



# She'-E-O Compensation Gap: A Role Congruity View

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## Abstract

Is there a compensation gap between female CEOs (She'-E-Os) and male CEOs? If so, are there mechanisms to mitigate the compensation gap? Extending role congruity theory, we argue that the perception mismatch between the female gender role (that assumes communal traits) and the leadership role (that assumes agentic traits) may lead to lower compensation to female CEOs, resulting in a gender compensation gap. Nevertheless, the compensation gap may be narrowed if female CEOs display agentic traits through risk-taking, or alternatively, work in female-dominated industries where communal traits are valued. Additionally, we expect that female CEOs' risk-taking is less effective in reducing the gender compensation gap in female-dominated industries due to the conflicting emphases on agentic and communal traits. Leveraging a sample of Chinese publicly listed firms, we find support for our hypotheses. Overall, this study contributes to the ethics literature on income inequality issues, by highlighting the effectiveness of potential mechanisms to close the gender compensation gap between female and male CEOs.

**Keywords** Gender compensation gap · Agentic traits · Communal traits · Female CEOs · Female-dominated industry · Risk-taking · Role congruity theory

## Introduction

The gender compensation gap has been a long-standing ethical issue underlying income inequality in society (Beal and Astakhova 2017; Lips 2013). As management scholars have started to advance our understanding of income inequality in the business context (George 2014; Walsh 2008), the gender issue has also attracted attention (Leslie et al. 2017; Lips 2013). For instance, the pay gap between men and women varies on job levels (Blau and Kahn 2017; Cohen et al.

2009), and interestingly the gap is wider in the top positions (Economist 2017).

To uncover the main sources of gender compensation gap, an emerging body of literature has investigated the effect of gender on pay at the executive levels (Bugeja et al. 2012; Gao et al. 2016; Hill et al. 2015; Ho et al. 2015; Kulich et al. 2011; Leslie et al. 2017; Mohan and Ruggiero 2007). Following this line of research, we endeavor to provide a more nuanced understanding of the gender pay gap at the very top and specifically focus on the chief executive officer (CEO) position. Compared with male CEOs, female CEOs—or “She'-E-Os” (Lee and James 2007)—have been shown to earn less, resulting in a gender compensation gap (Bertrand and Hallock 2001; Elkinawy and Stater 2011; Mohan and Ruggiero 2003; Vieito and Khan 2012).

Empirical evidence on female CEOs' compensation thus far has been largely gathered from developed economies (DE), leaving open the question of how female CEOs are compensated in emerging economies (EE) (Lam et al. 2013; Zhang and Qu 2016). Given that more women emerge as business leaders in EE—notably in one of the largest EE, China (Forbes 2012; Time 2014)—and that the pay to executives in China is determined differently from that in DE (Luo et al. 2017; Peng et al. 2015), it is therefore important to ask

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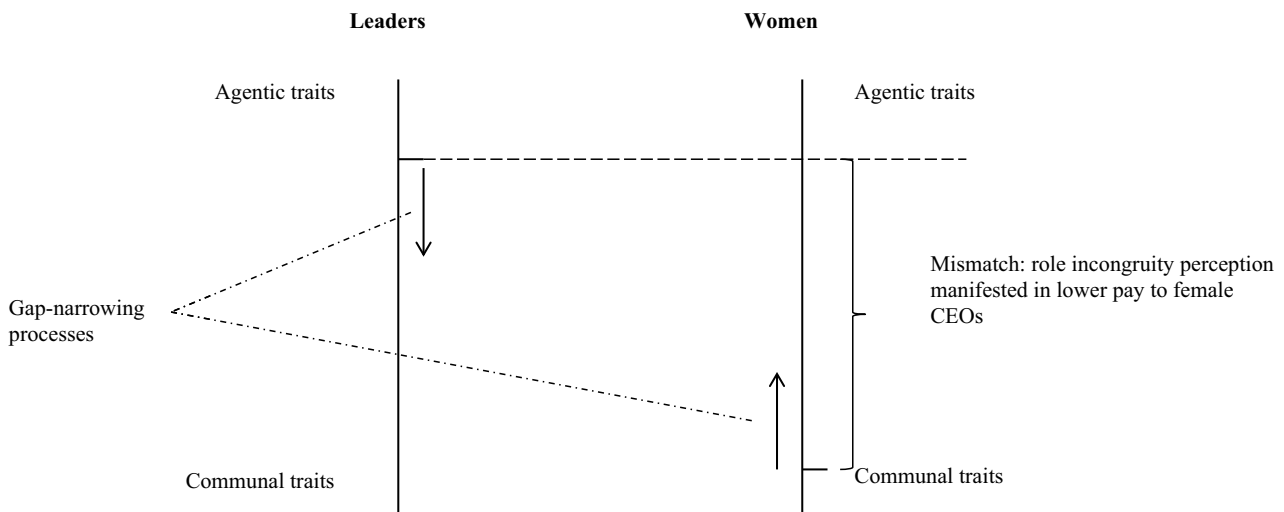


