

**THE IMPACT OF CEO SUCCESSIONS INVOLVING A CHANGE OF GENDER
ON STRATEGIC CHANGE:
THE MODERATING ROLE OF ENVIRONMENTAL FACTORS**

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ABSTRACT

Prior research highlights the disruptive and detrimental effects of chief executive officer (CEO) successions that involve a change of gender, i.e., from a male CEO to a female CEO and vice versa. In contrast, we contend that the effects of CEO successions with gender change depend on the context in which they take place. Drawing on expectation states theory, we identify contexts in which each type of CEO succession with gender change can have positive effects on strategic change and subsequent firm performance, depending on whether the degree of gender parity in the context is sufficient for the new CEO to enact strategic changes. Consistent with our arguments, we report findings from Chinese and U.S. samples showing that in the presence of high environmental dynamism female-to-male CEO succession yields greater strategic change. Conversely, when environmental dynamism is low, it is male-to-female CEO succession that brings about greater strategic change. Furthermore, in the Chinese context, we found that female-to-male CEO succession in state-owned companies results in greater strategic change, whereas male-to-female CEO succession has the same effect in privately-owned settings. Moderated mediation analysis showed that the significant interaction effects on strategic change affect long-term downstream performance (i.e., Tobin's Q). We discuss implications for theory and practice related to CEO successions.

Keywords: Expectation states theory, CEO succession, gender and leadership, environmental dynamism, state-owned enterprises

INTRODUCTION

The transition from one Chief Executive Officer (CEO) to another is one of the most important handovers of power in the business world. These succession events are complicated by the characteristics of the CEOs involved, not least their gender. Now that women are slowly making inroads into CEO positions—6.4% of Chinese-listed companies and 8.2% of the United States (U.S.) Standard & Poor's (S&P 500) companies now feature women CEOs (Catalyst, 2023; Tan, 2022)—there are sufficient numbers of women CEOs to study what happens when a CEO succession event involves a change of gender, i.e., from a male CEO to a female CEO or vice versa (henceforth referred to as CEO succession with gender change).

The events surrounding replacements of a male CEO with a newly appointed female CEO (as one instance of CEO succession with gender change) have gained increasing attention due to their potential organizational consequences. Such appointments, which create opportunities for women to assume the highest positions in organizations, are looked upon as evidence that firms can overcome biased cultural beliefs about gender (Daily, Certo, & Dalton, 1999; Dezsö & Ross, 2012; Dwivedi, Joshi, and Misangyi, 2018; Helfat, Harris, & Wolfson, 2006). However, building upon the viewpoint found in the CEO succession literature that any succession event disrupts procedures and leads, at least temporarily, to a decrease in performance (Friedman and Saul, 1991; Vancil, 1987), Zhang and Qu (2016) found that when a CEO succession involves a gender change, such disruptive effects are further amplified.

In contrast, we argue that CEO succession with gender change does not always disrupt firm performance, depending on whether the degree of gender parity found in the context is sufficient for the new CEO to enact strategic changes, especially in the case of male-to-female CEO succession. As the foremost decision-makers within organizations, CEOs direct strategic change

(Child, 1972; Jensen and Zajac, 2004; Papadakis and Barwise, 2002) in their quest to reallocate firm-specific assets in order to attain a competitive edge (Finkelstein and Hambrick, 1996; Miller, 1991; Miller and Triana, 1999; Triana, Richard, and Su, 2019). Yet, despite meta-analytic evidence that strategic change mediates between CEO origins and post-succession performance (Scheper, Kim, Patel, Thatcher, and Campion, 2017), researchers have not investigated how CEO successions with gender change impact strategic change. Accordingly, we focus on how CEO succession with gender change influences performance indirectly through the effects on strategic change.

We identify two unrelated environmental conditions as contingency factors that determine when CEO succession with gender change results in strategic change—which, in turn, impacts long-term firm performance. The first environmental condition we investigated is environmental dynamism, which is important across national contexts (e.g., Baron and Tang, 2011; Heavey et al., 2009; Richard, Wu, Markoczy, and Chung, 2019; Wiklund et al., 2003). Based on expectation states theory (which predicts that the way people are treated depends on the biases held by others about the social groups to which they belong; Ridgeway, 2011), we propose that in a dynamic environment, a female CEO taking over after a male CEO will have different predispositions to initiate strategic change than a male CEO taking over after a female CEO, partly due to gender differences in risk-taking propensity (Jeong and Harrison, 2017).

State ownership, the second environmental factor we investigated, enabled us to disentangle differences emerging between Chinese state-owned and privately-owned enterprises, which was essential to our understanding of the impact of CEO succession with gender change in the Chinese setting. We propose that, in a Chinese state-owned enterprise, a male CEO replacing a female CEO may have more network ties and decision-making discretion due to his higher

gender status in a patriarchal culture (Cho et al., 2015).

We make two major contributions to the literature. First, in studying the effects on strategic change of CEO succession with gender change, we offer a fine-grained framework that theorizes both types of such successions (Gull, Atif, Issa, Usman, and Siddique, 2021; Rigolini et al., 2021; Zhang and Qu, 2016), thus providing more complete findings. Second, the role played by the environment has been relatively neglected in CEO succession research (Quigley and Hambrick, 2012). In applying expectations states theory to CEO succession with gender change, we argue that when conditions foster greater degrees of gender parity (e.g., stable environments and privately-owned enterprises), a female CEO newly appointed to replace a male CEO will be seen as possessing greater legitimacy and thus experience less resistance (Bettencourt, Dill, Greathouse, Charlton, and Mulholland, 1997; Ridgeway and Berger, 1986; Stapel and Koomen, 1998; Taynor and Deaux, 1973), which will facilitate the implementation of strategic changes.

Our theoretical inquiry involved the investigation of different contexts characterized by varying degrees of gender parity. Given that most studies of CEO succession effects have been conducted in the U.S., we based the present study on data drawn from the U.S. and China (Nakauchi and Wiersema, 2015), which, in contrast to the U.S., served as a low gender parity context. The lower gender parity found in China is rooted in its tradition, supported by Confucianism¹ (Franzke, Wu, Froese, and Chan, 2022; Wu et al., 2022), which imposes a gender-based hierarchy limiting women's rights (Pascall and Sung, 2007). Such low gender parity elicits

¹ In ancient China, patriarchal culture was pervasive and supported by two footholds: one based on the "Three Fundamental Bonds and Five Constant Virtues" (三纲五常 sān gāng wǔ cháng), and the other on the "Three Obediences and Four Virtues" (三从四德 sān cóng sì dé). The first foothold empowered men to dominate women, whose primary duties were viewed to involve taking care of the family, which limited their social role (Cho, Park, Han, Sung, and Park, 2021). The second foothold imposed codes of conduct and ethics on women, prescribing that a woman should unconditionally obey her father, her husband, and her sons (Pascall and Sung, 2007). The Analects of Confucius placed assisting one's husband and teaching one's children (相夫教子 xiàng fū jiào zǐ) as the highest moral standard for women.

negative reactions to male-to-female CEO succession, while social movements like Me Too have made the U.S. a bit more receptive to gender parity (Cho, Li, and Chaudhuri, 2020; Hernandez et al., 2012; Wu, Si, and Liu, 2022). Thus, we test to what extent the effects of CEO succession with gender change on strategic changes vary across both Chinese and U.S. samples.

THEORY AND HYPOTHESES

The current literature on CEO succession with gender change considers such events to be disruptive (Zhang and Qu, 2016). In the following section, we propose that CEO succession with gender change is not always disruptive to firm performance, depending on whether the context features a degree of gender parity sufficient for the new CEO to enact strategic changes, especially in the case of male-to-female CEO succession. We employ expectations states theory (Berger et al., 1974) to offer a more nuanced and complete view of CEO succession with gender change, unpacking when and why it can benefit firms.

Expectation states theory, which focuses on systemic inequality, argues that gender inequality is stabilized by status processes that embed it into organizational structures of resources and power, creating durable inequality (Ridgeway, 2011). To explain gender inequality, this theory proposes two unique but mutually connected mechanisms. The first critical dimension of gender inequality lies in the widely shared social belief whereby men are viewed as more powerful and competent than women (Ridgeway, 2014). The second critical dimension is the environmental characteristic (e.g., the patriarchal belief system) that promotes gender inequality and allows men to control critical resources and power (Sayer, 2005; Weber, 1918). While gender inequality is independently affected by each dimension, its perpetuation lies in their coalescence.

By employing expectation states theory logic, we theorize how each type of CEO succession with gender change influences strategic change, and ultimately, long-term firm performance by

interacting with the characteristics of the environment (e.g., Triana, Richard, and Su, 2019). In environmental contexts in which men are favored by gender inequality, a female-to-male CEO succession could be expected to elicit support for the newly appointed CEO to adapt to the organization quite easily and direct strategy (Helmich and Brown, 1972; Tushman and Rosenkopf, 1996). Then, pertaining to environmental contexts characterized by greater gender parity (Post and Byron, 2015), we propose that such contexts may mitigate the societal disadvantages hampering female CEOs and facilitate a setting in which they will be willing and able to change firm strategy.

Dynamic vs. Stable Environments and CEO Succession with Gender Change

Compared with a stable environment, a dynamic one necessitates greater resource control and decision-making speed (Dess and Beard, 1984; Henderson, Miller, and Hambrick, 2006). A dynamic environment is likely to favor men, given the higher status and respect they enjoy as a social group that is usually in control of resources and power (Prentice and Carranza, 2002; Ridgeway, 2011; Rudman et al., 2012). This is consistent with belief systems underpinning gender inequality and the common implicit (i.e., subconscious) assumption that men are the de facto leaders (Nosek et al., 2007). Such biased beliefs about gender inequality are congruent with the support automatically given to a male CEO replacing a female CEO (Parker, Mui, and Titus, 2020).

Firms competing in dynamic environments benefit from high degrees of risk-taking behaviors that enable them to pursue the exploration and exploitation activities needed for competitive advantage (Xue, Zeng, Meng, and Peng, 2018). This is noteworthy because the literature supports the notion that men and women differ in their decisiveness and risk-taking propensities (Heilman, 2001). Consistent with expectation states theory, women tend to be more risk-averse than men because they are more likely to be met with skepticism (Ridgeway, 2011). Moreover, in dynamic environments, male CEOs may implement more strategic change than their

female counterparts because they are generally more inclined toward risk-taking (Bertrand, 2011; Byrnes et al., 1999; Croson and Gneezy, 2009; Eckel and Grossman, 2008; Huang and Kisgen, 2013; Jeong and Harrison, 2017). A meta-analysis of over 150 psychology studies revealed that women tend to be less risk-seeking than men (Byrnes et al., 1999). Furthermore, Jeong and Harrison (2017) conducted a meta-analysis of 146 studies across 46 countries and found that the presence of female CEOs negatively relates to strategic risk-taking.

Because a female successor CEO is likely to be more risk-averse than her male predecessor CEO, we propose that she may execute less strategic change in a dynamic environment. The new venture literature highlights that women prefer more guarded expansion strategies to fast-growth ones (Cummings et al., 2015). As unpredictable environments demand increased firm risk-taking, they require managers more inclined toward risk (Pathak et al., 2014). The pressures imposed on CEOs by dynamic environments make it difficult for them to pick the best course of action and to forecast its impact, which frequently results in poor decisions (Karim et al., 2016). We posit that, in dynamic contexts, female CEOs taking over from male CEO will exhibit risk-averse behavior because they will particularly strive to avoid any bad decisions and will play it safe. New female CEOs are known to face challenges including the biases that all women in leadership can face (Ridgeway, 2011) as well as the glass cliff phenomenon which has reported that women CEOs tend to be selected during times when firms are under-performing to begin with, thereby setting them up for failure (Cook and Glass, 2014). These challenges together with a dynamic environment can create a situation where women choose to take a cautious approach rather than pushing changes that may fail (Staw et al., 1981).

The above arguments suggest that the relationship between female-to-male CEO succession and strategic change is more positive in a dynamic environment than in a stable one.

Thus, we predict the following.

Hypothesis 1a. The relationship between female-to-male CEO succession and strategic change is more positive in a dynamic environment than in a stable one.

