectations of consistency with one's prior decisions, (3) (a biased appraisal of) the firm's current configuration as the embodiment of one's labor. The desire of successors to protect these endowments will curb potential positive and innovative reconfigurations (Bauweraerts et al., 2022), thus harming performance. As labor invested and endowments increase over time, negative effects of these biases on performance would be higher as pre-succession firm experience increases.

Lingering shadow biases: Lessons learned from observing an authority figure are not necessarily rationally absorbed (Mezirow, 1997). Indeed, researchers document that such learning is prone to bias due to the social status or authority of the actor in the social context (Milgram, 1963; Ross, 1977). Indeed, when a CEO successor gathers pre-succession firm experience in the incumbent-led family firm, observing the incumbent CEO in a central power position is likely. Thus, spending time prior to the succession in a firm led by this authority figure entails the risks of falling victim to authority bias and rendering the actions of a socially favorable person as 'right' without rational evaluation (Nisbett & Wilson, 1977; Thorndike, 1920). This *halo effect* can prevent noticing of suboptimal decisions (Asch, 1955; Milgram, 1963; Thorndike, 1920). Therefore, we argue that pre-succession firm experience makes a successor prone to authority and halo biases, making him or her overly treasure the (potentially misguided or outdated) wisdom of the predecessor. This can result in suboptimal decisions and reduced firm performance (Haveman & Khaire, 2004).[1]

In sum, we argue that with increasing pre-succession firm experience, the above factors bias a successor CEO's decision-making over time, rendering them more error prone, ill-framed, outdated and conformist. Accordingly, they are more likely to become a 'misfit' (Cannella et al., 2008) and make suboptimal decisions with negative performance outcomes:

H1: *Pre-succession firm experience is negatively related to post-succession firm performance.*

2.2. Multi-level contingencies from an UET perspective

However, empirical evidence also shows that family firm CEO successors frequently work in the respective firm before assuming office (Lumpkin et al., 2011). This hints at contingencies when exposure to the family firm's cosmos is indeed beneficial. In fact, researchers argue that positive stewardship behavior might be learned (Konopaski et al., 2015; Le Breton-Miller & Miller, 2015; Minola et al., 2016). In the following, we integrate the positive stewardship counterargument into the model outlined above. Thus, to test and corroborate whether pre-succession firm experience is indeed a construct encompassing both positive and negative sides, we theorize on the boundary conditions affecting the prevalence of each 'side'. We thereby implicitly test their respective existence. While all contingencies share a common theoretical grounding in the UET concept of CEO fit (Cannella et al., 2008), we follow research that adopts a multi-level contingencies approach (Gresov, 1989) covering individual-, firm- and industry-level characteristics (Datta & Rajagopalan, 1998; Kimberly & Evanisko, 1981). These characteristics not only impact the firm's strategic choices and performance (e.g., G. S. Hansen & Wernerfelt, 1989), but also the cognitive base of decision makers (J. G. March 1978).

In this study, we focus on the *family membership* of successors as an individual level contingency given heuristics "employed by entrepreneurs and managers involved in family firms may differ from those in nonfamily firms due to the family background" (Picone et al., 2021, p. 15). In particular, a family background increases the prevalence of the stewardship behavior internalized by the successor (Le Breton-Miller & Miller, 2015). This family background can therefore act as a crucial individual-level contingency differentiating insider successors in terms of the early formation of stewardship behavior affecting firm performance. Next to family background, we focus on *formal education* as another individual level contingency. Formal education reflects the cognitive ability, and particularly the academic education of an individual has often been linked to cognitive attributes such as open-mindedness which may function as a way of counterbalancing the development of cognitive biases.

On the firm level, we focus on the *innovation strategy* since innovation processes are characterized by high levels of uncertainty and ambiguity (Hammedi et al., 2011). Thus, during these processes "managers do not just use analytical methods in decision-making [but] also rely significantly on their intuition and the application of readily available heuristics" (West et al., 2020, p. 1512). Accordingly, pre-succession family firm experience can affect the formation of the heuristics used in these processes and influence the family firm performance. Finally, we focus on *industry dynamism* given that the uncertainty and complexity characterizing such dynamic contexts would increase the role of predispositions, prior experiences, and personal frames of reference in decision making (Finkelstein et al., 2009). Thus, industry dynamism could further intensify the impact of biases resulting from pre-succession firm experience and influence family firm performance.

2.3. Individual-level contingency: Family insider versus non-family insider CEOs

The family firm is the most frequent firm type worldwide. These firms are usually managed for the long-run and with an intergenerational stance that emphasizes stability and family succession, trust, and stewardship behavior (Lumpkin et al., 2011; Miller & Le Breton-Miller, 2005). This allows the firm to garner rich social capital that yields a competitive advantage (Anderson & Reeb, 2003; Arregle et al., 2007; Salvato et al., 2020). As a result, scholars accentuate the importance of learning stewardship behavior, a transformative learning process where attitudes, personality or behaviors are reframed to provide a basis for long-term orientation (Le Breton-Miller & Miller, 2015; Lumpkin et al., 2011; Mezirow, 1997). Stewardship-inspired literature further argues that performance-enhancing stewardship attributes can be gained via firm experience (Donaldson & Davis, 1991; Konopaski et al., 2015; Le Breton-Miller & Miller, 2015) and that these can be acquired by all successors regardless of origin (Kotlar & Sieger, 2019; Minola et al., 2016; Tabor et al., 2018). Indeed, and consistent with evidence that relay successions of insiders are effective (Zhang & Rajagopalan, 2004), research has highlighted that learning the firm's values, culture, social embeddedness, traditions, routines, and rituals is important. That this goes beyond general industry experience also available to firm outsiders, and that their stronger internalization due to increasing time spent at the

[1] Clearly, the natural conceptual alternative to the aforementioned arguments is that there is a positive side to those four classes of biases that enables—rather than limits—fast and frugal decision-making (Bingham and Eisenhardt, 2011; Gigerenzer & Todd, 1999). The above arguments do not question this. In fact, the functioning of the human mind seems to rely on this proposition. Behavioral decisions, although inherently constrained, are often remarkably efficient. We only claim that lacking 'variation' in the experiences to which we expose our minds, decreases bias functionality resulting in error-prone decisions.

firm strengthens the successor's affective commitment and psychological ownership which leads to stewardship behavior (Huybrechts et al., 2013; J. Liu et al., 2012; Vallejo, 2009).

We argue that this positive stewardship argument will nevertheless only gain traction if CEOs are not already equipped with stewardship attributes. In fact, family CEO successors, e.g., those successors with blood relations to the predecessor, are likely to have learned essential components of stewardship behavior at home (family hearth) starting from childhood (Jaskiewicz et al., 2015; Le Breton-Miller & Miller, 2015). Examples include casual 'kitchen' conversations that impart the *"lore of what the employees of the firm have sacrificed for the firm and the family, […] instill[ing] a sense of reciprocal loyalty"* (Le Breton-Miller & Miller, 2015, p. 396). Therefore, we argue that family successors are likely to be pre-informed about the firm's culture, modus operandi and social cosmos due to their socialization in the family (Kotlar & De Massis, 2013). Thus, it is likely that they are already equipped with performance-enhancing stewardship attitudes when entering the firm. This prior exposure of family successors to stewardship-forming experiences in the family, limits or already exhausts their stewardship learning potential.[2]

In contrast, non-family successors are likely to be first exposed to the firm's cosmos when they begin working at the firm. Therefore, we argue that non-family successors benefit from learning stewardship attitudes in their initial years of firm exposure, which may indeed be beneficial for performance and temporarily outweigh detrimental effects of the aforementioned cognitive biases. However, we argue that this positive potential is limited and that stewardship learning has decreasing marginal benefits over time. Thus, learned negative biases eventually exceed positive learning after long pre-succession firm experience. Hence, we propose that pre-succession firm experience follows an inverse-shaped relationship with performance for non-family successors (Fig. 1).