Fig. 1 Conceptual illustration

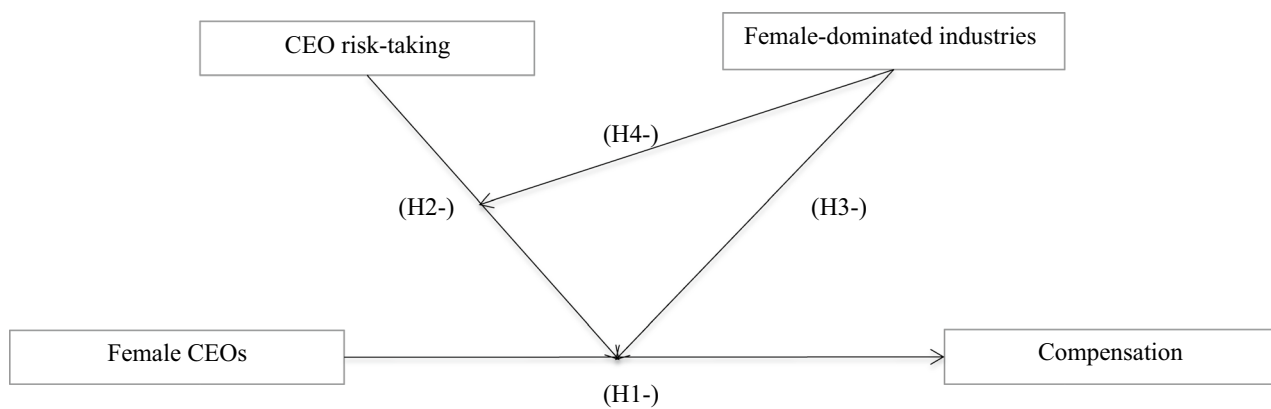


Fig. 2 Theoretical model

previously underexplored questions: How are women compensated once they ascend to the CEO position in China? Is there a compensation gap between female and male CEOs in China? If so, are there mechanisms to mitigate the compensation gap?

Extending role congruity theory (Eagly and Karau 2002), we consider CEO compensation in EE as a reflection of organizational attitudes toward the fit between the CEO characteristics and the leadership position. Stereotypical leaders are expected to have agentic traits such as aggressiveness, competitiveness, and independence, which are generally considered male qualities (Wrangham and Peterson 1996). In contrast, women are typically considered as more compassionate, inclusive, and sympathetic to others' needs, which are communal traits that are seen incompatible with agentic requirements (Eagly and Karau 2002; Kulich et al. 2011; Rosette and Tost 2010). Therefore, women in the CEO position may be viewed as role incongruent and

consequently paid less than male CEOs. Overall, the gender gap in CEO pay may result from a perceived mismatch between the female gender role and the leadership role.

Despite this perceived mismatch for women at the top, we propose that the perception toward female CEOs may be altered through two mechanisms: (1) female CEOs behaviorally align with the agentic requirements for leadership positions by exhibiting risk-taking behaviors, and (2) women contextually align with the CEO position in female-dominated industries, where the prerequisites for leaders likely incorporate communal needs. These two mechanisms may narrow the gender gap in CEO pay separately, and are labeled as gap-narrowing processes (Fig. 1). However, risk-taking in female-dominated industries may engender conflicting emphases on agentic and communal traits that add to the role incongruity view (Fig. 2). Our hypotheses are supported with a sample of 5416 firm-year observations of publicly listed firms between 2004 and 2010 in one of the

largest EE—China. Our empirical results show that both female CEOs' risk-taking in general (behavioral fit) and their presence in female-dominated industries (contextual fit) tend to narrow the gender compensation gap, whereas their risk-taking in female-dominated industries is likely to hinder the gap-narrowing processes.