In contrast, stable environments are not as biased in favor of male CEOs because such environments do not necessitate the same levels of resource control and decision-making urgency associated with the implicit biases that favor male leaders (Nosek et al., 2007; Parker et al., 2020). Thus, stable environments may be more likely to facilitate women's leadership. Expectation states theory posits that, for women to gain the legitimacy required to be successful leaders, they need supportive environments that will provide them with the ability and the time to mobilize the necessary resources and support (Ridgeway and Berger, 1986). Stable environments are more supportive of positive intergroup relations within top management teams and may therefore reduce the potential for factions to arise (Cooper et al., 2014). This is critical, because new female CEOs must be able to lead in organizational contexts that have been led by male CEOs and where men overwhelmingly hold the executive-level positions (Catalyst, 2023). Stable environments are expected to be more receptive to shifts in managerial power (Wiersema and Bantel, 1992) because female CEOs replacing male CEOs are afforded the time they need to learn how to work with their leadership teams in order to overcome any dissent (Watson, Kumar, and Michaelsen, 1993). Moreover, as more stable environments are less threatening for a firm, implicit gender-based beliefs pertaining to ability will be less likely to disadvantage women leaders (Ridgeway and Berger, 1986) and will enable them to bring about new perspectives and strategic changes (Milliken and Martins, 1996; Richard, Murthi, and Ismail, 2007). Also, research reveals that stable contexts can act as enablers of strategic change for new CEOs perceived as outsiders (Karaevli and Zajac, 2013).

In stable contexts, women's leadership is less in doubt (Ridgeway, 2011, 2014). As women executives, on average, are more risk-averse than their male counterparts (Jeong and Harrison, 2017), they could be met by lower resistance from organizational members, who will perceive their changes as careful and strategic. Therefore, expectation states theory would predict that, in stable environments, women will have more freedom to implement strategic change. We note that women who violate traditional expectations have occasionally been rewarded (Lanaj and Hollenbeck, 2015) for exceeding expectations. In stable settings that are less threatening to female legitimacy, female CEOs taking over from male CEOs will have more managerial discretion (Ridgeway and Berger, 1986), which may motivate them to make strategic changes that will distinguish them as successful. This leads to the following hypothesis.

Hypothesis 1b. The relationship between male-to-female CEO succession and strategic change is more positive in a stable environment than in a dynamic environment.

State- vs. Privately-Owned Enterprises and CEO Succession with Gender Change

State-owned enterprises (SOEs) are characterized by the control of key resources (Zhu, Zhu, and Ding, 2020). As Chinese SOEs are characterized by managerial restrictions and tend to be bureaucratic, traditional, and hierarchical (Guo, Huy, and Xiao, 2017; Zhu and Yoshikawa, 2016), the traditional values to which they adhere will favor male CEOs, who enjoy a higher social status in China (Berger et al., 1998; House et al., 2004; Ridgeway, 2011, 2014). Newly appointed male CEOs taking over from female CEOs will likely face fewer social and cultural constraints, as their appointments as CEOs are the norm (Ying, 2014). In SOEs characterized by masculine value systems, such as those in China, the control of key resources and power exercised by men places women, as a group, at a disadvantage (Cho et al., 2015). This characteristic of SOEs influences CEO gender succession in ways that favor the elevation of a male CEO in place of a

female CEO. The historical and present gender inequality found in Chinese society, whereby men hold higher social status than women (House et al., 2004), engenders biased perceptions and less social support for female CEOs. Based on expectation states theory (Ridgeway, 2014), such biased social beliefs would be expected to put women at a material disadvantage. The generalized bias found in China's population would be expected to elicit low performance expectations in relation to a female CEO's relative value and future contributions (Ridgeway and Berger, 1986). The evidence shows that, when a woman becomes CEO, she faces biases and underrepresentation (Luo et al., 2018). In fact, Aguinis, Ji, and Joo (2018) found that, even among star performers, women are markedly at a disadvantage compared to men. To summarize, women are more constrained than men in terms of social status, resources, and support (Ridgeway, 2011).

This exacerbates gender inequality in a male-to female CEO power shift. In Asian firms, men—more often than women—are assigned to positions characterized by high levels of discretion. This reflects the alignment of men's appointments to CEO positions with the traditional belief in their higher gender status (Kim, 2011; Zeng, 2014). The traditional values (bureaucratic and hierarchical) to which SOEs adhere will therefore favor the appointment of and support given to male CEOs (Berger et al., 1998; House et al., 2004; Ridgeway, 2011).

Hypothesis 2a. The relationship between female-to-male CEO succession and strategic change is more positive in state-owned enterprises than in privately-owned enterprises.

In contrast, unlike their state-owned counterparts—which receive various governmental subsidies or support—privately-owned Chinese enterprises foster somewhat more gender-egalitarian environments (Cho et al., 2015). Female-to-male CEO gender succession in privately-owned Chinese enterprises is less dominated by biased social beliefs in gender inequality because such firms are less constrained as they do not rely on state support (Yan, Schiehl, and Muller-

Kahle, 2019). Organizational members are less biased in favor of male leadership and adopt more gender-neutral attitudes toward leaders, which results in women being given more decision-making discretion (Leung, 2002; Nie et al., 2002). For example, privately-owned enterprises exhibit higher rates of women in positions of leadership and greater pay equality, with female CEOs being more likely to have managerial discretion (Cho et al., 2015; Leung, 2002; Nie et al., 2002).

Further, female CEOs could be expected to be more empowered in privately-owned enterprises, which, being less subject to state control, possess greater strategic discretion (Berger et al., 1998; Lam et al., 2013; Leung, 2002; Ridgeway, 2011; Riley, 1996). We posit that the privately-owned firm environment can be conducive to female CEOs executing more strategic changes when they assume leadership and bring their new perspectives. Expectation states theory predicts that, when faced by individuals who concurrently possess both positive and negative status characteristics (i.e., being a CEO and being female), people have to weigh all their positive and negative perceptions to figure out how to react (Ridgeway and Berger, 1986). Moreover, although both positive and negative status characteristics are activated concurrently, expectations states theory explicitly affirms that the legitimacy and status of women are clearly elevated (and the level of resistance they face is reduced) in contexts that need their skills and perspectives (Ridgeway and Berger, 1986). The organizational members of privately-owned enterprises are more likely to support new female leaders because such organizations need fresh perspectives to succeed (Lam et al., 2013; Liu, Wei, and Xie, 2014). Privately-owned enterprises are less prone to biased social beliefs of gender inequality, which makes male-to-female CEO succession more acceptable (Yan et al., 2019). Also, as, on average, the leadership styles exhibited by women tend to be more democratic and transformational than those of men (Eagly et al., 2003; Rosette and Tost, 2010),

their subordinates will likely be more accepting of them in privately-owned enterprises where more gender egalitarian values exist (Lam et al., 2013; Rudman et al. 2012; Yan et al., 2019).

In contrast, the masculine culture found in Chinese SOEs makes most organizational members uncomfortable with male-to-female CEO power shifts (Cho et al., 2015; Zhu et al., 2020). Consistent with expectation states theory, men may view the ascendance of a female CEO in an SOE as a threat to the advantaged status afforded to them by traditional patriarchy and may therefore be likely to resist any related change (Blalock, 1967; Cho et al., 2015). Research has found that when lower status group members ascend to prestigious roles, their higher status counterparts view initiatives in which they engage as a status violation and resist them (Cohen et al., 1970; Katz, 1970; Katz and Cohen, 1962). Specifically, “such behavior will be counterbalanced by the fact that it may seem presumptuous, ‘aggressive’ or ‘uppity’” and others may ignore them, talk over them, or glare at them (Ridgeway and Berger, 1986: 612). Thus:

Hypothesis 2b. The relationship between male-to-female CEO succession and strategic change is more positive for privately-owned enterprises than for state-owned enterprises.

The Intervening Role of Strategic Change

Although previous studies have made great efforts to establish the relationship between CEO succession—especially male-to-female—and firm performance (Bilimoria, 2006; Carter et al., 2003; Erhardt et al., 2003; Stets and Burke, 2000), some found a positive relationship (Abdullah, Ismail, and Nachum, 2016; Tushman and Rosenkopf, 1996), others a negative one (Shen and Cannella, 2002; Zhang and Qu, 2016), and others still mixed results (Georgakakis and Ruigrok, 2017; Lyngsie and Foss, 2017). Further, almost no effort has been devoted to understanding how CEO succession affects firm performance via intervening processes, which may resolve the confusing findings (Baron and Kenny, 1986; Miller and Triana, 2009; Schepker et al., 2017).

Research has already suggested that strategic change will have a direct, positive effect on firm performance for two main reasons. First, it modifies a firm's current strategic standing (Amburgey and Miner, 1992) and prevents it from sinking into an inflexible state of inertia (Burgelman and Grove, 2007; Hannan and Freeman, 1984; Levinthal and March, 1993), something that is valued by investors. Thus, strategic change feeds the constant evolution necessary for long-term survival. Second, companies that invest in strategic changes—e.g., in advertising and research and development (Finkelstein and Hambrick, 1996)—do so to meet anticipated future customer demand. Although some changes (e.g., those that involve equipment) are costly in the short-term, efforts aimed long-term market performance will be appreciated by investors (Schepker et al., 2017). We posit that strategic change acts as a mediator, transmitting the effects of CEO succession with gender change to firm performance, contingent upon contextual factors.

According to expectation states theory, a person's demographic characteristics influence the expectations others hold about them (Berger et al., 1974). Depending upon the observable power and prestige held by a group, some individuals will be given opportunities to act, which will enable them to contribute to their group's performance output. Moreover, others will positively or negatively evaluate a given performance output, which will further influence the group's power and prestige. When male-to-female CEO succession takes place, those contexts that are more meritocratic and favor women (i.e., stable environments and privately-owned firms) will facilitate female CEOs in bringing to fruition their higher status and their ability to act by bolstering strategic change, which will subsequently impact firm performance. Similarly, contexts that are patriarchal and favorable to men (i.e., dynamic environments and SOEs) will support the strategic actions undertaken by male CEOs, which can further impact subsequent firm performance.

In the previous hypotheses, we developed arguments aimed at connecting different types of

CEO succession with gender change and strategic change, contingent upon the environment. Next, we propose that there will be an indirect effect of CEO succession with gender change predicting firm performance through strategic change. Moreover, the nature of the moderated mediation effect will be consistent with the previous hypotheses.

Hypothesis 1a predicted that the relationship between female-to-male CEO succession and strategic change will be more positive in a dynamic environment than in a stable one. Dynamic environments, which require decisive action, tend to be more compatible with male decision-making styles and masculine stereotypes, which should facilitate strategic changes (Ridgeway, 2011; 2014). We thus formulate the following hypothesis:

Hypothesis 3a. The indirect effect of female-to-male CEO succession on long-term firm performance through strategic change is stronger in a dynamic environment than in a stable environment.

Hypothesis 1b predicted that the relationship between male-to-female CEO succession and strategic change will be more positive in a stable environment than in a dynamic one. We thus posit the following:

Hypothesis 3b. The indirect effect of male-to-female CEO succession on long-term firm performance through strategic change is stronger in a stable environment than in a dynamic environment.

Hypothesis 2a predicted that the relationship between female-to-male CEO succession and strategic change is more positive in SOEs than in privately-owned firms because of the patriarchal beliefs held in SOEs (Guo et al., 2017; Zhu and Yoshikawa, 2016). We thus posit:

Hypothesis 4a. The indirect effect of female-to-male CEO succession on long-term firm performance through strategic change is stronger in SOEs than in privately-owned firms.

Finally, Hypothesis 2b stated that the relationship between male-to-female CEO succession and strategic change is more positive for privately-owned enterprises than for SOEs because such succession is perceived as a threat to traditional patriarchy (Blalock, 1967) and thus encourages resistance to the new female leader (Ridgeway, 2011, 2014). Therefore, we posit:

Hypothesis 4b. The indirect effect of male-to-female CEO succession on long-term firm performance through strategic change is stronger in privately-owned firms than in SOEs.

METHOD

Data and Sample

To test our hypotheses, we compiled panel data of Chinese firms and CEO succession events from multiple sources. Because China is home to many state-owned enterprises as well as privately-owned enterprises, this context permits a test of our hypotheses. Our sample consisted of public Chinese companies listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange. We chose these entities because they consistently track and make available their firm-level strategic change and performance information. We extracted CEO succession events that took place during the 2005–2018 period from the China Stock Market and Accounting Research (CSMAR) database, a reliable data provider focused on Chinese companies publicly listed on stock exchanges. We extracted firm-level financial information (e.g., Tobin's Q, strategic change indices, total assets, and financial leverage) from the CSMAR Corporate Financial Statements and Corporate Financial Index Analysis sub-databases, and other data (e.g., firm ownership, CEO tenure, and CEO ownership) from the Stock Market Trading, Corporate Stockholder, Corporate Governance Structure, and Corporate Characters Features sub-databases of each publicly listed Chinese company during the same period.