H2: *For non-family successors moderate pre-succession firm experience has an inverse u-shaped relationship with post-succession firm performance.*

2.4. Individual-level contingency: Academic education

In UET, academic education is seen as one of the individual-level characteristics that change the cognitive base of decision-makers (Hambrick & Mason, 1984). In fact, although the dysfunctional cognitive shortcuts and decision-making biases described above are persevering in their nature, these may be overcome through changes in self-perception and social attitudes via education (Ross, 1977). Such education is effective for debiasing and calibrates the decision-makers judgement for bias-related errors (Soll et al., 2014). Indeed, empirical evidence shows that only by making subjects aware of the existence of biases is it possible to "debias" them for a period of time (Morewedge et al., 2015). In this vein, we argue that academically educated CEO successors – who are generally more trained in critical, and complex thinking and truth-finding via scientific methods – will partially guard themselves from the dysfunctionalities of the above biases which may be evoked by pre-succession firm experience. Academic training will help them to (1) see partially through misguided attributions, (2) interpret simplified narratives more critically, (3) regard endowments more abstractly, and (4) accept disconfirming multiplicity and multicausality more easily, while their academic knowledge partially lends them an authority of their own. This will initially make their decision-making less error-prone, thus largely reducing the bias-related negative performance effects of the first years of pre-succession firm experience. However, as time spent at the family firm prior to succession increases, and the more this academic experience becomes a vague memory, the more an academic CEO becomes immersed in the 'local reality' of the firm and convinced of its wisdom (Sieger et al., 2011). Further, psychological research underlines the "non-linear and negatively accelerated" nature of long-term forgetting as a function of time (Squire, 1989, p. 241). Accordingly, with increasing pre-succession firm experience, academic CEOs will gradually and increasingly lose their temporal immunity and become similarly vulnerable to the aforementioned cognitive biases. This in turn will result in increasingly negative effects for each additional year of pre-succession family firm experience.

H3: *Pre-succession firm experience of academic successors has a slowly declining, but increasingly negative relationship with post-succession firm performance.*

2.5. Firm-level contingency: Innovation strategy

Innovation is an important strategic choice within UET for adapting to changes in markets, technology and competition, as well as for achieving long-term survival (Hambrick & Mason, 1984). By definition, firms that focus on innovation exploit the nature of change to achieve first-mover advantages and technological leadership (Lieberman & Montgomery, 1998). Such firms need leaders who actively embrace opportunity-seeking and -seizing behavior, and show dynamic adaptation to current challenges by continuously rethinking or unlearning solutions of the past (Elenkov et al., 2005). In contrast, a leadership mindset that relies more on lessons from the past and on stability (Lee, 2006) will be less suitable, and in fact constitute a misfit in such firms because the exact opposite is needed (Bauweraerts et al., 2022; Muñoz-Bullón & Sanchez-Bueno, 2011). Because pre-succession firm experience constitutes training in 'what is', it is not a suitable calibration for 'what could be'. Thus, as it unveils convincing and tested solutions and oftentimes seemingly well-running configurations to the CEO, it is likely to reduce the CEO's attention and the resources directed towards innovation. Moreover, artifacts of pre-succession firm experience include false and outdated attributions, wrongly framed challenges, and a systematic inclination towards 'tried and true' local wisdom. In turn, these will unintentionally misguide innovation processes and lower their value when carried out. Thus, the biases evoked by pre-succession firm experience hamper the CEO's ability to introduce successful innovations, making (misguided) innovations costlier. Thus, we posit that the negative association between pre-succession firm experience and performance will be stronger if the firm introduces innovations post-succession.

H4: *The negative relation between pre-succession firm experience and post-succession firm performance is stronger if the firm introduces new product innovations post-succession.*

2.6. Industry-level contingency: Industry dynamism

Industry characteristics are important considerations when studying the link between upper echelons and firm performance (Hodgkinson, 1997; Miller, 1991; Norburn & Birley, 1988). A common distinction in this context is between dynamic and stable industries (Hambrick & Fukutomi, 1991). Unlike stable industries, dynamic industries are characterized by frequent change and high intensity of research and development (R&D) (Gomez-Mejia et al., 2014). We argue that when industries are subject to *dynamic* drift in the environment, change, and a high degree of R&D, organizations steered by CEOs with mindsets biased by pre-succession firm experience might fail to change with their industry's market or change in inconsistent ways. This is due to the CEOs' increasing irrational adherence to their *current* paradigm as well as their reliance on more restricted information and error-prone perceptions and heuristics which renders those CEOs less adept at achieving a complementary match between the organization and *fast changing* conditions in its industry (e.g., Finkelstein & Hambrick, 1990). Hence, in

[2] Even worse, the biases due to pre-succession firm experience are likely to be stronger for family successors: (1) *Lingering shadow biases* might be additionally linked to the parental authority of the predecessor, (2) *attribution biases*, and (3) *story and culture biases* are further connected to paradigms of their own upbringing, while (4) *confirmation and status quo biases* could also be connected to their family's endowments.

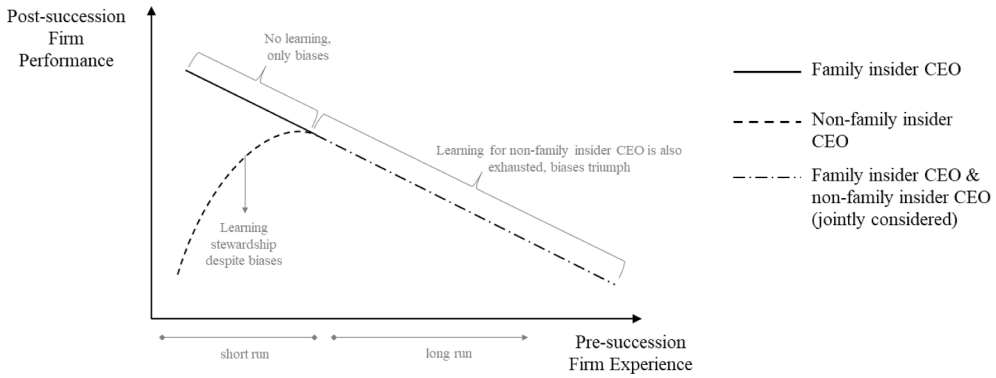

Fig. 1. Conceptual illustration of pre-succession firm experience and post-succession performance.

this contingency, the dysfunctionality of the above biases is increased (Das & Teng, 1999) and the CEO is more likely to become a misfit (Sharfman and Dean, 1997). In contrast, under stable industry conditions, the lessons learned from the past mostly still apply. Thus, more decisions made by CEOs affected by biases evoked by pre-succession firm experience will still be sound (Hambrick & Fukutomi, 1991) and less damaging to performance. In other words, the dysfunctionality of the biases is effectively reduced in this context making the CEO a better fit. Therefore, we expect the impact of the biases resulting from pre-succession family firm experience to have a stronger negative effect on firm performance if the firm operates in a dynamic industry characterized by high R&D per sales (see Fig. 2).

H5: *The negative relation between pre-succession firm experience and post-succession firm performance is stronger if the firm is active in a high R&D per sales industry.*

3. Methods

3.1. Sample

To test our hypotheses, we collected our sample based on the Mannheim Enterprise Panel (MUP), which provides information on over 90% of German firms (Bersch et al., 2014). We gathered complementary financials and firm characteristics from several secondary databases, including Bureau van Dijk Amadeus, Hoppenstedt, Federal Bank of Germany *(Bundesbank)*, and manual web-searches, in that order. Financials were corrected for inflation and are reported in 07/2009 Euros. The succession-specific data were obtained from standardized computer aided telephone interviews (CATI) conducted between January 29, 2010 and April 16, 2010, directly with the respective CEO successor as the single best informant regarding his or her biography and upper echelons data in privately-held firms. Moreover, to increase CATI reliability, we performed an extensive pre-test with 22 respondents in December 2009 to avoid formulations or questions prone to respondent error or missing values. In order to avoid biases, participants were informed that answers are anonymized, but were not told the exact research questions. Random checks suggest that CATI answers of CEOs are reliable.