We endeavor to make three contributions. First, theoretically building on role congruity theory, we provide a novel angle to understand the pay disparities between female and male CEOs (Hill et al. 2015). Going beyond corroborating the existence of the gender compensation gap at the top, we develop and test a theoretical framework that demonstrates the possible behavioral and contextual factors that may mitigate the effect of incongruity view of the female gender role and the leadership role, subsequently narrowing the gender gap in CEO pay.

Second, our inquiry offers a tentative answer to the ongoing debate over whether female leaders' agentic behaviors are likely to increase the perceived fit or alternatively may lead to backlash (Eagly and Karau 2002; Heilman et al. 2004). We posit that the fulfillment of agentic requirements per se engenders positive evaluation of female leaders as the female gender role and the leadership role are aligned (Wessel et al. 2015). However, the demonstration of agentic attributes in contexts where communal needs are more pronounced, such as in female-dominated industries, may produce unfavorable attitudes toward female CEOs.

Third, mirroring the recent research attention revolving around ethics on the lack of women in top positions (Gao et al. 2016; Joecks et al. 2013), this paper continues this moral lens and further raises the awareness on another related dimension: pay to female leaders. Incorporating role congruity theory into CEO compensation studies, we echo the ethics literature on income inequality (Beal and Astakhova 2017; Neron 2015; Walsh 2008). Equal pay to all competent people commensurate with their work—regardless of gender—has an important bearing on issues of social justice and fairness (McGuinness 2016). We thus contribute to the ethics literature by highlighting the effectiveness of different pay gap-narrowing mechanisms.

## Role Congruity Theory

Grounded in social role theory, role incongruity theory considers “the congruity between gender roles and other roles, especially leadership roles” (Eagly and Karau 2002, p. 575). Gender roles are established beliefs about the stereotypical attributes of women and men, who are supposed to have divergent attributes and behavioral preferences (Wrangham and Peterson 1996). According to role congruity theory and in line with socially shared expectations, women are generally expected to have stronger communal traits, primarily

a concern for others, such as care, helpfulness, sympathy, and gentleness (Oakley 2000; Heilman and Okimoto 2007). Their interpersonal orientation also leads to behaviors with less aggressiveness, less competitiveness, and less riskiness (Chen et al. 2016a, b; Ho et al. 2015). On the contrary, men are more often associated with agentic traits, such as ambition, dominance, force, and independence (Heilman et al. 1989; Nekhili et al. 2016; Oakley 2000). Their confident and controlling tendency often results in aggressive, competitive, and risky behaviors (Huang and Kisgen 2013). It is these communal and agentic traits and behavioral patterns corresponding to women and men, respectively, that breed potential differed perceptions of fit of women vis-à-vis men for leadership positions.

Leadership is also argued to be a social construct that is laden with established perceptions (Lanaj and Hollenbeck 2015). A leader is expected to be influential and dominant, which are typical agentic qualities aligned with male rather than female characteristics (Kulich et al. 2011). Research has shown that stereotypes of leaders are decidedly masculine (Lee and James 2007). For instance, leadership positions often involve tasks and responsibilities that require attributes and behaviors that are aggressive, assertive, and competitive, which are congruent with male characteristics. However, the expected characteristics accorded to women are communal in essence and contradict the perceived demands of leadership that emphasize agentic qualities (Heilman et al. 1989; Koenig et al. 2011). Such contradictions influence the perceptions about women's suitability as leaders.

As widely documented, women often face barriers advancing to positions of leadership (Bertrand and Hallock 2001; Luo et al. 2017; Vecchio 2002) and encounter considerable challenges even after they ascend to the executive ranks (Nekhili et al. 2016). These challenges include low recognition and underappreciation (Luo et al. 2017), negative evaluations from market investors (Jeong and Harrison 2017), higher rates of job turnover (Hill et al. 2015), shorter tenures (Zhang and Qu 2016), and lower levels of compensation (Blau and Kahn 2000)—on the last of which we focus next.

## Female CEOs' Compensation in China

Building upon role congruity theory, we propose that the stereotypical views toward the female gender role and the leadership role may lead to a lower valuation of and consequently lower compensation for female CEOs in China, for two reasons.