The final sample consisted of 3,577 observations for the 2005-2018 period, during which

we found that 3,198 (i.e., 89.4%) CEO successions had not involved gender change² while 379 (e.g., 10.6%) had. Of these, 183 were female-to-male CEO successions and 196 were male-to-female. For details on the CEO successions by year, see Appendix 1.

Measures – Dependent Variables

Strategic change. This variable was measured at time t+1. According to Ginsberg (1988: 560), strategic change has been treated as the “content of strategy, i.e., the specifics of what was decided in terms of goals, scope, and/or competitive strategy, and in terms of the process of strategy-making.” Although some scholars have investigated strategic change in terms of any alterations made to a firm’s product portfolio or internationalization, this approach may be unsuited to detect smaller strategic changes or those made by single-business or non-internationalized firms (Ansoff, 1965; Ginsberg, 1988). As our sample included both diversified and non-diversified single-business firms, we used a measure of strategic change proxied by resource allocations. This is consistent with those definitions of strategy that entail the discretion of strategic leaders to adjust and renew resources to attain or sustain a competitive advantage (Chandler, 1962). To derive strategic change for each firm, we extracted the information about six strategic resource indicators in the same period from the annual reports based on a pre-defined set of coding instructions consistent with Finkelstein and Hambrick (1996) and Zhang (2006). We then matched the information found in different databases based on the firms’ unique stock-code identifiers. The six resource indicators include financial leverage (total debt/total assets), non-production overhead (selling, general, and administration (SG&A) expenses/net sales), advertising intensity (advertising/net sales), plant and equipment newness (new plant and equipment/gross

² For 3,198 CEO successions that did not involve gender change, 3,175 were male-to-male CEO successions, and 23 were female-to-female CEO successions.

plant and equipment), research and development (R&D) intensity (R&D expenses/net sales), and inventory levels (inventory/net sales) from CSMAR's Corporate Financial Statements and Corporate Financial Index Analysis sub-databases.

For each of the six resource indicators described above, we created change scores by subtracting the prior year's resource level from the current year's (Triana et al., 2014). Because each of these change scores for the six resource indicators has a different unit of measurement and was to be combined into a single measure of strategic change, we created z scores for each of the change scores of the six resource indicators so that no single indicator would have a greater weight than any other. The arithmetic mean of the standardized change scores in each of the six resource indicators from year t to year $t+1$ was obtained to measure amount of strategic change. The mean and standard deviation of strategic change in our sample were 0.00 and 0.24, respectively, which is consistent with the values from earlier studies (e.g., Richard, Wu, Markoczy, and Chung, 2019).

Firm performance. This is measured using Tobin's Q at time $t+2$. We extracted each company's Tobin's Q from the CSMAR Corporate Financial Index Analysis sub-database. Tobin's Q assesses a company's market value divided by its total assets (Chung and Pruitt, 1994). Market value refers to the total market value of a listed firm, including its A shares (i.e., those purchased in Chinese Yuan) and B shares (i.e., those purchased in foreign currency). A company's total market value is calculated as follows: $((\text{total number of A shares} \times \text{A share stock close price of the day}) + (\text{total number of B shares} \times \text{B share stock close price of the day})) \times \text{foreign exchange rate}$ on the same day. The mean and standard deviation of Tobin's Q for our sample were 2.11 and 2.34, respectively, in line with the values reported in prior studies (e.g., Cai, Luo, and Wan, 2012).

One key aspect in which our study departs from prior ones lies in its aim to understand the intervening role played by strategic change in the relationship between the yearly changes in the

number of CEO successions—e.g., male-to-female ones—and firm-level strategic change and long-term firm performance. By investigating the intervening role played by strategic change, our study's focus was shifted from the simple and direct relationship between yearly changes of CEO succession with gender changes and long-term performance. Instead, its focus was on testing how the strategic change initiated by CEO succession with gender change had subsequently influenced long-term firm performance. Given that the focus of our study was on the intervening role of strategic change and its subsequent impact on long-term firm performance, our measures of strategic change and long-term performance needed to be congruent. We defined strategic change as a composite measure consisting of six resource indicators, some (e.g., inventory level) involving short-term oriented expenditures and others (e.g., R&D intensity) involving long-term oriented ones. As an ideal measure of firm performance should take both short-term and long-term aspects into account, Tobin's Q is a more appropriate measure than return on assets (ROA). Although ROA has been widely used in previous studies (e.g., Carpenter and Sanders, 2002; Morgan et al., 2009), its limitation in relation to neglecting a firm's potential future returns (Fama, 1970, 1991) cannot be remedied due to the nature of this accounting-based measure (Wernerfelt and Montgomery, 1988; Bharadwaj, Bharadwaj, and Konsynski, 1999). In contrast, Tobin's Q is a market-based measure (Ross, 1976; Roll and Ross, 1980) that simultaneously accounts for both short- and long-term firm performance, which are respectively and accurately reflected by investors' estimations and anticipations (e.g., Kor and Mahoney, 2005; Jayachandran et al., 2013). It is important to capture the effects of the dimensions of strategic change (e.g., R&D) on long-term firm performance, because such effects, which are not well reflected by ROA, should be quickly picked up by acute investors. In brief, Tobin's Q is an appropriate measure that accurately

reflects firm performance as a result of strategic changes³.

Independent Variables

CEO succession with gender change is conceptualized as representing the differing male-to-female and female-to-male scenarios. To construct the two related variables, we extracted detailed information regarding CEO succession from the CSMAR Corporate Characters Features sub-database. Consistent with prior studies (Zhang and Qu, 2016), we created the *female-to-male CEO succession* dummy variable at time t , which we set to 1 for instances of female-to-male CEO succession, and to 0 otherwise. We similarly created the *male-to-female CEO succession* at time t dummy variable by setting its value to 1 for instances of male-to-female CEO succession, and to 0 otherwise. Consistent with previous research (e.g., Zhang and Qu, 2016), the mean and standard deviation of *female-to-male CEO succession* for our sample were 0.05 and 0.22, respectively, and those of *male-to-female CEO succession* were 0.06 and 0.23, respectively.

Moderating Variables

Environmental dynamism. This variable was collected at time t . Consistent with prior studies (e.g., Keats and Hitt, 1988; Pathak et al. 2014), we operationalized this variable to represent the rate of a firm's industry-level unpredictable change. To determine Chinese firms' industries, we relied on the 2012 industry classification scheme established by the Chinese Securities Regulatory Commission (CSRC), which is comparable to the U.S. Standard Industrial Classification (SIC) and extensively used in research conducted in the Chinese context (e.g.,

³ Regressions utilizing alternative measures of firm performance were also conducted. In our analysis, we opted to utilize ROA instead of Tobin's Q, a measure also utilized by Zhang and Qu (2016). Additionally, we incorporated three distinct time lags—one year, one and a half years (similar to Zhang and Qu (2016)'s measure), and two years—into our calculations. Subsequently, we conducted a comparative analysis of the impacts of CEO succession, gender change, and strategic change on the aforementioned dependent variables. Our primary findings, as assessed by Tobin's Q $t+2$, remained consistent when an alternative measure of Tobin's Q at $t+1.5$ was utilized. We were unable to identify a statistically significant relationship between gender change in CEO succession and firm performance as measured by ROA.

Leippold, Wang, and Zhou, 2022). We thus used the CSRC's two-digit industry code to calculate industry-level gross revenue, which we computed as the average value of the gross revenues of all our sample firms belonging to a certain industry. We then regressed the log-transformed industry gross revenues for a year using the industry gross revenues for the previous four consecutive years. By doing so, we generated the standard error of the regression slope as a proxy for *environmental dynamism*. For example, we used industry-level gross revenues for 1999-2003 to compute *environmental dynamism* for 2003. We then regressed 2003 industry gross revenues using the prior four years (i.e., 1999–2002). We used the standard error of the regression slope as a measure of the 2003 *environmental dynamism*. We applied this procedure to each corresponding year. In line with values reported by prior studies (e.g., Richard et al., 2019), the mean and standard deviation values of *environmental dynamism* in our sample were 0.16 and 0.14, respectively.

Firm ownership. This variable was collected at time *t*. Firm ownership refers to whether a firm is state- or privately-owned. In China, state-ownership of a firm is not simply determined by the percentage of shares directly owned by the state but, more importantly, by whether a firm is ultimately controlled by the government/state via both direct and indirect ownership (Li, Li, and Wang, 2019). This means that a firm's state-ownership needs to be gauged by whether the government exerts immediate or ultimate control, rather than the superficial ownership (Hsu, Liang, and Matos, 2021). Accordingly, in this study, we delved into the ownership of a sampled firm that is either directly or indirectly owned by the government to calculate the total proportion of the state ownership and compare it with the largest proportion of ownership of private investors to decide whether the ultimate control of a firm is by the state. The information pertaining to the ownership percentages of a firm controlled by various investors was obtained from the CSMAR Corporate Stockholder Database. A dummy variable, *firm ownership*, was thus constructed which

we set to 1 if we found more than 50% of a firm's shares to be ultimately controlled by the government, and to 0 otherwise. The values for the mean and standard deviation of *firm ownership* were 0.47 and 0.50, respectively, which does not differ significantly from those reported by prior studies (Choi et al., 2011; Liu et al., 2017).

Control Variables

We included several control variables, which we measured at time *t*. As size influences firm performance, we controlled for *firm size*, which we measured as the natural logarithm of total assets (Wu et al., 2016). As previous studies have found that age impacts performance (Barron et al., 1994), we also controlled for *firm age*, measured as the natural logarithm of the number of years since a firm's inception. Also, as capital structure affects performance (Lu and Beamish, 2004), we controlled for *financial leverage*, measured as total debt divided by total assets.

Prior studies have shown that CEO characteristics may influence a firm's strategic change and performance. We thus controlled for CEO education, which is predicted to have a negative impact on firm strategic change (Fondas and Wiersema, 1997). We generated the *CEO education* variable, which we set to 1 for technical secondary school, 2 for junior college degree, 3 for undergraduate degree, 4 for master's degree, and 5 for doctorate degree (Chung et al., 2015). Further, we controlled for CEO duality because prior research has suggested that it may affect firm long-term performance and that the direction of this effect will vary across different conditions (Baliga, Moyer, and Rao, 1996; Boyd, 1995; Ruigrok, Peck, and Keller, 2006; Stiles, 2001). We generated the *CEO duality* dummy variable, which we set to 1 if the CEO had also been serving as the chair of the board of directors, and to 0 otherwise). Past studies have also shown that CEO tenure is negatively related to changes in firm strategy (Finkelstein and Hambrick, 1996; Wiersema and Bantel, 1992). We therefore controlled for *CEO tenure*, which we calculated as the number of

months since the past CEO (i.e., predecessor) took the CEO position to the month they left. Finally, prior studies have suggested that CEO ownership of a firm has a negative influence on firm strategic change (Haynes and Hillman, 2010; Piperopoulos et al., 2018). We thus controlled for *CEO ownership*, which we measured by the ratio of CEO-owned shares to the total shares of each publicly-listed firm. We extracted the information for *CEO education*, *CEO tenure*, and *CEO ownership* from the CSMAR Corporate Characters Features sub-database and the information for *CEO duality* from the CSMAR Corporate Governance Structure sub-database.

Moreover, top management team (TMT) size has been shown to affect firm strategic change, as it influences the communication among and perspectives of its members (Tushman and Rosenkopf, 1996). We therefore controlled for *TMT size*, which we measured as the natural logarithm of the number of each firm's TMT members (Chatterjee, 2017). Research has shown that poor past performance often stimulates strategic change (Bednar, Boivie, and, Prince, 2013; Greve, 1998). Therefore, we also controlled for poor past performance, which we assessed by comparing the average return on assets (ROA) of each sample firm for the three years preceding its CEO succession event with the average industry-level ROA for the same three years. We then created the *poor past performance* dummy variable, which we set to 1 if a firm's average ROA had been lower than its industry-level and to 0 otherwise. We extracted *TMT size* information from the CSMAR Corporate Governance Structure sub-database and ROA information from the CSMAR Corporate Financial Index Analysis.