We filtered the MUP for active family firms between the years 2002–2008 and with 30–1,000 employees. We excluded firms with<30 employees because self-employed and startup-CEOs may have different underlying motivations, and those with more than 1,000 employees in line with previous literature (e.g., Ahrens et al., 2015; Hennart et al., 2019). This is apt given that CEO effects are much more visible in smaller firms where power is not spread across many agents (Fama & Jensen, 1983).[3]

To identify family firms, we used a structure-based approach considering the components of family involvement (Litz, 1995). Following common definitions (Fiegener et al., 1994; Lansberg & Astrachan, 1994; Miller et al., 2007), family firms were identified as having a maximum of three individuals with an accumulated ownership of 50% and if at least one of these individuals was an executive director (CEO). Before contacting firms for a CATI, we pre-filtered for *potential succession firms* between the years 2002–2008 if: (1) an executive director resigned, or (2) a new executive director was appointed, or (3) an individual owner reduced his or her ownership, or (4) a new or existing individual owner increased his or her share, and (5) one of the existing individual owners or executive directors was more than 55 years old. In line with similar studies (e.g., Anderson & Reeb, 2003; Pérez-González, 2006; Tsoutsoura, 2015), we also excluded the ISIC Rev. 3.1 sections A-C (agriculture, hunting, forestry, fishing, mining and quarrying), E (electricity, gas and water supply), L (public administration and defence, compulsory social security), P (activities of private households), Q (extra-territorial organizations and bodies), and Division 91 (activities of membership organisations, e.g., trade unions, religious organisations). This step was taken to ensure the exclusion of NGOs, utility providers of strategic importance and other (public service) organizations that benefit heavily from government subsidies and thus may be subject to different succession dynamics. The resulting firms were contacted in early 2010 via telephone to arrange a CATI appointment with the CEO successor. Before starting the CATI, screening questions were conducted to confirm that the firm had experienced an ownership succession (Barry, 1975) and management transfer (Alcorn, 1982) and that the interviewee was a CEO successor from the respective succession, and held (or planned to hold) a share in the firm. Topics covered in the CATI include (1) succession- and (2) successor-characteristics (including family ties), and (3) firm level data. Performance and firm-size data from the CATI was placed highest in the hierarchy. This process yielded 804 completed CATIs, including a 29% succession firm response rate, which underlines the suitability of the approach (K. M. Hansen, 2007) given that upper echelon data is hard to obtain.

[3] Further, larger firms would be expected to be more professionalized decreasing the effect of family dynamics on firm conduct (Fang et al., 2016). Accordingly, they would have stronger corporate governance routines and measures in place (e.g., both internal and external monitoring), reducing the discretion of the successor CEO, making it less possible for the mechanisms argued in our hypotheses to affect the organizational performance (Dekker et al., 2013).

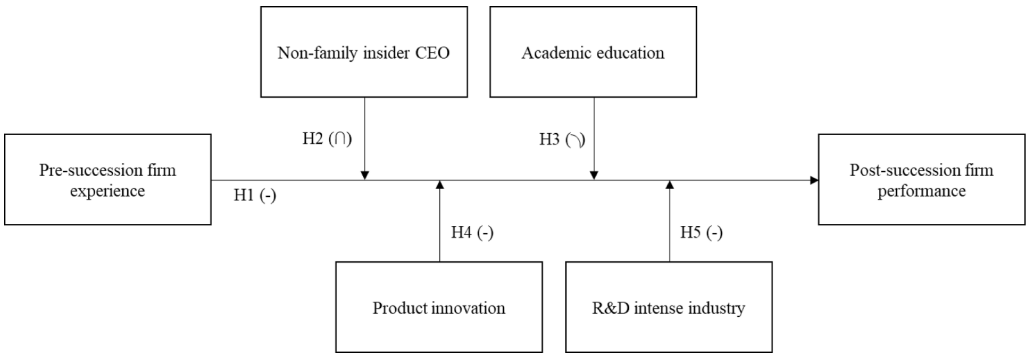

Fig. 2. Conceptual model.

3.2. Variables

Dependent variable: Δ industry- and performance-adjusted PM reflects the difference between profit margins (PM) before and after succession. Given that PM is widely used by managers in everyday reporting, it is less prone to respondent error in CATIs and is a straightforward measurement of performance (Ahrens et al., 2019).[4] To capture PM, successors were asked to state succession-year-PM and PM in 2009. To limit susceptibility of these accounting numbers to outliers, they are also winsorized (at 0.025 level) in line with similar studies (e.g., Delmar & Wiklund, 2008; Liu et al., 2017). To capture differential firm performance, we deducted the succession-year-PM from that in the year 2009. Here, the random variation of succession year between 2002 and 2008 is advantageous as it allows us to analyze how biases unfold over time similarly to the studies of events in such windows (e.g., Ooghe et al., 2006).

To account for performance trends due to industry trends and mean-reversion, we introduced the industry- and performance-adjustments to PM as proposed by Barber and Lyon (1996) (see Appendix 1 for further explanation). To achieve this, more than 187,000 firm-year observations for 2002 to 2009 from the Amadeus database are utilized as an adjustment group. Median adjustment group industry PM of the respective year using the two-digit SIC code is subtracted from the respective firm PM to adjust for industry effects. To adjust for performance effects, we first sorted the industry-adjusted PM of all adjustment group firms into deciles for all years and assigned the firms from our sample to accordant deciles in their succession year. Then, we subtracted the median industry-adjusted PM of the respective adjustment group decile and year (trend or development) from the industry-adjusted PM of sample firms (Pérez-González, 2006).

Independent Variables: Pre-succession firm experience is measured as years spent by the successor as an employee of the firm prior to the succession (Acquaah, 2012). *Non-family insider CEO* is an indicator that takes the value of 1 if the successor originates from within the firm, but is not a family successor tied to the family by a blood or marriage tie. *Academic CEO* indicates successors with an academic degree (i.e. graduated from university). *New product innovation* is an indicator that is 1 if the firm introduced a new product innovation after the succession. Finally, *high R&D/ sales industry* indicates if the median R&D-to-sales-ratio of the company's industry across time is higher than the average of all industries (using data between 2002 and 2009, from the first 15 European Union countries before any enlargement) to approximate industry dynamism.

Control Variables: We control for various factors to reduce the likelihood of omitted variable bias. First, we control for *corporate age* in years and size in terms of *number of employees* (log transformed for normality), both measured in the succession year (Miller et al., 2013). We also control for remaining mean-reversion using *performance- & industry-adjusted PM* and *industry-adjusted PM* in the succession year (e.g., Pérez-González, 2006). We include the number of *years since succession* because this may affect the realization of new managerial decisions and post-succession performance.

The successor's *human capital score* (Ahrens et al., 2015; Ahrens et al., 2019) controls for the performance-enhancing nature of human capital in succession (Crook et al., 2011). This variable (ordinal, 0 = low, 5 = high) consists of a sum of five proxy indicators that are true for above sample median (1) age and (2) industry experience, (3) leadership experience of the successor, (4) his or her education being focused on business studies, and (5) a proxy for the ability to practically apply this knowledge in a succession business plan. *Education: highest degree* is an ordinal scale indicating the highest degree achieved by the successor being (1) vocational training, (2) a degree from a professional/technical school, or (3) holding a university degree. This factor is included to control for human capital effects which may stem from the educational background. We also control for the *number of new CEO successors* during the succession period in case a team of executives succeeded, and if this team had any *family CEO involved*. In addition, we control for founder effects (Anderson & Reeb, 2003) using the indicator *generation one* which equals 1 if the corporate age is<25 years. *Previous owner involvement* is an indicator that is 1 if the predecessor remains involved in the firm in any function post-succession affecting successor discretion (Ahrens et al., 2018; Quigley & Hambrick, 2012). Further, we control for an *unplanned succession with no emergency plan* given that succession planning and absence of emergency plans in unplanned cases are crucial to performance (Bennedsen et al., 2006). We also include *contingency: turnaround* indicator, which takes the value of 1 if the firm suffered both from low PM and downturn conditions, or if its PM was lower than 0.5% in the succession year (Ahrens et al., 2019).

We also control for headquarter location (northern, western, southern, and eastern as the baseline) to account for Germany's heterogeneous economic development (German Federal Office of Statistics, 2015). Further, we control for legal form (sole proprietorship, general and limited partnerships, stock corporation, and limited corporation as the baseline) to account for liability effects (Harhoff et al., 1998). Finally, to capture industry-specific performance trajectories, we harness industry indicators (e.g., construction, services, trade, and other industries, with manufacturing as the baseline industry). Summary statistics and pairwise correlations for all variables used in regressions can be seen in Table 1.

[4] PM is also less dependent on a firm's asset base which is carried over from prior years (Barber & Lyon, 2016). Given the asset base is typically more reflective of a prior CEO's past decisions, but not necessarily the current CEO's decisions, using PM is more apt as it uses accruals from the same current period. Accordingly, it is also used by other studies that aim to measure event-related abnormal performance (e.g., Loughran and Ritter, 1997; Ooghe et al., 2006), including succession events (e.g., Cucculelli and Micucci, 2008).

Table 1
Pairwise correlations and summary statistics.

Nr	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	18	19	20
1	Δ Industry- and performance-adjusted PM	1.32	4.46																			
2	Pre-succession firm experience	7.38	7.54	−0.06																		
3	Non-family insider CEO	0.20	0.40	0.01	*0.20*																	
4	Academic CEO	0.70	0.46	−0.03	*−0.25*	−0.02																
5	New product innovation	0.41	0.49	0.05	0.06	−0.04	0.06															
6	High R&D/sales industry	0.03	0.04	−0.06	−0.06	0.02	0.04	0.02														
7	Industry-adjusted PM	2.82	5.86	0.05	−0.01	−0.06	−0.04	*0.13*	0.01													
8	Industry- and performance-adjusted PM	0.17	1.77	*−0.14*	−0.02	−0.04	0.02	−0.02	0.07	*0.52*												
9	Number of employees (log)	4.16	0.57	−0.09	*−0.10*	−0.06	*0.11*	0.07	0.03	*−0.14*	−0.03											
10	Corporate age	45.80	42.41	−0.06	0.02	*−0.09*	0.05	0.07	0.08	*−0.11*	*−0.10*	*0.09*										
11	Years since succession	3.54	1.99	0.08	0.02	−0.07	−0.05	0.05	−0.03	0.04	−0.08	*−0.10*	*0.15*									
12	Manufacturing industry	0.40	0.49	−0.03	0.04	−0.06	*0.07*	*0.14*	*0.11*	*−0.09*	0.02	0.07	*0.14*	*−0.80*								
13	Construction industry	0.14	0.35	*−0.12*	0.02	−0.03	0.00	*−0.14*	*−0.13*	0.00	0.01	*−0.11*	0.02	*−0.14*	*−0.33*							
14	Business services industry	0.17	0.38	*0.10*	*−0.09*	*0.18*	0.06	−0.09	−0.01	0.06	−0.02	*0.07*	*−0.19*	*0.12*	*−0.37*	*−0.19*						
15	Consumer services industry	0.09	0.29	0.07	−0.04	0.02	−0.05	0.00	*−0.12*	0.09	0.03	−0.04	−0.06	*0.28*	*−0.26*	*−0.13*	*−0.14*					
16	Wholesale & retail industry	0.16	0.36	−0.01	0.06	*−0.07*	*−0.11*	0.04	*0.11*	−0.01	−0.02	−0.02	0.06	*0.65*	*−0.35*	*−0.18*	*−0.20*	*−0.14*				
17	Other industry	0.04	0.19	0.03	−0.01	−0.05	−0.04	−0.04	*−0.12*	0.03	−0.01	−0.02	−0.04	*0.42*	*−0.16*	*−0.08*	*−0.09*	−0.06	*−0.09*			
18	Eastern Germany	0.14	0.35	0.03	−0.05	*0.08*	0.01	−0.04	−0.02	−0.03	0.01	−0.01	*−0.09*	−0.03	0.00	*0.07*	−0.04	0.03	−0.07	0.04		
19	Northern Germany	0.20	0.40	0.00	0.03	0.02	0.01	*−0.12*	−0.07	0.00	−0.02	−0.02	−0.02	*0.09*	*−0.08*	−0.03	0.06	0.02	0.04	0.04	*−0.20*	
20	Central Germany	0.33	0.47	0.03	−0.01	0.00	−0.05	0.01	0.04	−0.04	0.05	−0.02	−0.03	0.01	0.00	−0.01	0.00	−0.05	0.03	0.01	*−0.29*	*−0.35*
21	Southern Germany	0.33	0.47	−0.06	0.03	*−0.08*	0.04	*0.13*	0.04	0.06	−0.04	0.04	*0.11*	−0.06	0.06	−0.02	−0.03	0.01	−0.01	−0.07	*−0.28*	*−0.35*
22	Sole proprietorship (legal form)	0.04	0.19	0.07	*0.08*	−0.05	*−0.14*	−0.05	−0.07	0.03	0.02	−0.04	*0.08*	0.02	−0.02	−0.04	0.04	*0.08*	−0.03	0.00	−0.02	0.01
23	General partnership (legal form)	0.02	0.14	0.07	0.03	*−0.07*	*−0.12*	*0.13*	−0.05	*0.12*	0.07	−0.04	0.01	0.02	0.02	−0.04	−0.07	0.05	0.03	0.02	−0.01	−0.01
24	Limited partnership (legal form)	0.00	0.06	0.03	−0.05	−0.03	0.00	*0.10*	−0.01	0.01	−0.01	0.02	*0.21*	−0.06	*0.08*	−0.03	−0.03	−0.02	−0.03	−0.01	−0.03	−0.03
25	Hybrid partnership (legal form)	0.03	0.18	0.01	0.00	−0.04	0.00	−0.03	0.01	0.03	0.02	0.05	0.02	−0.06	*0.09*	−0.04	−0.05	−0.01	−0.02	0.00	0.01	−0.02
26	Limited liability company (legal form)	0.89	0.32	*−0.14*	*−0.08*	*0.08*	*0.14*	0.00	0.06	*−0.17*	−0.08	0.02	*−0.11*	0.00	−0.03	*0.08*	0.01	*−0.11*	0.04	0.01	0.03	0.03
27	Human capital score	2.80	1.22	0.08	*0.11*	*0.11*	*0.14*	0.03	−0.04	*−0.18*	−0.07	0.05	−0.04	0.00	0.01	*−0.08*	0.05	0.03	0.00	−0.03	0.01	0.03

(*continued on next page*)

Table 1 (*continued*)