Previous research has suggested that a firm's post-succession performance is negatively influenced by the proportion of female directors on the board but positively influenced by the proportion of female TMT members (Zhang and Qu, 2016). We therefore controlled for *female director ratio* and *female TMT ratio*, which we measured as the proportions of female directors on

the board and in the TMT, respectively. Moreover, given that past studies have suggested that post-CEO succession firm performance will be affected by the new CEO's status (e.g., whether or not a new CEO is an outsider, and the extent to which the new CEO is demographically similar to the TMT members; Georgakakis and Ruigrok, 2017), we also controlled for *outsider succession* and *CEO-TMT similarity*. In regard to *outsider succession*, we checked whether and how long a CEO had worked for the company before taking on the role. Accordingly, we operationalized *outsider succession* as a dummy variable set to 1 if the new CEO had previously worked for the firm less than two years and to 0 otherwise (Georgakakis and Ruigrok, 2016). The *CEO-TMT similarity* measure was accordingly constructed as a composite index by averaging three sub-indices including (a) *CEO-TMT age similarity*, (b) *CEO-TMT gender similarity*, and (c) *CEO-TMT nationality similarity* (Georgakakis and Ruigrok, 2016). We calculated *CEO-TMT age similarity* by the formula $-\sqrt{\sum(x - x_i)^2 / (n - 1)}$, where x denotes the age of the new CEO, x_i denotes the age of TMT member i , and n denotes the total number of TMT members. We calculated *CEO-TMT gender similarity* by the square of the proportion of TMT members of the same gender as the new CEO. *CEO-TMT nationality similarity* was calculated by the square of the proportion of TMT members who were of the same nationality as the new CEO⁴. These three sub-indices were then standardized to construct *CEO-TMT similarity*⁵.

Prior studies have suggested that CEO succession brought about by the death of the incumbent can influence firm strategic change and its subsequent outcomes (Worrell and Davidson,

⁴ We are grateful to the editor for recommending these four control variables.

⁵ We constructed and included two additional control variables in the analyses, namely the proportion of outside directors and prior CEO experience. We calculated prior CEO experience as a dummy variable set to 1 if an acting CEO had prior experience as the CEO of another firm and to 0 otherwise. We operationalized outside director proportion as the number of outside directors divided by the total number of directors. In the interest of simplicity, we determined that it would be most prudent to exclude these two control variables from the analyses, as their explanatory power for the dependent variable, strategic change, was minimal.

1987). To account for instances of CEO death, we collected information from annual reports and news outlets. Prior studies have also suggested that any fraud committed by the departing CEO influences firm strategic change and outcomes (Zahra et al., 2005). We manually conducted searches for each of our sample CEO succession with gender change events by identifying the departing CEO and searching for articles to find any fraud he/she may have committed. In doing so, we used the definition of fraud coined by Zahra et al. (2005), which refers to senior managers intentionally undertaking actions aimed at deceiving stakeholders. Our findings indicate that both CEO death and CEO fraud are rare events, accounting for fewer than 10 observations each. Although the findings related to our hypotheses did not change, our analyses of the death and fraud variables individually yielded imprecise/unstable coefficients due to the very limited variance of each. Therefore, to ensure analysis effectiveness, we combined the two constructs into a single dummy variable, which we labelled *predecessor rare event* and set to 1 if death or fraud had happened and to 0 otherwise.

In addition, given that our panel data covered multiple years, we controlled for year effects by generating *year dummy* variables to include in the analyses. To control for industry effects, we also included a set of *industry dummy* variables at the three-digit SIC code level.

Econometric Model

Fixed and random effects are the most appropriate models to control for any unobserved effects and can partly resolve concerns related to endogeneity. We performed Hausman's (1978) specification test to determine whether a fixed- or random-effects model was more appropriate for the data analysis. The results of the Hausman test were significant for our models ($\chi^2 = 167.83$, $p = 0.000$), indicating that fixed-effects models were more efficient than random-effects models. Therefore, we used a fixed-effects model.

Moreover, time-specific factors, such as economic downturns, may affect strategic change and firm performance (Certo and Semadeni, 2006). The omitted variables may cause endogeneity issues. The inclusion of time dummy variables in panel data models with a large number of firms and relatively few time periods reduces the influence of contemporaneous correlation (Certo and Semadeni, 2006). Therefore, we included a block of dummy variables for each year.

Further, strategic change may affect CEO succession with gender change. For example, a firm with low strategic change may be more likely to appoint a CEO whose characteristics are similar to those of its current CEO, which may partly affect CEO succession with gender change. To overcome this, we lagged all the explanatory variables. In testing for the main effects of CEO succession with gender change on strategic change, we regressed strategic change at year $t+1$ (e.g., 2006) on the independent variables (e.g., type of CEO succession with gender change) and control variables at year t (e.g., 2005). To test for mediation, we measured Tobin's Q at year $t+2$ (e.g., 2007), strategic change at year $t+1$, and independent and control variables at year t .

RESULTS

Table I shows the correlations and descriptive statistics of all the study variables. The maximum variance inflation factor (VIF) value was 2.61, the minimum VIF value was 1.12, and the mean VIF value was 1.53, all within the acceptable range (Field, 2005). An examination of correlations also showed that multicollinearity was not a notable problem.

INSERT TABLE I ABOUT HERE

Hypothesis 1a posited that the relationship between female-to-male CEO succession and strategic change would be more positive in a dynamic environment than in a stable one. As shown in Model 3 of Table II, the coefficient of *female-to-male CEO succession* \times *environmental dynamism* was positive and statistically significant ($\beta = 4.782, p = 0.000$). Following Aiken and

West (1991), we plotted this interaction at + and - one standard deviation for the moderator (*environmental dynamism*). Figure 1 shows that Hypothesis 1a was supported, as the association between female-to-male CEO succession and strategic change was found to be more positive in dynamic environments compared to stable ones.

INSERT TABLE II AND FIGURE 1 ABOUT HERE

Hypothesis 1b posited that the relationship between male-to-female CEO succession and strategic change would be more positive in a stable environment than in a dynamic environment. As shown in Model 5 of Table II, the coefficient of *male-to-female CEO succession* \times *environmental dynamism* was negative and statistically significant ($\beta = -3.538, p = 0.000$). The association between male-to-female CEO succession and strategic change (Figure 2) was more positive in stable environments than in dynamic ones, thus supporting Hypothesis 1b.

INSERT FIGURE 2 ABOUT HERE

Hypothesis 2a posited that the relationship between female-to-male CEO succession and strategic change would be more positive for SOEs than for privately-owned firms. As shown in Model 3 of Table III, the coefficient of *female-to-male CEO succession* \times *firm ownership* was positive and statistically significant ($\beta = 0.494, p = 0.000$). The association between female-to-male CEO succession and strategic change (Figure 3) was found to be more positive for SOEs than for privately-owned firms, thus providing support for Hypothesis 2a.

INSERT TABLE III AND FIGURE 3 ABOUT HERE

Hypothesis 2b posited that the relationship between male-to-female CEO succession and strategic change would be more positive for privately-owned enterprises than for SOEs. As shown in Model 5 of Table III, the coefficient of *male-to-female CEO succession* \times *firm ownership* was

negative and statistically significant ($\beta = -0.221, p = 0.000$). The association between male-to-female CEO succession and strategic change (Figure 4) was found to be more positive for privately-owned enterprises than for SOEs, thus supporting Hypothesis 2b.

INSERT FIGURE 4 ABOUT HERE

Hypothesis 3a posited that the indirect effect of female-to-male CEO succession on firm performance would be stronger in a dynamic environment than in a stable one. As shown in Model 3 of Table II, the coefficient of the interaction term of *female-to-male CEO succession* \times *environmental dynamism* was positive and significant ($\beta = 4.782, p = 0.000$). Furthermore, as shown in Model 6, strategic change was positively related to firm performance ($\beta = 0.196, p = 0.042$) when accounting for the interaction term effect. To draw conclusions for our predictions, we utilized the index of moderated mediation developed by Hayes (2015).

The Hayes method has several strengths. The index of moderated mediation can be used to intuitively show whether the mediated effect of the independent variable on the dependent variable is influenced by the moderator. One important benefit of this index is that, it does not require the variables to be normally distributed (Hayes, 2015, 2017). In our study, the independent variables (i.e., *male-to-female CEO succession*, and *female-to-male CEO succession*) were dummy variables with a binomial distribution. The other important advantage of the Hayes model is that it features the bootstrap technique as a key component. Bootstrapping, which estimates the confidence interval of the index of moderated mediation, has been widely used in statistical mediation analysis, and its performance has been shown to be superior to that of Sobel's test. In addition, the Hayes index of moderated mediation has been widely employed in the management domain (e.g., Cheung and Lau, 2017; Yam, Klotz, He, and Reynolds, 2017). As such, we adopted it for our analyses. We estimated the index of moderated mediation to be 0.937, with a 95% bootstrap

confidence interval [0.462, 1.412]. As this confidence interval did not include zero and its lower boundary was positive, we concluded that the indirect effect of female-to-male CEO succession on firm performance through strategic change is positively moderated by environmental dynamism. More specifically, for every one unit increase in environmental dynamism, the indirect effect of female-to-male CEO succession on firm performance through strategic change will increase by 0.937. Thus, Hypothesis 3a was supported.

We followed this same procedure to test Hypothesis 3b by comparing Models 5 and 7, and we estimated the index of moderated mediation to be -1.129, with a 95% bootstrap confidence interval [-1.977, -0.281]. As this confidence interval did not include zero and its upper boundary was negative, we concluded that the indirect effect of male-to-female CEO succession on firm performance through strategic change is negatively moderated by environmental dynamism. More specifically, for every one unit increase in environmental dynamism, the indirect effect of male-to-female CEO succession on firm performance through strategic change will decrease by 1.129. Therefore, Hypothesis 3b was also supported.

Hypothesis 4a posited that the mediating role played by strategic change in transmitting the effects of female-to-male CEO succession on firm performance would be stronger in SOEs. As shown in Model 3 of Table III, the coefficient of the interaction term of *female-to-male CEO succession* \times *firm ownership* was positive and statistically significant ($\beta = 0.494$, $p = 0.000$). Furthermore, as shown in Model 6, strategic change was positively related to firm performance ($\beta = 0.196$, $p = 0.042$) when accounting for the interaction term effect. More importantly, we estimated the index of moderated mediation to be 0.097, with a 95% bootstrap confidence interval [0.035, 0.159]. As this confidence interval did not include zero and its lower boundary was positive, we concluded that the indirect effect of female-to-male CEO succession on firm performance

through strategic change is positively moderated by firm ownership. Specifically, for every one unit increase in firm ownership, the indirect effect of female-to-male CEO succession on firm performance through strategic change increases by 0.097. Therefore, Hypothesis 4a was supported.

We followed this same procedure to test Hypothesis 4b by comparing Models 5 and 7, and we estimated the index of moderated mediation to be -0.070, with a 95% bootstrap confidence interval [-0.137, -0.003]. As this confidence interval did not include zero and its upper boundary was negative, we concluded that the indirect effect of male-to-female CEO succession on firm performance through strategic change is negatively moderated by firm ownership. More specifically, for every one unit increase in firm ownership, the indirect effect of female-to-male CEO succession on firm performance through strategic change will decrease by 0.070. Therefore, Hypothesis 4b was supported. To summarize, our results reveal that the impacts of the interactions between *CEO succession with gender change* \times *environmental dynamism* and *CEO succession with gender change* \times *firm ownership* on long-term firm performance can be explained by the mediating role of post-succession strategic change.

SUPPLEMENTAL STUDY

To test whether our findings in regard to the moderating role of environmental dynamism and the mediating role of strategic change in CEO succession with gender change in the Chinese context would generalize to the U.S., we conducted a follow up study on a U.S. sample. This further investigation was appropriate given the many features that make China a unique context, including its collectivistic culture, high power distance, Confucianism, and over 70 years of Communist Party rule (Wang et al., 2014). Wang et al. (2014, pp. 5-6) explained:

“Intertwined with ongoing economic reforms and practices in marketization with Western influences, and combined with different ownership types of state-owned enterprises

(SOEs), private ownership enterprises and multinational corporations (MNCs), Chinese organizations and related HR practices constitute a complex and attractive scholarly puzzle that perhaps has no other comparable counterpart in the world.”

Like China, the U.S. is a leading world superpower and is considered to be the most powerful country in the world, with the largest gross domestic product—China being ranked second on both counts (U.S. News, 2021; Worldometer, 2021). Therefore, the U.S. represented a fertile ground to examine whether our theory and findings may generalize to another country. We note that the moderating effects pertaining to state versus private ownership (Hypotheses 2a, 2b, 4a, and 4b) cannot be replicated in the U.S., because China is communist and has extensive state ownership while the U.S. is capitalist and does not. Moreover, we expect results to be largely consistent across China and the U.S. because of the lower status globally afforded to women, which means that they are subjected to economic, political, social, and employment disparities across societies (Ridgeway, 2011, 2014; Sidanius and Pratto, 1999). Although the U.S. is somewhat more gender-egalitarian than China (House et al., 2004)—which implies that the results of our hypotheses testing could be stronger in China due to larger variance—women are nevertheless subordinate to men and experience significant disadvantages in attaining top positions in both countries (Catalyst, 2023).

INSERT TABLES IV AND V ABOUT HERE

We drew our sample U.S. CEO succession events from the Standard and Poor’s Execucomp database, CEO information from annual reports, and firm-level financial information from the Compustat database. Our sample included U.S. firms covered by the S&P 1500. We identified 4,874 observations across 856 U.S. firms from 1999 to 2017. The final sample consisted of the following types of CEO succession events: 4,601 male-to-male, 160 male-to-female, 96

female-to-male, and 17 female-to-female. Descriptive statistics and correlations for the U.S. are presented in Table IV.

We operationalized the variables as we had for the Chinese sample. In particular, we used 3-digit SIC codes to identify our sample firms' industries. As shown in Model 3 of Table V, we found the coefficient of *female-to-male CEO succession* \times *environmental dynamism* to be positive and marginally significant ($\beta = 0.105, p = 0.071$). The association between female-to-male CEO succession and strategic change (Figure 5) was positive in dynamic environments but negative in stable ones. This supported Hypothesis 1a and was consistent with our Chinese sample results. As shown in Model 5 of Table V, the coefficient of *male-to-female CEO change* \times *environmental dynamism* was negative and statistically significant ($\beta = -1.268, p = 0.020$). The association between male-to-female CEO succession and strategic change (Figure 6) was positive in stable environments but negative in dynamic ones, which supported Hypothesis 1b and was consistent with our Chinese sample results.

INSERT FIGURES 5 AND 6 ABOUT HERE

We also tested Hypotheses 3a and 3b on our U.S. sample. As shown in Model 3 of Table V, the coefficient of the interaction term of *female-to-male CEO succession* \times *environmental dynamism* was positive and significant ($\beta = 0.105, p = 0.071$). Furthermore, Model 6 shows that strategic change is positively related to firm performance ($\beta = 0.257, p = 0.019$) when accounting for the interaction term. More importantly, we estimated the index of moderated mediation to be 0.027, with a 95% bootstrap confidence interval [0.002, 0.052]. As this confidence interval did not include zero and its lower boundary was positive, we conclude that the indirect effect of female-to-male CEO succession on firm performance through strategic change is positively moderated by environmental dynamism. More specifically, for every one unit increase in environmental

dynamism, the indirect effect of male-to-female CEO succession on firm performance through strategic change will increase by 0.027. Therefore, Hypothesis 3a was supported. We followed this same procedure to test Hypothesis 3b by comparing Models 5 and 7, and we estimated the index of moderated mediation to be -0.431, with a 95% bootstrap confidence interval [-0.857, -0.005]. As this confidence interval did not include zero and its upper boundary was negative, we concluded that the indirect effect of male-to-female CEO succession on firm performance through strategic change is negatively moderated by environmental dynamism. More specifically, for every one unit increase in environmental dynamism, the indirect effect of male-to-female CEO succession on firm performance through strategic change will decrease by 0.431. Therefore, Hypothesis 3b was also supported. To summarize, consistent with what we found for our Chinese sample, we found Hypotheses 1a, 1b, 3a, and 3b to be supported in our supplemental U.S. study. Such consistent results across China and the U.S. bolster our confidence in the theory and in the cross-cultural applicability of the findings.

DISCUSSION

This study makes important contributions to the existing literature on CEO succession by demonstrating that strategic change acts as a mechanism between different types of CEO succession with gender change and firm performance. Moreover, we considered the gender change component of CEO succession together with the environmental context in which such succession takes place (Berns and Klarner, 2017; Hutzschenreuter, Kleindienst, and Greger, 2012). Specifically, departing from previous research on CEO succession with gender change (Rigolini et al., 2021), we distinguished between male-to-female and female-to-male CEO succession to explain why the effects of each type on a firm's strategic actions may differ. To study CEO succession with gender change—a micro-level phenomenon (i.e., pertaining to a CEOs' demographic attributes) that has rarely been subjected to macro level analysis (DiTomaso, 2021)—

we utilized expectation states theory, with its assumptions about gender inequality. Given the current ambiguity in regard to whether CEO succession is positively or negatively related to organizational effectiveness, and to whether CEO succession with gender change positively or negatively impacts organizational outcomes, our focus on contingency factors (e.g., environmental characteristics) enabled us to detect the meaningful effects of CEO succession with gender change on strategic change. To summarize, we fully explored the environmental conditions under which CEO succession with gender change has a positive (or negative) impact on post-succession firm performance via an increase (or a decrease) in strategic change.

Implications for Theory and Future Research

CEO succession with gender change—especially involving a woman CEO replacing a man CEO—is a rare occurrence endowed with historical and cultural significance (Jeong and Harrison, 2017). In assessing CEO succession with gender change, the existing studies have tended to not emphasize the role played by gender inequality (Zhang and Qu, 2016). Going beyond the existing CEO succession literature, we considered gender change as a key element of CEO succession, and we investigated both male-to-female and female-to-male succession. Specifically, we pinpointed that gender inequality is expressed differently in different types of CEO succession. These insights advance the literature on CEO succession and illuminate the role played by gender change.

Given that CEO actions may not directly influence firm performance (Berns and Klarner, 2017; Hambrick and Mason, 1984), the current study contributes to the CEO succession literature by highlighting strategic change as an important mechanism that ultimately affects firm performance. While previous research emphasized the relationship between CEO succession and strategic change (Hutzschenreuter et al., 2012), our study extends the model by making a clear connection between strategic change and firm performance (Triana, Richard, and Su, 2019).

By specifically examining CEO succession with gender change and finding consistent results

across two large scale empirical studies, we also answered the recent call to employ nuanced analyses using rich archival macro-level variables to study micro-level issues (Hill, Aguinis, Drewry, Patnaik, and Griffin, 2022). We extended the findings of Zhang and Qu (2016) by demonstrating that CEO succession with gender change takes time to unfold by means of its indirect effect on performance through strategic change. The strategic change process entails the allocation of firm resources to achieve a competitive advantage. However, due to its cost, strategic change may have a negative short-term impact on the balance sheet but pay off in the long run (Schepker et al., 2017). In fact, this may partly explain the short-term post succession performance losses documented by Zhang and Qu (2016) on the basis of return on assets, an accounting measure of performance. Furthermore, while organizational level moderators clearly have the potential to play a role in our framework (Zhang and Qu, 2016), we provide evidence that environmental contingencies play a critical moderating role between CEO succession and strategic change (Kerns and Klarner, 2017; Zhang and Rajagopalan, 2004). Although our study focused on gender, we believe our model has implications for other demographic characteristics.

It would thus be interesting to investigate, for instance, whether race-based differences between successive CEOs also generate more change in post-succession corporate strategy. Also, the role played by social class in CEO succession and strategic change has not been explored. A new CEO from a lower social class may execute more strategic change because of his/her greater willingness to take risks (Kish-Gephart & Campbell, 2015; Kish-Gephart, Moergen, Tilton, and Gray, 2022), which would be compatible with dynamic environments (Xue, Zeng, Meng, and Peng, 2018). A fruitful theoretical direction for future research on leadership succession and on its impact on organizational outcomes could involve scholarship integrating gender with other demographic constructs utilizing theoretical perspectives like intersectionality and demographic

faultlines (Thatcher, Hymer, and Arwine, 2023; Wu, Triana, Richard, and Yu, 2021).

It would also be interesting to examine what other factors, both internal and external to the firm, facilitate strategic change in the aftermath of CEO succession with gender change. For example, Cook and Glass (2014) described the glass cliff phenomenon, whereby a poor-performing firm is more likely to replace a male CEO with a female CEO who, given the firm's existing poor performance and difficult operating circumstances, will almost inevitably struggle, fail, and be, in turn, replaced by a male CEO (what Cook and Glass called the savior effect). Another potentially fruitful avenue of investigation could focus on whether social movements such as Me Too will make people more receptive to female CEOs implementing strategic change in dynamic environments. Should the few women who attain the CEO level meet less resistance or doubts when implementing strategic change, the glass cliff phenomenon could be averted.

Further, research has shown that, besides the CEO, strategic change and performance are affected by the composition of an organization's upper echelons (Georgakakis and Ruigrok, 2017; Zhang and Qu, 2016). Indeed, research has revealed that the appointment of women to different positions within the TMT has implications for strategic renewal (Post, Lokshin, and Boone, 2022) and overall firm performance (Hill et al., 2022). It would thus be interesting to understand whether different dynamics would unfold in relation to various changes in the context of gender similarities between CEOs and the various executive members who precede them, work with them, or join following their appointment.

Implications for Practice

From a practical standpoint, these findings have implications with respect to equal opportunity. Environments that are more accepting of female leaders provide women with greater managerial discretion to change the status quo. This is where we expected greater

strategic change proactiveness to stem from male-to-female successions. Now that there are female CEOs in numbers sufficient to study this phenomenon, it is important to understand that changing leader demographics can both signal and result in important changes. In dynamic environments that favor more risk-taking CEO styles, female-to-male CEO successions resulted in more strategic change. The opposite is true in stable environments, in which male-to-female CEO successions with gender change from a male CEO to a female CEO resulted in greater strategic change. Introducing a female CEO, which is still a rare event (Catalyst, 2023; Tan, 2022), may give rise to a fresh perspective where change is needed. Conversely, in dynamic environments, in which risk-taking and rapid action are necessary, newly appointed male CEOs may be met with less resistance, given that such behaviors are more acceptable for men than women (Eagly et al., 2003; House et al., 2004).

Our results require cautious interpretation by practitioners. Specifically, they should in no way be interpreted to mean that organizations should look to hire male CEOs in certain environments and female CEOs in other environments. Indeed, that would go against the philosophy of equal opportunity and major employment laws—for example, Title VII in the U.S., which prohibits gender-based employment discrimination. Rather, our results point at the fact that, under certain conditions, organizations should provide additional support for new CEOs in difficult situations (e.g., female CEOs in dynamic environments or SOEs). Under these circumstances, the board of directors and other top leaders in an organization may help by publicly expressing their support for a new CEO and also demonstrating such support by undertaking actions aimed at creating a supportive environment for a female CEO, who may otherwise be undermined.

Despite the slow erosion of gender bias and glass ceiling—the invisible barriers that prevent women from ascending the corporate ladder (Morrison et al., 1987; Oakley, 2000; Ridgeway,

2011, 2014)—it is still quite rare for women to be elevated to CEO positions (Dezsö and Ross, 2012; Lyngsie and Foss, 2017). Approximately 92-94% of major corporation CEOs in both the U.S. and China are male (Catalyst, 2023; Tan, 2022). Consistently, our data show that the large majority of CEO succession events are male-to-male and most CEO successions with gender change are female-to-male. This begs the question of why women are underrepresented and what companies can do about it. Women's lower representation at the apex of organizations is in line with both expectation states theory—i.e., the culturally-driven low expectations of what women can do relative to men in firms (Ridgeway, 2011)—and deeply embedded implicit (i.e., subconscious) biases. Nosek et al. (2007) presented findings from a study with over 2.5 million participants where 76% of the sample implicitly associated males with careers and females with family. These findings suggest that firms should take implicit bias seriously and implement selection and evaluation processes to ensure a gender-diverse pool of applicants is considered for leadership positions. If the glass ceiling is ever to be broken, men and women need to be given equal opportunity; otherwise, biases (conscious or subconscious) can contribute to the lack of diversity found among CEOs. As our research shows, those firms that operate in stable environments and/or under private ownership and adhere to traditions of hiring male after male executives (or replacing female CEOs with male CEOs) could be missing out on the value that female CEOs can offer in initiating strategic change and improving firm performance.