Nr	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	12	13	14	15	16	17	18	19	20
28	Number of CEO successors	1.32	0.58	−0.03	*0.07*	0.01	*0.14*	0.00	−0.02	0.00	*0.10*	0.02	0.00	0.03	0.01	*−0.08*	0.06	−0.04	0.03	0.03	−0.02	−0.01
29	Family CEO involved	0.62	0.49	−0.05	*0.21*	*−0.63*	*−0.08*	*0.10*	−0.04	*0.12*	0.06	−0.02	*0.14*	0.03	0.07	0.03	*−0.24*	−0.04	*0.14*	0.05	*−0.09*	−0.02
30	Previous owner involvement	0.63	0.48	−0.04	0.03	0.01	0.02	*0.09*	0.04	0.03	*0.09*	0.03	*−0.13*	0.01	0.00	−0.04	0.03	0.01	−0.04	0.06	−0.01	*0.09*
31	Unplanned succession with no emergency plan	0.03	0.18	0.02	0.03	*0.13*	0.02	−0.02	−0.02	*−0.09*	0.00	−0.02	0.00	−0.03	0.03	−0.04	0.01	0.06	−0.04	−0.04	−0.04	−0.02
32	Generation one	0.38	0.49	*0.12*	*−0.15*	*0.10*	0.02	−0.04	−0.04	0.04	*0.10*	−0.07	*−0.55*	*0.10*	*−0.15*	−0.03	*0.18*	*0.13*	−0.06	0.02	*0.27*	−0.01
33	Contingency: turnaround	0.15	0.36	−0.07	−0.02	−0.02	0.01	−0.04	−0.11	*−0.37*	−0.06	−0.04	*0.09*	0.04	−0.02	0.03	−0.08	0.01	0.08	−0.01	−0.02	−0.04
34	Education: highest degree	2.54	0.76	−0.04	*−0.21*	−0.02	*0.92*	0.06	0.05	−0.03	0.03	*0.11*	0.06	*−0.16*	*0.10*	0.04	0.04	−0.05	*−0.15*	−0.04	0.02	0.01
35	Sum of changes	8.76	4.33	*0.10*	*−0.17*	−0.04	0.06	*0.26*	−0.03	−0.07	0.07	*0.09*	*0.11*	−0.02	*0.08*	*−0.09*	−0.05	0.04	0.02	−0.02	0.02	0.01
36	Positive changes	6.61	3.29	*0.15*	*−0.17*	−0.04	0.07	*0.32*	−0.02	−0.06	0.06	*0.09*	*0.11*	−0.05	*0.11*	*−0.09*	−0.07	0.04	0.00	−0.03	0.00	−0.01
37	Negative changes	2.32	1.54	−0.04	*−0.13*	−0.02	0.02	0.06	−0.06	−0.06	0.08	0.03	0.06	0.05	0.00	*−0.07*	0.00	0.02	0.06	0.01	0.05	0.05

Nr	Variable	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
21	Southern Germany	*−0.50*																
22	Sole proprietorship (legal form)	−0.02	0.04															
23	General partnership (legal form)	−0.03	0.04	−0.03														
24	Limited partnership (legal form)	−0.04	*0.09*	−0.01	−0.01													
25	Hybrid partnership (legal form)	−0.02	0.03	−0.04	−0.03	−0.01												
26	Limited liability company (legal form)	0.02	−0.07	*−0.54*	*−0.41*	*−0.17*	*−0.52*											
27	Human capital score	0.03	−0.06	0.02	−0.06	*−0.08*	0.04	0.03										
28	Number of CEO successors	0.00	0.02	*−0.07*	−0.04	−0.03	0.03	0.04	*0.18*									
29	Family CEO involved	−0.05	*0.13*	0.03	*0.10*	0.05	0.05	*−0.10*	*−0.29*	0.04								
30	Previous owner involvement	−0.05	−0.02	*−0.13*	0.04	0.00	−0.05	*0.09*	*−0.09*	0.03	0.06							
31	Unplanned succession with no emergency plan	*0.07*	−0.03	0.04	−0.03	−0.01	−0.04	0.02	0.04	0.03	*−0.12*	*−0.18*						
32	Generation one	−0.02	*−0.17*	−0.03	−0.01	−0.05	−0.05	0.06	0.02	−0.06	*−0.22*	*0.10*	0.04					
33	Contingency: turnaround	0.07	−0.02	−0.07	−0.05	−0.02	−0.05	*0.12*	*0.10*	−0.03	−0.01	*−0.10*	*0.10*	−0.02				
34	Education: highest degree	−0.04	0.02	*−0.13*	*−0.10*	−0.02	0.02	*0.12*	*0.11*	*0.14*	*−0.08*	0.00	−0.01	0.00	−0.01			
35	Sum of changes	0.01	−0.03	0.01	0.02	0.00	0.05	−0.02	*0.24*	−0.01	*−0.08*	−0.07	*0.13*	0.03	*0.11*	0.07		
36	Positive changes	0.00	0.00	0.00	0.04	0.03	0.06	−0.04	*0.21*	−0.01	−0.07	−0.07	*0.12*	0.02	0.08	*0.07*	*0.96*	
37	Negative changes	0.02	*−0.09*	0.02	−0.04	−0.05	0.01	0.03	*0.20*	−0.01	*−0.07*	−0.04	*0.11*	0.04	*0.15*	0.01	*0.77*	*0.57*

Notes: Pearson correlation coefficients (in *italics* where $p < 0.05$).

4. Results

To test our hypotheses, we used multiple regression models and estimated OLS coefficients after testing the Gauss–Markov assumptions. We also assessed variance inflation factors (VIF) for all non-interaction coefficients to rule out multicollinearity concerns (Hair et al., 2013).

Our results are presented in Table 2 in which Model 1 is the base model with controls only. Model 2 adds *pre-succession firm experience* which displays a negative coefficient (b = -0.065; p = 0.035), hence supporting our H1 positing a negative association between pre-succession firm experience and performance. In Model 3 the interaction of *pre-succession firm experience* with *non-family insider CEO* as well as the squared form of this interaction are provided. Significantly positive coefficient of the interaction (b = 0.474; p = 0.034) and negative coefficient of its quadratic form (b = -0.013; p = 0.064) support our H2. A contingency plot of this is provided in Fig. 3.[5]

To test our H3 positing an increasingly declining relationship between pre-succession firm experience and firm performance for academic successors, we specify Model 4 by including the logarithm of *pre-succession firm experience (*log) (b = -0.257; p = 0.016), *academic CEO* (b = -0.102; p = 0.939), and their interaction. A significantly positive coefficient of the interaction *academic CEO & pre-succession firm experience (*log*)* (b = 0.222; p = 0.062) supports our H3. Model 5 and Model 6 include the interactions *pre-succession firm experience* with *new product innovation* (b = -0.146; p = 0.091) and *pre-succession firm experience* in highly dynamic industry settings (i.e., *high R&D/ sales industry)* (b = -3.391; p < 0.001), whose significance supports our H4 and H5. Interaction plots for these coefficients can be seen in Figs. 4-6 respectively. We can conclude that all our hypotheses are supported.

4.1. Robustness checks

With the help of *ex-ante* and *ex-post* measures, we ensured that common method bias (CMB) does not affect our inferences (Podsakoff et al., 2003, 2012). First, we avoid using common scale formats (e.g., Likert scale) for our items in our survey by design (Podsakoff et al., 2003). Furthermore, since our dependent variable reflects an objective financial accounting measure (i.e., profit margin), CMB related issues should be less of a concern in our models. Beyond these ex-ante remedies, the complex research design we employ with multiple controls, double and triple interactions as well as quadratic and logarithmic transformations is one of the ex-post remedies we rely on to alleviate CMB related issues (Siemsen et al., 2010). Finally, we also ran a Harman one factor test (Podsakoff & Organ, 1986) with all the variables we utilize in our regressions and observed that there are 11 factors with eigenvalues greater than 1 and the largest factor explains only 13.44% of the variance. This ex-post measure also suggests that CMB should not be a factor affecting our inferences.

To corroborate our arguments regarding CEO decision-making and effects of pre-succession firm experience, we conducted various robustness checks. First, we offer Model 7 as an extension to Model 2 that additionally requires more than 3 years to have passed since a succession event. If our reasoning for developing hypotheses is true, a more progressed succession and realized post-succession decisions of successors with pre-succession firm experience should affect the performance even more negatively. Results indeed suggest that the negative association between *pre-succession firm experience* and performance becomes stronger (b = -0.098; p = 0.041), and therefore unfolds across time as erroneous decisions are taken. This is also corroborated by inspecting its interaction with *years since succession* in the full sample (not displayed; b = -0.029; p = 0.039).