The present findings also have implications for SOEs both in China and beyond⁶. Providing

⁶ State-owned enterprises (SOEs) are not limited to China and other Asian countries; they are also prevalent in other continents and countries, particularly emergent economies such as Thailand, Poland, Colombia, Indonesia, and Malaysia. For example, in Colombia, the government controls over 50% of the shares of all listed firms; in Malaysia, Indonesia, Poland, and Thailand, the same holds true for over 30% of the shares of all listed firms. Additionally, SOEs hold a significant position in developed nations. Norway's government holds a controlling stake of approximately 30% in publicly traded companies, whereas over 10% of the shares of publicly traded companies are under the control of the governments in France, Italy, Finland, and New Zealand (Hsu, Liang, and Matos, 2021).

men and women with equal opportunities to access the highest positions in organizations could help firms perform better by facilitating the strategic change needed to adapt to evolving conditions and consumer needs representative of the population. Female CEOs in China seem to have limited opportunities to implement change, particularly in SOEs. According to one report, “*growth in female CEO participation rates in China is due largely to privately controlled enterprises. [...] Chinese female CEO participation rates in the private sector have risen from below 4 percent to more than 8 percent. In contrast, female CEO participation in state-controlled firms has remained more or less flat*” (Ying, 2014). Thus, female CEOs seem to mostly find opportunities to really make a difference in privately-owned firms, which tend to be more gender egalitarian and offer greater discretion to their CEOs. Contrary to the ideal scenario whereby Chinese SOEs would implement greater gender-based equality, women are still hindered by limitations that cause them to make decisions aligned with the status quo and with what is expected of them. We also have reason to believe that SOEs located in more gender-inclusive countries—such as Norway (e.g., Post and Byron, 2015)—would yield different findings.

Limitations

One limitation of the present study is that out of all the CEO succession events that have taken place, there are a limited number of them that involve gender change. This does not allow us to examine nuances in male-to-female and female-to-male CEO succession events more deeply. Also, although our theoretical predictions are supported by our empirical results, our findings are not robust when using alternative measures of firm performance, such as ROA. Hence, our results suggest a significant effect of CEO succession with gender change on market-based firm value, while its applicability to accounting-based firm value remains uncertain.

Another limitation is that we can only speak to the Chinese and U.S. contexts through our

samples. Thus, we do not know if our findings generalize to other contexts where women have more parity with men, such as the Scandinavian countries that are consistently rated as the most equal places for women in the world (World Economic Forum, 2023).

Moreover, while we theorize that gender parity is a mechanism at work in the societal contexts and in our model, we do not measure it. For the year 2023, the U.S. is ranked as the #43 country in the world for women's gender equality out of the 146 countries that were ranked by the World Economic Forum. Meanwhile, China is ranked as the #107 country in the world for women's gender equality (World Economic Forum, 2023). Therefore, we can infer from this source that women's parity is greater in the U.S. than in China, but we never measured that directly.

We cannot say whether our findings would extend to other CEO characteristics. Scholars could thus conduct research aimed at investigating whether CEO succession involving a change of national/cultural background would spur more strategic change. It may also be that CEO succession with gender change brings about differences in strategic change because of the differences in appearance between the old and new CEOs, which may elicit in stakeholders, both within and outside the firm, expectations (either conscious or subconscious) of more generalized differences. Therefore, marked differences in appearance between successive leaders may facilitate strategic change because they cause such change to be expected. Conversely, similarities in both gender and nationality/culture (or even in race/ethnicity) between successive CEOs (Rosette, de Leon, Koval, and Harrison, 2018) may elicit expectations of gradual change or even continuity.

Conclusion

Across two samples from China and the U.S., we find that CEO succession with gender change appears to provide an impetus leading to differing levels of strategic change. When

accounting for the moderating role of the external environment, a mediating effect can be observed in relation to post-succession strategic change between CEO succession with gender change and subsequent long-term firm performance. Specifically, environmental dynamism and firm ownership (private versus state) moderate the relationship between CEO succession with gender change and strategic change. When environmental boundary conditions are considered and a comprehensive longer-term approach is taken to measuring strategic change, CEO succession with gender change can yield beneficial strategic changes that bolster firm performance.

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Table I. Descriptive Statistics and Correlations (Chinese sample)

	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Tobin's Q	2.11	2.34	0.08	56.06	1.00													
2 Strategic Change	0.00	0.24	-2.73	1.84	0.01	1.00												
3 Female-to-male CEO succession	0.05	0.22	0	1	0.01	0.02	1.00											
4 Male-to-female CEO succession	0.06	0.23	0	1	0.01	0.01	-0.01	1.00										
5 Environmental dynamism	0.16	0.14	0.00	0.60	-0.17	-0.02	-0.02	0.00	1.00									
6 Firm Ownership	0.47	0.50	0	1	-0.20	-0.06	-0.03	0.00	0.20	1.00								
7 Firm Size	21.82	1.17	15.58	27.70	-0.43	-0.01	-0.01	-0.01	0.02	0.27	1.00							
8 Firm Age	2.56	0.40	0.69	3.61	-0.05	-0.10	0.02	0.02	-0.06	0.11	0.14	1.00						
9 Financial Leverage	0.48	0.28	0.01	8.61	-0.17	0.07	0.01	0.00	0.14	0.18	0.20	0.15	1.00					
10 CEO Education	3.42	0.85	1	5	0.00	-0.01	0.02	0.02	0.02	0.09	0.12	0.02	0.02	1.00				
11 CEO Duality	0.20	0.40	0	1	0.11	0.02	-0.01	-0.02	-0.10	-0.23	-0.11	-0.06	-0.09	-0.01	1.00			
12 CEO Tenure (months)	40.65	35.96	0	232	0.14	-0.01	-0.05	-0.06	-0.30	-0.15	0.10	0.13	-0.12	0.00	0.20	1.00		
13 CEO Ownership	0.03	0.10	0	0.71	0.18	0.07	0.00	-0.02	-0.13	-0.29	-0.14	-0.15	-0.18	-0.02	0.44	0.20	1.00	
14 TMT size	1.80	0.36	0	3.33	-0.12	-0.02	-0.03	-0.03	-0.02	0.16	0.27	-0.04	0.06	0.03	-0.02	0.04	0.00	1.00
15 Poor past performance	0.34	0.47	0	1	-0.06	0.06	0.00	-0.01	-0.03	-0.07	-0.05	-0.13	-0.09	-0.03	0.04	0.00	0.05	0.02
16 Female director ratio	0.13	0.12	0	0.50	0.06	0.02	0.07	0.06	-0.06	-0.17	-0.10	0.05	-0.03	-0.03	0.09	0.10	0.10	-0.09
17 Female TMT ratio	0.15	0.16	0	0.67	0.10	0.01	0.11	0.05	-0.05	-0.17	-0.13	0.05	-0.04	-0.03	0.08	0.05	0.07	-0.12
18 Outsider succession	0.26	0.44	0	1	-0.01	0.04	0.04	-0.02	-0.12	0.13	-0.22	0.06	-0.08	-0.01	0.20	0.10	0.04	-0.09
19 CEO-TMT similarity	0.03	0.45	-1.39	2.27	-0.07	0.02	0.02	0.05	-0.22	0.23	0.19	-0.14	-0.07	0.02	-0.04	0.15	0.16	0.03
20 Predecessor rare event	0.00	0.06	0	1	0.01	0.02	0.25	0.34	-0.03	-0.03	-0.03	0.02	-0.01	0.02	0.00	-0.03	0.00	-0.03
	15	16	17	18	19	20												
15 Poor past performance	1.00																	
16 Female director ratio	0.00	1.00																
17 Female TMT ratio	-0.05	0.33	1.00															
18 Outsider succession	-0.07	0.01	0.09	1.00														
19 CEO-TMT similarity	0.10	0.27	-0.18	0.11	1.00													
20 Predecessor rare event	-0.02	0.05	0.05	-0.02	0.24	1.00												

Notes: $N = 3,577$. All correlations above $|.02|$ are significant at $p < .05$, two-tailed.

Table II. Regression Analyses – Moderating Effects of Environmental Dynamism (Chinese sample)

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Strategic Change (t+1)				Tobin's Q (t+2)		
Female-to-male CEO succession		0.368 (0.000)	0.126 (0.783)			2.349 (0.031)	
Male-to-female CEO succession				0.163 (0.005)	0.482 (0.000)		1.602 (0.001)
Strategic Change						0.196 (0.042)	0.319 (0.076)
Environmental dynamism			-0.021 (0.391)		-0.036 (0.492)		
Female-to-male CEO succession × Environmental dynamism			4.782 (0.000)				
Male-to-female CEO succession × Environmental dynamism					-3.538 (0.000)		
Firm Size	0.011 (0.000)	0.010 (0.000)	0.007 (0.000)	0.011 (0.000)	0.007 (0.000)	0.729 (0.000)	0.729 (0.000)
Firm Age	-0.003 (0.000)	-0.003 (0.000)	-0.001 (0.161)	-0.003 (0.000)	-0.001 (0.131)	-0.030 (0.634)	-0.031 (0.629)
Financial Leverage	0.062 (0.000)	0.062 (0.000)	0.030 (0.000)	0.062 (0.000)	0.030 (0.000)	-0.790 (0.000)	-0.789 (0.000)
CEO Education	0.000 (0.375)	0.000 (0.380)	0.000 (0.490)	0.000 (0.393)	0.000 (0.601)	0.051 (0.072)	0.051 (0.073)
CEO Duality	0.002 (0.011)	0.002 (0.010)	0.002 (0.037)	0.002 (0.010)	0.002 (0.036)	0.012 (0.857)	0.012 (0.851)
CEO Tenure (months)	-0.000 (0.062)	-0.000 (0.077)	-0.000 (0.009)	-0.000 (0.073)	-0.000 (0.012)	0.000 (0.992)	0.000 (0.969)
CEO Ownership	0.005 (0.195)	0.005 (0.193)	0.002 (0.530)	0.005 (0.190)	0.003 (0.474)	1.086 (0.000)	1.087 (0.000)
TMT size	-0.005 (0.000)	-0.005 (0.000)	-0.002 (0.027)	-0.005 (0.000)	-0.002 (0.032)	-0.140 (0.046)	-0.140 (0.046)
Poor past performance	0.001 (0.385)	0.001 (0.407)	0.001 (0.354)	0.001 (0.384)	0.001 (0.330)	-0.408 (0.000)	-0.408 (0.000)
Female director ratio	0.007 (0.033)	0.007 (0.037)	0.007 (0.027)	0.007 (0.036)	0.007 (0.028)	-0.160 (0.484)	-0.163 (0.477)
Female TMT ratio	0.001 (0.550)	0.001 (0.594)	-0.001 (0.738)	0.001 (0.619)	-0.001 (0.563)	0.506 (0.003)	0.500 (0.003)
Outsider succession	-0.013 (0.097)	-0.012 (0.103)	-0.012 (0.098)	-0.099 (0.086)	-0.014 (0.093)	-0.013 (0.090)	-0.010 (0.087)
CEO-TMT similarity	0.006 (0.251)	0.010 (0.369)	-0.001 (0.459)	-0.008 (0.410)	0.001 (0.499)	-0.003 (0.304)	0.001 (0.278)
Predecessor rare event	0.018 (0.004)	0.013 (0.051)	-0.016 (0.073)	0.016 (0.010)	-0.014 (0.103)	-0.121 (0.816)	-0.183 (0.708)
Constant	0.242 (0.000)	0.242 (0.000)	0.180 (0.000)	0.242 (0.000)	0.180 (0.000)	18.884 (0.000)	18.890 (0.000)
Adjusted R-squared	0.195	0.205	0.246	0.205	0.249	0.440	0.440

Notes: $N = 3,577$, p -values in parentheses, two-tailed tests. Industry and year dummies are included.

Table III. Regression Analyses – Moderating Effects of Firm Ownership (Chinese sample)

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
		Strategic Change (t+1)				Tobin's Q (t+2)	
Female-to-male CEO succession		0.368 (0.000)	0.296 (0.000)			2.349 (0.031)	
Male-to-female CEO succession				0.163 (0.005)	0.216 (0.003)		1.602 (0.001)
Strategic Change						0.196 (0.042)	0.319 (0.076)
Firm ownership			-0.027 (0.109)		-0.045 (0.386)		
Female-to-male CEO succession × Firm Ownership			0.494 (0.000)				
Male-to-female CEO succession × Firm Ownership					-0.221 (0.000)		
Firm Size	0.011 (0.000)	0.010 (0.000)	0.010 (0.000)	0.011 (0.000)	0.010 (0.000)	0.729 (0.000)	0.729 (0.000)
Firm Age	-0.003 (0.000)	-0.003 (0.000)	-0.003 (0.003)	-0.003 (0.000)	-0.003 (0.002)	-0.030 (0.634)	-0.031 (0.629)
Financial Leverage	0.062 (0.000)	0.062 (0.000)	0.063 (0.000)	0.062 (0.000)	0.063 (0.000)	-0.790 (0.000)	-0.789 (0.000)
CEO Education	0.000 (0.375)	0.000 (0.380)	0.001 (0.192)	0.000 (0.393)	0.001 (0.198)	0.051 (0.072)	0.051 (0.073)
CEO Duality	0.002 (0.011)	0.002 (0.010)	0.002 (0.029)	0.002 (0.010)	0.002 (0.031)	0.012 (0.857)	0.012 (0.851)
CEO Tenure (months)	-0.000 (0.062)	-0.000 (0.077)	-0.000 (0.060)	-0.000 (0.073)	-0.000 (0.057)	0.000 (0.992)	0.000 (0.969)
CEO Ownership	0.005 (0.195)	0.005 (0.193)	0.003 (0.485)	0.005 (0.190)	0.003 (0.490)	1.086 (0.000)	1.087 (0.000)
TMT size	-0.005 (0.000)	-0.005 (0.000)	-0.005 (0.000)	-0.005 (0.000)	-0.005 (0.000)	-0.140 (0.046)	-0.140 (0.046)
Poor past performance	0.001 (0.385)	0.001 (0.407)	0.001 (0.410)	0.001 (0.384)	0.001 (0.378)	-0.408 (0.000)	-0.408 (0.000)
Female director ratio	0.007 (0.033)	0.007 (0.037)	0.005 (0.099)	0.007 (0.036)	0.005 (0.097)	-0.160 (0.484)	-0.163 (0.477)
Female TMT ratio	0.001 (0.550)	0.001 (0.594)	0.001 (0.700)	0.001 (0.619)	0.001 (0.735)	0.506 (0.003)	0.500 (0.003)
Outsider succession	-0.013 (0.097)	-0.012 (0.103)	-0.018 (0.098)	-0.099 (0.086)	-0.011 (0.083)	-0.013 (0.090)	-0.010 (0.087)
CEO-TMT similarity	0.006 (0.251)	0.010 (0.369)	0.002 (0.258)	-0.008 (0.410)	-0.005 (0.437)	-0.003 (0.304)	0.001 (0.278)
Predecessor rare event	0.018 (0.004)	0.013 (0.051)	0.012 (0.067)	0.016 (0.010)	0.016 (0.011)	-0.121 (0.816)	-0.183 (0.708)
Constant	0.242 (0.000)	0.242 (0.000)	0.233 (0.000)	0.242 (0.000)	0.234 (0.000)	18.884 (0.000)	18.890 (0.000)
Adjusted R-squared	0.195	0.205	0.297	0.205	0.298	0.440	0.440

Notes: $N = 3,577$, p -values in parentheses, two-tailed tests. Industry and year dummies are included.

Table IV. Descriptive Statistics and Correlations (United States sample)

	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Tobin's Q	1.48	1.16	0.03	10.95	1.00													
2 Strategic Change	-0.01	0.30	-3.18	2.96	0.00	1.00												
3 Female-to-male CEO succession	0.02	0.14	0	1	-0.01	0.01	1.00											
4 Male-to-female CEO succession	0.03	0.18	0	1	-0.01	0.01	-0.01	1.00										
5 Environmental dynamism	0.25	0.58	0.00	0.80	0.08	-0.03	-0.01	-0.01	1.00									
6 Firm Size	7.20	1.63	1.05	11.86	-0.12	-0.02	0.00	0.01	-0.08	1.00								
7 Firm Age	2.36	0.68	1.10	4.62	-0.04	0.03	-0.01	0.01	-0.15	0.09	1.00							
8 Financial Leverage	0.21	0.20	0	11.00	-0.18	0.02	-0.02	-0.01	-0.09	0.23	0.01	1.00						
9 CEO Education	3.26	1.05	1	5	0.01	-0.02	0.01	-0.00	0.05	0.04	-0.04	-0.03	1.00					
10 CEO Duality	0.54	0.50	0	1	-0.02	-0.00	-0.01	-0.02	0.03	0.12	-0.16	-0.01	-0.01	1.00				
11 CEO Tenure (months)	49.95	66.68	0	363	0.08	0.05	-0.05	-0.06	0.04	-0.11	0.07	-0.09	-0.02	0.08	1.00			
12 CEO Ownership	0.03	0.09	0	1	0.06	0.02	-0.01	-0.01	0.02	-0.04	-0.12	-0.03	-0.05	0.18	0.20	1.00		
13 TMT size	1.71	0.26	0	3.69	0.00	-0.02	0.04	0.04	0.05	0.20	-0.11	0.09	0.03	0.05	-0.19	0.00	0.00	
14 Poor past performance	0.12	0.32	0	1	0.08	-0.02	-0.03	-0.04	0.02	0.07	0.03	-0.01	0.02	0.10	0.17	0.00	0.01	1.00
15 Female director ratio	0.12	0.11	0	0.44	0.02	0.12	0.09	0.03	0.07	0.25	0.05	-0.08	-0.03	0.23	0.19	0.01	0.05	-0.02
16 Female TMT ratio	0.07	0.12	0	0.50	0.03	0.05	0.11	-0.07	0.34	0.13	-0.13	0.03	0.01	0.11	0.28	0.00	0.04	-0.03
17 Outsider succession	0.32	0.47	0	1	-0.05	0.26	-0.02	-0.19	0.02	-0.12	0.18	-0.13	0.03	0.19	-0.18	0.02	-0.01	0.05
18 CEO-TMT similarity	0.02	0.38	-1.01	1.57	-0.03	0.12	0.09	-0.01	0.03	0.17	-0.08	-0.01	-0.02	-0.11	0.17	0.00	0.01	0.02
19 Predecessor rare event	0.00	0.03	0	1	0.02	-0.01	0.03	0.01	0.05	-0.02	-0.08	-0.01	-0.01	0.10	-0.14	0.01	-0.08	-0.01
	15	16	17	18	19													
15 Female director ratio	1.00																	
16 Female TMT ratio	0.05	1.00																
17 Outsider succession	0.08	0.23	1.00															
18 CEO-TMT similarity	-0.01	0.12	0.11	1.00														
19 Predecessor rare event	0.04	0.17	0.08	-0.03	1.00													

Notes: $N = 4,874$. All correlations above $|.018|$ are significant at $p < .05$, two-tailed tests.

Table V. Regression Analyses - Moderating Effects of Environmental Dynamism (United States sample)

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
			Strategic Change (t+1)			Tobin's Q (t+2)	
Female-to-male CEO succession		0.038 (0.023)	0.019 (0.081)			0.188 (0.098)	
Male-to-female CEO succession				0.082 (0.090)	0.070 (0.025)		0.301 (0.022)
Strategic Change						0.257 (0.019)	0.340 (0.035)
Environmental dynamics			-0.108 (0.297)		-0.053 (0.169)		
Female-to-male CEO succession × Environmental dynamism			0.105 (0.071)				
Male-to-female CEO succession × Environmental dynamism					-1.268 (0.020)		
Firm Size	0.006 (0.000)	0.006 (0.000)	0.003 (0.000)	0.006 (0.000)	0.003 (0.000)	1.142 (0.000)	1.142 (0.000)
Firm Age	-0.000 (0.876)	-0.000 (0.873)	-0.000 (0.668)	-0.000 (0.866)	-0.001 (0.583)	0.024 (0.872)	0.025 (0.872)
Financial Leverage	0.034 (0.000)	0.034 (0.000)	0.013 (0.000)	0.034 (0.000)	0.013 (0.000)	0.013 (0.954)	0.014 (0.952)
CEO Education	0.000 (0.350)	0.000 (0.355)	0.000 (0.291)	0.000 (0.371)	0.000 (0.343)	0.104 (0.095)	0.104 (0.094)
CEO Duality	0.003 (0.000)	0.003 (0.000)	0.003 (0.002)	0.003 (0.000)	0.003 (0.001)	-0.126 (0.366)	-0.127 (0.364)
CEO Tenure (months)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.001 (0.604)	-0.001 (0.606)
CEO Ownership	0.001 (0.806)	0.001 (0.802)	0.001 (0.797)	0.001 (0.798)	0.001 (0.806)	1.008 (0.120)	1.008 (0.120)
TMT size	-0.005 (0.000)	-0.005 (0.000)	-0.004 (0.000)	-0.005 (0.000)	-0.004 (0.000)	0.027 (0.859)	0.028 (0.857)
Poor past performance	-0.000 (0.575)	-0.000 (0.552)	-0.001 (0.111)	-0.000 (0.585)	-0.001 (0.142)	-0.156 (0.224)	-0.157 (0.222)
Female director ratio	0.009 (0.005)	0.008 (0.006)	0.008 (0.019)	0.008 (0.006)	0.008 (0.017)	-0.335 (0.486)	-0.335 (0.486)
Female TMT ratio	0.003 (0.234)	0.003 (0.248)	0.003 (0.283)	0.003 (0.274)	0.003 (0.341)	0.763 (0.036)	0.766 (0.035)
Outsider succession	-0.117 (0.003)	-0.134 (0.002)	-0.142 (0.003)	-0.122 (0.001)	-0.136 (0.002)	-0.123 (0.000)	-0.129 (0.002)
CEO-TMT similarity	-0.005 (0.354)	-0.000 (0.249)	0.001 (0.568)	-0.002 (0.357)	-0.001 (0.437)	-0.001 (0.476)	-0.002 (0.375)
Predecessor rare event	0.002 (0.742)	-0.002 (0.791)	-0.022 (0.029)	-0.001 (0.875)	-0.018 (0.081)	-0.278 (0.765)	-0.278 (0.765)
Constant	0.147 (0.000)	0.147 (0.000)	0.102 (0.000)	0.147 (0.000)	0.102 (0.000)	25.007 (0.000)	25.005 (0.000)
Adjusted R-squared	0.158	0.159	0.194	0.158	0.193	0.267	0.267

Notes: $N = 4,874$, p -values in parentheses, two-tailed tests. Industry and year dummies are included.