Further, we utilized CATI data on 24 change-decisions taken post-succession, spanning the following categories: change of executives, organizational, operational and functional changes, and changes in product portfolio, customers, financiers, suppliers, and in market activity. Thus, *sum of changes*, the sum of 24 reported change categories serves as a dependent variable, while keeping the control vector constant. Moreover, by classifying these changes according to their respective average relation to post-succession firm performance, we created sub-sums that display the amount of generally *positive changes* and *negative changes* to serve as further dependent variables to deepen evidence on CEO (in-)action. Model 8 confirms that pre-succession firm experience is negatively related (b = -0.106; p < 0.001) to the *sum of changes* post succession. Moreover, Models 9 and 10 reveal that although both *positive* and *negative changes* decrease with pre-succession firm experience (b = -0.079; p = 0.001 and b = -0.028; p = 0.021 respectively), this negative association is stronger for *positive changes*.[6]

5. Discussion

Unsettled theoretical disputes on the merits and drawbacks of successors' prior firm exposure have burdened the discourse on the impact of such exposure on firm performance. While learning stewardship arguments suggest a positive relationship (Konopaski et al., 2015; Le Breton-Miller & Miller, 2015), psychology-inspired managerial decision-making assertions provide arguments in support of a negative one (Cannella et al., 2008). Also, empirical evidence on the performance implications of pre-succession firm exposure is mixed (for reviews, see Berns & Klarner, 2017; Cannella et al., 2008; Giambatista et al., 2005): Researchers report negative effects (e.g., C.-N. Chung & Luo, 2013; Lauterbach et al., 1999; Worrell et al., 1993), mixed or insignificant evidence (e.g., K. H. Chung et al., 1987; Hamori & Koyuncu, 2015; Karaevli, 2007), and positive effects (e.g., Georgakakis & Ruigrok, 2017; Shen and Cannella, 2002; Zhang & Rajagopalan, 2004).[7]

By considering contingencies across multiple levels such as CEO family background, CEO academic background, firm-level innovation performance as well as industry dynamics, our study provides a more nuanced picture of the factors that impact the relationship between pre-succession firm experience and family firm performance. Overall, our study is in line with the psychology-inspired managerial decision-making literature that predicts a negative association between pre-

[5] To verify the inverse u-shape, we conducted slope tests for left and (b=0.299; p=0.144) right (b=-0.322; p=0.119) ends of the curve. Further, we also confirmed that the inflection point is inside our data (b=14.46, p<0.001) (Haans et al., 2016; Lind and Mehlum, 2010). Finally, by testing that there is no curve shift we confirmed that the hypothesized effect regarding steepening (flattening) of the curve when moderated (not-moderated) is the only moderation effect at work (Haans et al., 2016). All checks indicate an inverse u-shaped relationship and its hypothesized moderation.

[6] In unreported robustness checks we further disentangle *pre-succession firm experience* from a lack of age-, industry-, leadership-, or educational-experience by splitting up the *human capital score*, which contains these factors, to jointly include them as separate predictors in the specification. Results remain robust. Further, in unreported analyses we observe that triple interactions between contingencies (H2-H5) are insignificant. We further analyzed robustness to alternative family firm definitions, e.g., we additionally required that a) firms are older than 10 years; b) no private equity firm is among the owners; c) the firm is not a stock corporation (*AG*); d) the firm has<150 employees. Finally, we extend our control vector to include further variables in line with prior literature (e.g., Ahrens et al., 2019). Again, results remain robust.

[7] However, although Cannella et al. (2008) pinpointed that dichotomizations fail to capture the reality of the phenomenon, the field—with the outstanding exception of Karaevli 's (2007) study of a small sample of U.S. airline and chemical firms—largely continued to rely on simplistic indicators of CEO prior firm experience in performance analyses. Cannella et al. (2008) also provide future directions for CEO succession research to which this article responds (p. 288): "*Recent evidence suggests that both entrepreneur-controlled and family-controlled firms exist in large numbers […] a fact that has been widely ignored until recently.*".

Table 2
Regression Analyses.

	Main Analysis						Robustness Checks			
	Δ Industry- and performance-adjusted PM						Δ Ind. and perf. adj. PM	Sum of changes	Positive changes	Negative changes
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Pre-succession firm experience		−0.065	−0.175		−0.075	−0.043	−0.098	−0.106	−0.079	−0.028
		(0.035)	(0.062)		(0.102)	(0.443)	(0.041)	(0.000)	(0.001)	(0.021)
Pre-succession firm experience^2			0.003							
			(0.306)							
Non-family insider CEO			−2.108							
			(0.113)							
Non-family insider CEO & pre-succession firm experience			0.474							
			(0.034)							
Non-family insider CEO & pre-succession firm experience^2			−0.013							
			(0.064)							
Pre-succession firm experience (log)				−0.257						
				(0.016)						
Academic CEO				−0.102						
				(0.939)						
Academic CEO & pre-succession firm experience (log)				0.222						
				(0.062)						
New product innovation					0.860					
					(0.336)					
New product innovation & pre-succession firm experience					−0.146					
					(0.091)					
High R&D/sales industry						13.851				
						(0.079)				
High R&D/sales industry & pre-succession firm experience						−3.391				
						(0.000)				
Industry-adjusted PM	0.109	0.130	0.135	0.136	0.208	0.232	0.198	−0.065	−0.042	−0.023
	(0.029)	(0.049)	(0.044)	(0.038)	(0.007)	(0.004)	(0.023)	(0.135)	(0.236)	(0.161)
Industry- and performance-adjusted PM	−0.656	−0.721	−0.732	−0.723	−0.952	−1.301	−0.906	0.261	0.164	0.100
	(0.000)	(0.007)	(0.006)	(0.007)	(0.008)	(0.000)	(0.006)	(0.026)	(0.100)	(0.023)
Number of employees (log)	−0.319	−0.393	−0.392	−0.413	0.007	−0.585	−0.272	0.347	0.346	−0.036
	(0.399)	(0.232)	(0.245)	(0.208)	(0.986)	(0.218)	(0.591)	(0.246)	(0.134)	(0.770)
Corporate age	0.001	0.002	0.001	0.002	0.002	0.010	0.004	0.017	0.012	0.005
	(0.899)	(0.722)	(0.821)	(0.701)	(0.795)	(0.184)	(0.481)	(0.001)	(0.002)	(0.029)
Years since succession	0.086	0.054	0.038	0.073	0.150	−0.160	−0.104	0.196	0.168	0.032
	(0.476)	(0.655)	(0.756)	(0.547)	(0.396)	(0.339)	(0.643)	(0.081)	(0.049)	(0.467)
Human capital score	0.402	0.533	0.556	0.458	0.782	0.821	0.726	0.836	0.594	0.243
	(0.052)	(0.020)	(0.018)	(0.037)	(0.028)	(0.009)	(0.020)	(0.000)	(0.000)	(0.001)
Number of CEO successors	−0.238	−0.296	−0.184	−0.279	−0.734	−0.583	−0.764	−0.406	−0.177	−0.246
	(0.603)	(0.467)	(0.653)	(0.495)	(0.145)	(0.317)	(0.136)	(0.325)	(0.572)	(0.105)
Family CEO involved	0.444	0.770	1.369	0.845	1.211	1.909	0.986	0.717	0.465	0.285
	(0.370)	(0.134)	(0.072)	(0.141)	(0.112)	(0.019)	(0.169)	(0.094)	(0.154)	(0.089)
Previous owner involvement (POI)	−0.292	−0.308	−0.359	−0.287	−0.272	−0.657	−0.087	−0.675	−0.508	−0.151
	(0.540)	(0.529)	(0.460)	(0.561)	(0.702)	(0.330)	(0.897)	(0.130)	(0.123)	(0.393)
Unplanned succ. with no emergency plan	1.007	1.588	1.412	1.387	2.328	2.123	2.856	0.558	−0.233	0.652
	(0.467)	(0.141)	(0.188)	(0.208)	(0.136)	(0.102)	(0.039)	(0.797)	(0.889)	(0.285)
Generation one	1.230	1.260	1.244	1.319	2.105	2.416	0.625	1.578	1.273	0.346
	(0.033)	(0.046)	(0.049)	(0.037)	(0.009)	(0.004)	(0.457)	(0.002)	(0.001)	(0.077)
Contingency: turnaround	−0.529	−0.447	−0.366	−0.386	−0.222	0.105	−0.178	0.338	−0.026	0.383
	(0.430)	(0.414)	(0.509)	(0.480)	(0.766)	(0.891)	(0.823)	(0.570)	(0.951)	(0.116)
Education: highest degree	−0.078	−0.242	−0.291	−0.070	−0.676	−0.953	0.025	−0.573	−0.223	−0.356
	(0.816)	(0.538)	(0.461)	(0.941)	(0.156)	(0.077)	(0.965)	(0.091)	(0.391)	(0.005)
Industry, legal form, and region controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	4.327	5.419	5.782	4.543	5.219	6.510	4.547	6.786	4.252	2.822
	(0.136)	(0.030)	(0.023)	(0.118)	(0.104)	(0.024)	(0.197)	(0.011)	(0.036)	(0.002)
Observations	405	388	388	388	233	240	223	392	392	392
R-squared	0.114	0.133	0.142	0.136	0.224	0.274	0.221	0.177	0.179	0.130

Notes: p-values emerging from the use of robust standard errors in parentheses.

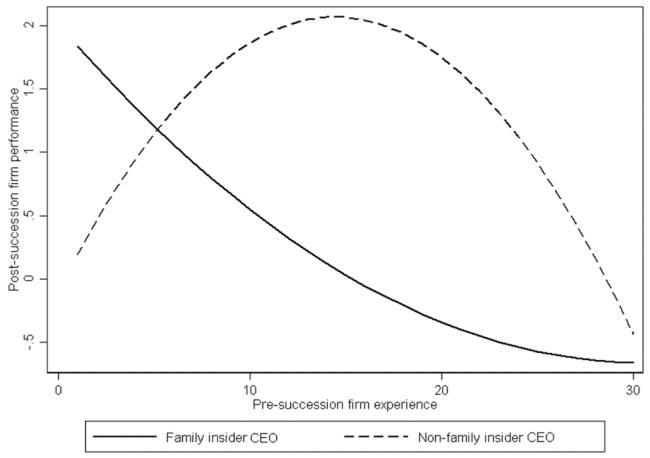

Fig. 3. Interaction plot for *non-family insider CEO & pre-succession firm experience* (Model 3, Table 2).

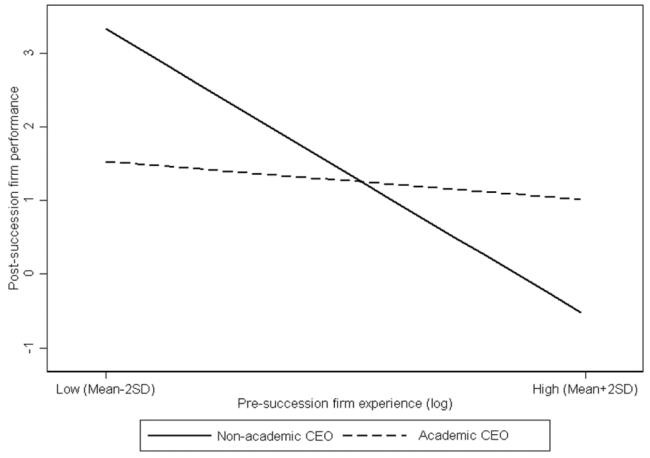

Fig. 4. Interaction plot for *academic CEO & pre-succession firm experience (*log*)* (Model 4, Table 2).

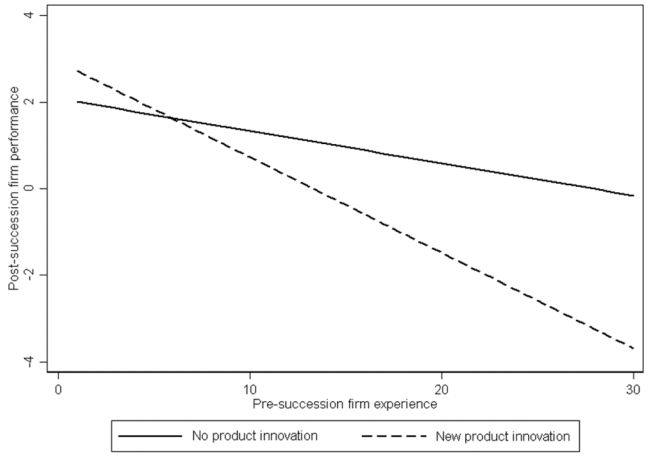

Fig. 5. Interaction plot for *new product innovation & pre-succession firm experience* (Model 5, Table 2).

succession firm experience and performance. We argue that various biases rooted in the pre-succession firm experience are responsible for this occurrence since they worsen the decision-making quality of the successors, resulting in a performance decline. Our analysis as part of

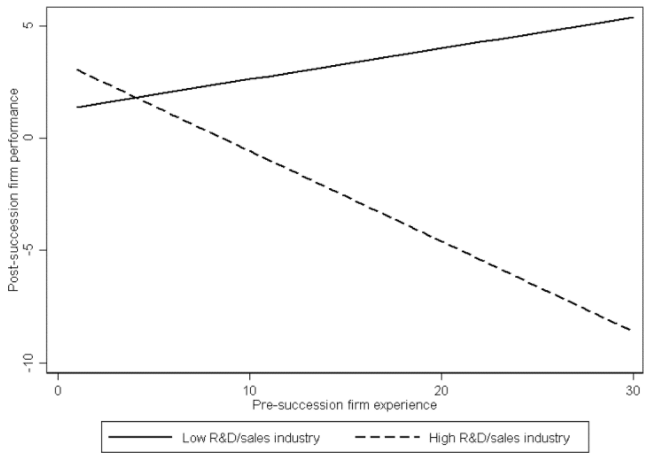

Fig. 6. Interaction plot for *high R&D/sales industry & pre-succession firm experience* (Model 6, Table 2).

robustness tests also shows that as the number of years after the succession increases and such biased decisions further unravel, the negative effects indeed become stronger.

However, our study goes beyond this direct relationship and shows that this linear relationship may not always hold and may in fact be more complex than prior research has suggested. In particular, we show that family membership moderates the pre-succession firm experience and results in the emergence of an inverse u-shaped relationship between non-family successor's pre-succession firm experience and firm performance. From a stewardship perspective, this arguably points out that non-family successors are able to benefit more from the positive stewardship learning effects of such an experience than family successors, before detrimental biases take effect. We also find that the academic background of successors shields them from the biasing effects of pre-succession firm experience, at least for the first years before the negative effects gain upper hand. Accordingly, the relationship is an increasingly declining non-linear one. Finally, we also show that the innovation impetus of the firm and industry are factors that increase the negative effects of the pre-succession firm experience on firm performance. This is mainly because innovation would increase the need for thinking beyond the established and potentially 'insular' norms and routines of the firm.

Against this background, we make several theoretical contributions. First and foremost, we contribute to UET. Relying on a continuous operationalization and an integrative contingency perspective, our study informs the theory that CEO pre-succession firm experience is indeed a highly complex, partially non-linear, and *multivalent* construct which an artificial dichotomization is very unlikely to capture adequately (Cannella et al., 2008; Giambatista et al., 2005; Karaevli, 2007). Its nature seems to include *both* a *negative side* related to dysfunctional heuristics and cognitive biases and a *positive side* related to functional learning of firm specific stewardship. Thus, the arguments implied by stewardship (and family firm) as well as managerial decision literatures and their seemingly contradictory narratives are in fact complements. They both constitute true accounts of only *one side* of the phenomenon which, however, deserved to be fused into a new reconciliatory conceptualization that carries both positive and negative 'forces'. This allows us to move away from an "either-or"-conceptualization and rather call for questions that ask: "Under which contingencies does the positive side of pre-succession family firm experience trump its negative side?" We reveal that these contingencies can be found at multiple levels. For instance, its positive side is contingent on how much there is to learn for a successor (family versus non-family insider CEO comparison), while its negative side is subject to an individual's awareness of biases (academic education) as well as contextual factors at firm- and industry-level (e.g., innovation and R&D intensity). Also, our

robustness checks support our argumentation by showing that the resulting effects unfold over time as more of the successor's decisions materialize. Thereby, we contribute a new conceptualization of CEO prior firm experience that explains why such successors can be better, worse, or neutral for performance when compared to an outsider CEO successor (K. H. Chung et al., 1987; Karaevli & Zajac, 2012).