Figure 1. Female-to-Male CEO Succession Predicting Strategic Change Moderated by Environmental Dynamism (China)

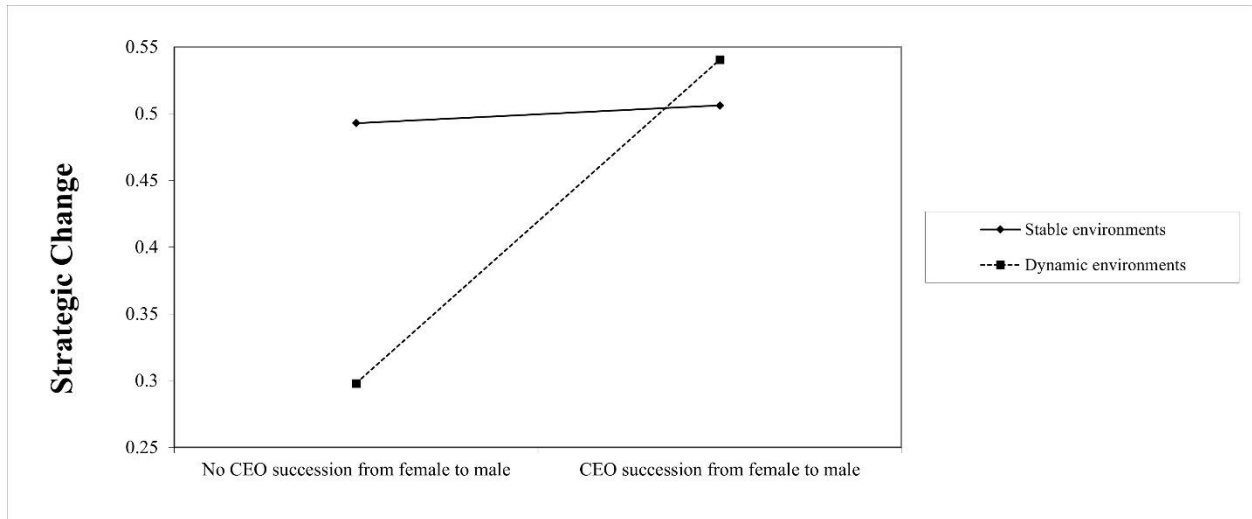


Figure 2. Male-to-Female CEO Succession on Predicting Strategic Change Moderated by Environmental Dynamism (China)

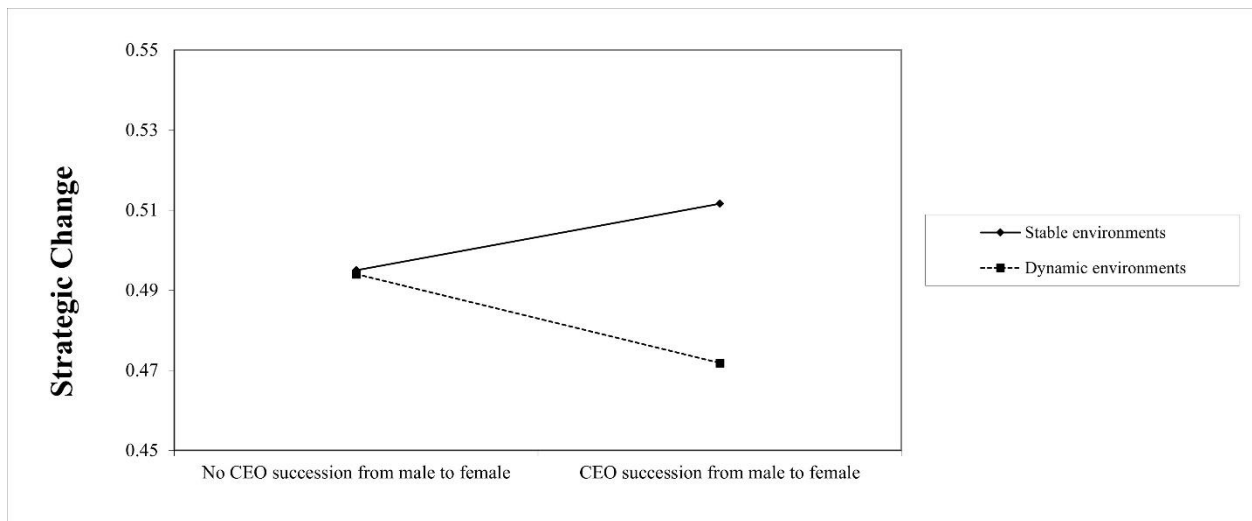


Figure 3. Female-to-Male CEO Succession Predicting Strategic Change Moderated by Firm Ownership (China)

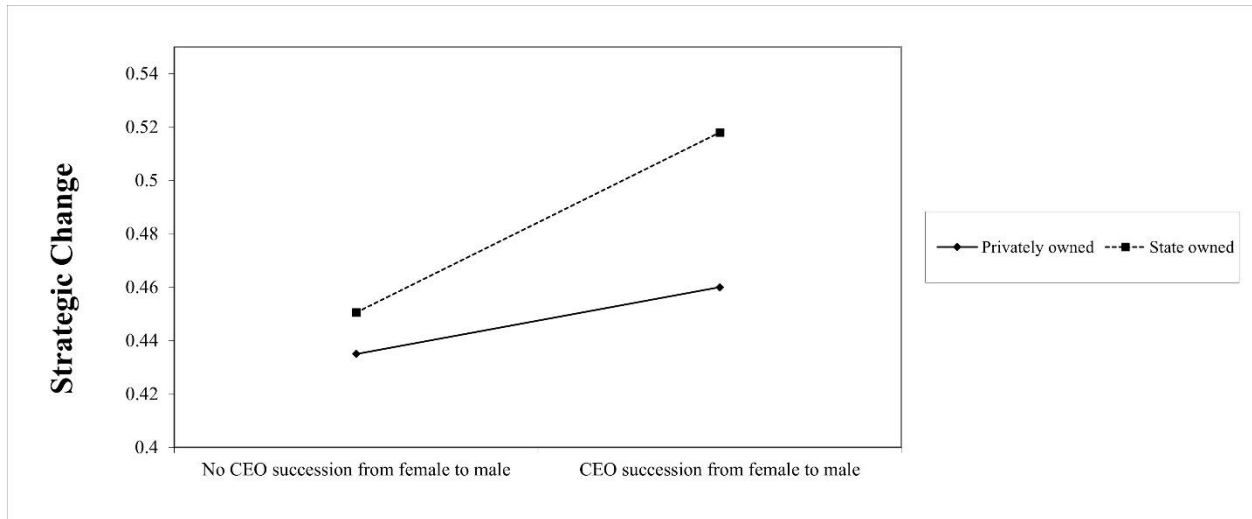


Figure 4. Male-to-Female CEO Succession Predicting Strategic Change Moderated by Firm Ownership (China)

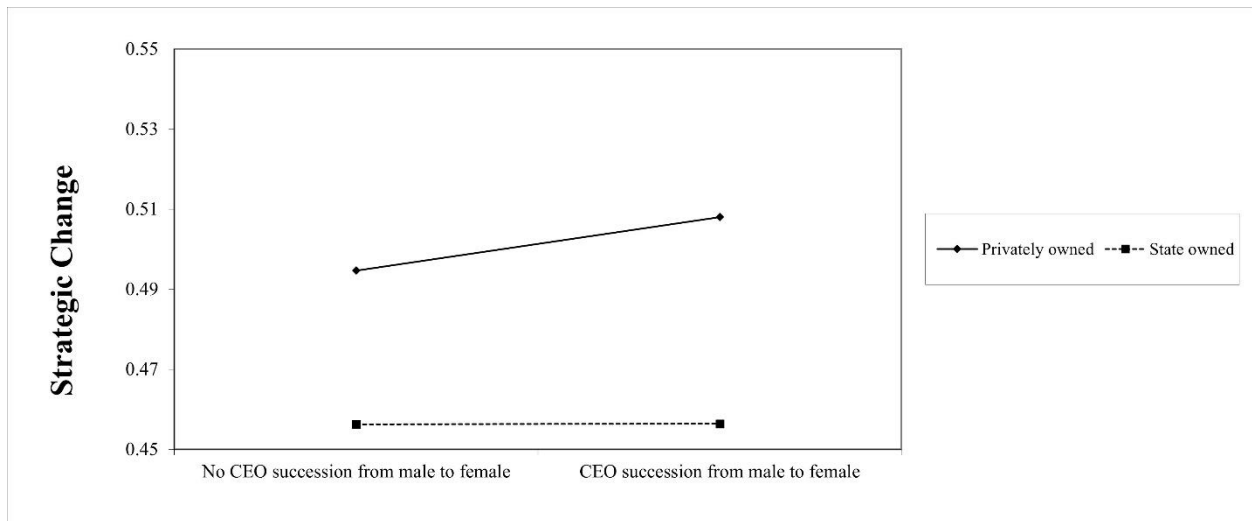


Figure 5. Female-to-Male CEO Succession Predicting Strategic Change Moderated by Environmental Dynamism (U.S.)

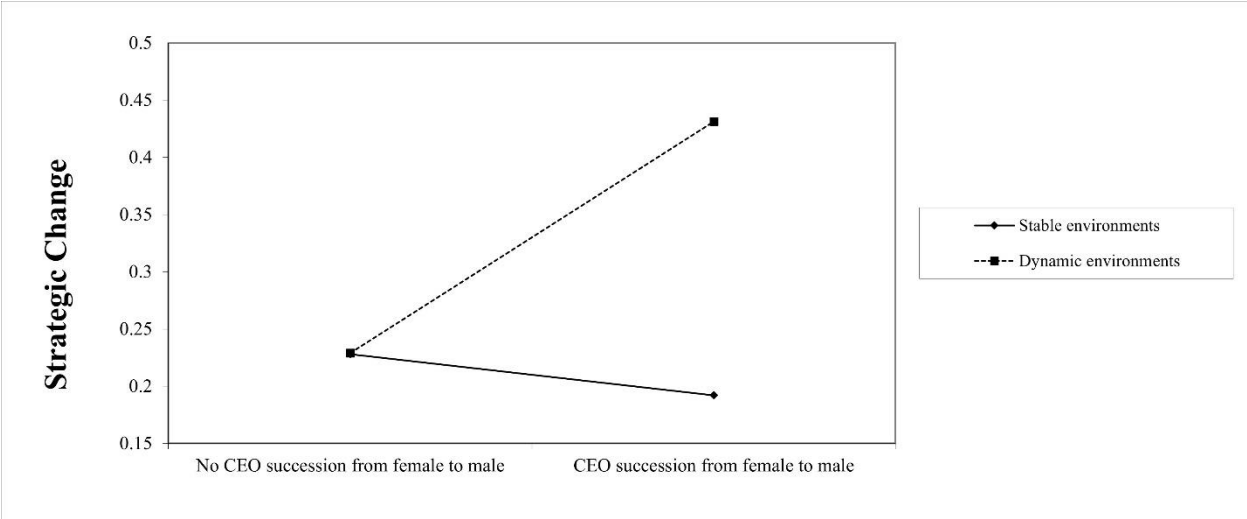
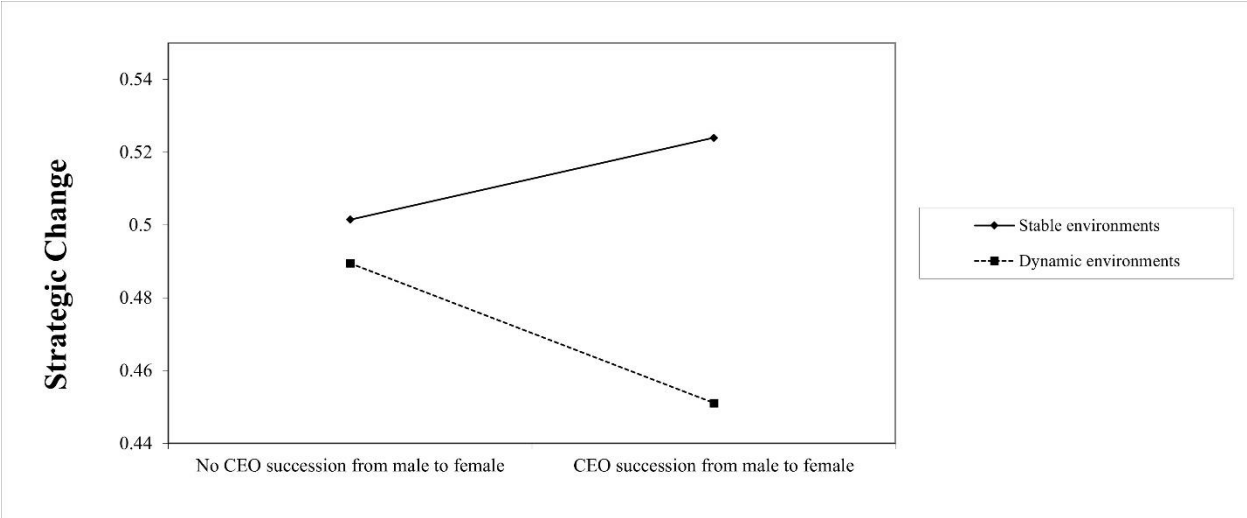


Figure 6. Male-to-Female CEO Succession Predicting Strategic Change Moderated by Environmental Dynamism (U.S.)



APPENDIX 1

Distribution of Predecessor-Successor CEO Gender Combinations

Year	Number of male-to-female successions		Number of female-to-male successions	
	Our Chinese Sample	Zhang and Qu (2016)	Our Chinese Sample	Zhang and Qu (2016)
1997		1		0
1998		8		8
1999		12		11
2000		10		10
2001		14		11
2002		12		11
2003		8		14
2004		12		10
2005	10	11	4	5
2006	10	10	10	12
2007	13	13	12	12
2008	8	8	5	6
2009	16	17	11	11
2010	22	23	9	9
2011	10		13	
2012	12		12	
2013	11		16	
2014	14		15	
2015	16		19	
2016	15		18	
2017	20		20	
2018	19		19	
Total	196	159	183	130