Second, our study contributes to behavioral strategy literature (Hambrick & Crossland, 2018; Tang et al., 2015) by offering more fine-grained detail on the antecedents of the negative side of pre-succession firm experience and thereby providing a richer understanding. Research typically relates this side to a hyperbolic 'commitment to the status quo' (Behr & Fehre, 2019; Hambrick et al., 1993; Zhu et al., 2020). However, in line with arguments that reality might be more complex (Karaevli & Zajac, 2013) and as conformity is not necessarily related to inferior performance (Geletkanycz & Hambrick, 1997; Miller et al., 2013), this explanation is likely to be incomplete. Instead, this work maintains that *a series of less studied biases* might be at work which are rooted in cognitive, psychological and social-psychological processes (Hodgkinson & Healey, 2011; Schwenk, 1988). This interpretation is supported by our observation of negative performance effects and of sharper declines in changes associated with positive performance outcomes (as compared to the decline in negative ones, see robustness checks). We thus nuance: pre-succession firm experience evokes attribution biases, story and organizational culture biases, lingering shadow biases, and *also* confirmation and status-quo biases that result in erroneous managerial decisions that are detrimental to firm performance. We inform this theoretical extension by showing that these biases worsen as prior firm experience increases and materialize in increasingly negative firm performance as post-succession time advances. Moreover, our boundary conditions corroborate this reasoning. For instance, academic education seems to offer an effective temporary shield against these biases. However, this shield quickly withers with increasing firm experience as biases seem to be adamant, an insight that is especially crucial for cultures in which prior firm experience is highly desired. Also, we add that these biases render a family firm CEO particularly dysfunctional in innovative and environmentally dynamic contexts.

Finally, we establish a theoretical link between the literatures on family firms and managerial decision-making. Family firm theorists emphasize the merits of learning stewardship, stories, and entrepreneurial legacies via active exposure to the firm's cosmos (Konopaski et al., 2015). In the light of the above evidence, this scholarly discussion arguably deserves to be much broadened. First, there is also a need to account for the *remaining* returns of stewardship learning—a family successor may *already* be a steward with not much left to learn in the firm. Second, our evidence warrants a re-thinking of the ways that family firms nurture their successors—by researchers, consultants, and practitioners—in ways that reflect the pitfalls of 'learning biases', while treasuring the merits of stewardship behavior and management for the long-run (Le Breton-Miller & Miller, 2015; Miller et al., 2013; Milton, 2008). Third, it matters not only *if*, but *how* stewardship attributes are learned. Here, the 'family side' in stewardship learning via early education at the family hearth (i.e., home) and through everyday family interactions emerges as a better choice to disseminate stewardship values to family successors (Le Breton-Miller & Miller, 2015). In fact, and just as in nature where outbreeding is beneficial, for family CEO successors (*knows local reality*) there is a need to learn *outside* the family's firm, whereas for non-family successors (*new to local reality*) there is a need to learn for a limited period *inside* the firm. Thus, positive abnormal CEO performance is reached through non-insularity and non-stationarity of a CEO's career job sequence that balances the needs for variation and specialization. This implies that career job sequences matter—a rarely researched topic of UET (J. C. March & March 1977). Experience in multiple realities allow CEOs to overcome biases evoked by local reality (Fondas & Wiersema, 1997). It enables them to formulate effective comparisons, to treasure the unique merits that might be captured in the local values, routines, traditions, and culture of the firm, and to benchmark its current configuration with valuable outside knowledge (Chirico & Nordqvist, 2010).

Our study also delivers practical insights. Practitioners should be aware that the effects of firm experience are multidimensional and partly non-linear: Choosing a CEO with or without firm experience can thus both be rational choices. For non-family successors we find an inverted u-shape, thus, a relay succession can be a wise choice, given that a suitable internal candidate exists. Here, we add a crucial insight: If a designated successor already knows the firm inside-out, and has thus exhausted local learning, it is best to design an interim external experience period prior to taking over as the CEO. Also, countless firm owner-leaders who face mortality sooner or later ask the same question: "Is it a good idea if my children learn in the firm in which they will become CEO?" Our evidence advocates the prudence of acknowledging biases which may result from local overexposure and foreseeing an external career path of the next family generation before they become CEO in their family's firm.

This study is not without limitations. For instance, our quantitative sample largely relies on CATIs, thus respondent biases cannot be completely ruled out. Further, our CATI analyzed the difference between a randomly varying succession year (within limits) and a fixed year. However, statistical caveats due to this random variation are likely to be minor given our large sample size. While we believe that our results largely generalize beyond the context of our study, studying different cultural backgrounds could be fruitful given different institutional characteristics of diverging cultural contexts could affect the cognitive processes of a successor. For example, this might be the case when a culture is more authoritarian or if mentor-apprentice relationships are characterized by higher obedience, as is sometimes the case in Asian cultures. Thus, we believe that such an intercultural perspective deserves scholarly scrutiny.

6. Conclusion

In this study, we show that the relationship of pre-succession firm experience to post-succession firm performance in family firms is highly complex and contextual. Although primarily negative effects are observed, there are contingencies under which positive effects associated with such an experience result in the emergence of divergent and non-linear effects. By articulating these contingencies in a reconciliatory conceptualization of pre-succession firm experience, our study offers contributions located at the interception of UET and stewardship theories. Despite its limitations, we believe that this study can assist in our field's endeavor to master one of the most recurring and turbulent tasks in all human organizations: succession.

CRediT authorship contribution statement

Baris Istipliler: Conceptualization, Investigation, Methodology, Project administration, Resources, Supervision, Writing – original draft, Writing – review & editing, Investigation, Data curation, Formal analysis, Visualization, Software. **Jan-Philipp Ahrens:** Conceptualization, Investigation, Methodology, Supervision, Validation, Writing – original draft, Data curation. **Suleika Bort:** Conceptualization, Validation, Writing – original draft, Writing – review & editing. **Andrew Isaak:** Conceptualization, Project administration, Resources, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix 1. Rationale for using an industry and performance adjusted dependent variable

The following simplified example can best explain our rationale (see also Ahrens, 2023): Firm X is among the top 10% performers in its industry, while Firm Y is among the bottom 10% (i.e., top 90%) prior to the succession.[8] A CEO successor with low (high) pre-succession firm experience assumes leadership in Firm X (Firm Y). A year later, Firm X drops to the top 15% but Firm Y improves to be at the bottom 20% (i.e., top 80%). Thus, Firm X (with its low pre-succession firm experience CEO) performed 5% worse than its industry peer group, whereas Firm Y (with its high pre-succession firm experience CEO) performed 10% better. At first, these results would imply that the successor with high pre-succession firm experience had *ceteris paribus* a positive effect. But such an inference is confounded since it disregards the "mean reversion" affecting all firms in an industry (Barber & Lyon, 1996). Given Firm X was among the top performers prior to the succession, a mean reversion effect would put a downward pressure on the performance after the succession. On the other hand, given Firm Y was among the bottom performers, mean reversion should have a positive influence. Imagine that after matching Firm X and Firm Y with other firms which exhibited a similar performance prior to the succession, we could observe that this (not event-related) mean reversion effect influencing Firm X is −8% and for Firm Y is + 9%. When we *adjust* for these effects, we would obtain the *abnormal performance*. Accordingly, Firm X's abnormal performance is 3% (-5% – [-8%] = 3%). In other words, by performing only 5% worse where there is an 8% downward pressure, Firm X actually performed 3% better than similar firms after the succession. In turn, Firm Y's abnormal performance would be only 1% (10% – 9% = 1%). Since Firm X with its low pre-succession firm experience CEO demonstrates 2% (3% – 1% = 2%) better abnormal performance, succession of a CEO with a high pre-succession firm experience is actually *ceteris paribus* negative for a firm.

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[8] For the sake of simplicity, the firms are ranked cardinally (e.g., performance difference between firms ranked at 15% and 10% is the same as between those ranked at 80% and 75%).

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