First, the very fact that women succeed in attaining CEO appointments does not preclude the post-appointment stereotypes that they face in the top positions (Nekhili et al. 2016). Owing to the infrequency with which women are named to

leadership positions (Gao et al. 2016; Iseke and Pull, 2017; Lee and James 2007), female CEOs face more scrutiny and skepticism (Abdullah et al. 2016; Hoobler et al. 2016). In tandem with the preconceived beliefs about the female gender role, increased attention to female leadership may further generate skepticism and criticism such that women's expertise is more likely to be discounted (Oakley 2000; Ryan and Haslam 2007). Overall the existence of women at the top is less appreciated, potentially resulting in penalization, notably in the form of lower pay (Lanaj and Hollenbeck 2015).

Second, the perception of role incongruity is even more likely to negatively affect female CEOs in China because of the nature of weak corporate governance (Abdullah et al. 2016; Luo et al. 2017). China has been going through institutional transitions not only in market competition, but also in corporate governance (Mutlu et al. 2018). These transitions result in uncertainties and a lack of transparency on how CEO compensation is determined (Adithipyangkul et al. 2011; Peng 2003; Su et al. 2016). Specifically, in EE the exact process of setting executives' compensation is generally less formalized (Markóczy et al. 2013; Peng et al. 2015). For example, Ghosh (2006, p. 87) uncovers the pay to Indian CEOs is less tied to firm performance but more related to the leaders' "firm loyalty," which tends to be subjective and at the discretion of evaluators. In the similar vein, the pay-setting practices of firms in China are rather opaque (Firth et al. 2006), leaving room for the perceptual biases to come into play. Therefore, the perceptual biases and the resulting role incongruity view toward female CEOs are more likely to be manifested in the subjective pay-setting contexts.

In summary, stereotypical perceptions about the female gender role and the leadership role are likely to result in a compensation gap for female CEOs in China. Specifically,

**H1** Female CEOs are paid less compared with male CEOs in China.

## Gap-Narrowing Processes

We have argued that the lower compensation to female CEOs in China indicates a perceived role incongruity between women (communal traits) and leaders (agentic traits). Nevertheless, this incongruity perception is not invariable. The role incongruity view and the subsequent gender compensation gap may be mitigated through two channels. First, female leaders may display agentic traits and behaviors that are not in line with the conventional expectations accorded to women in general. Specifically, deviating from the presumption that women lack the agentic attributes required in leadership may prove to be beneficial to female CEOs. This is because meeting the agentic requirements can improve the perception of fit for women at the top (Wessel et al. 2015).

This paper particularly emphasizes women's behavioral fulfillment of agentic requirements for leaders and identifies the effect of behavioral alignment in narrowing the gender pay gap.

Second, the expected degree of agentic qualities of leaders may vary across contexts (Eagly and Karau 2002; Hoobler et al. 2016; Lee and James 2007; Nekhili et al. 2016). Situating in a context that requires less agentic qualities and instead appreciates communal skills, female CEOs may be more likely to experience reduced role incongruity (Koenig et al. 2011). Thus, we also propose a contextual alignment perspective in reducing the gender compensation gap. Next, we will elaborate on two gap-narrowing processes: behavioral alignment and contextual alignment.

## Behavioral Alignment—CEO Risk-Taking and Compensation

We argue that through behavioral alignment, the perception mismatch of women as leaders can be mitigated. We center on the behavioral cues that reveal women's agentic qualities to meet the preconceived job-related requirements—specifically, risk-taking, a strategic choice desirable for and expected from corporate leaders (Chng and Wang 2016; Sanders and Hambrick 2007). Risk-taking behaviors of corporate executives are generally valued (Eisenhardt 1989; Hoskisson et al. 1993). Some firms even design compensation practices to further encourage managers' strategic risk-taking behaviors (Chng et al. 2012; Chng and Wang 2016). Therefore, leaders' risk-taking behaviors can be a salient signal for firms to evaluate the fit between the CEO characteristics and the leadership position.

Prior studies have documented a systematic difference in risk preferences between men and women (Chen et al. 2016a, b; Faccio et al. 2016; Palvia et al. 2015; Vieito and Khan 2012). The conclusion, drawn from a broad range of contexts and tasks, is that women in general are more risk-averse, while men typically are more risk-seeking (Blau and Kahn 2017; Byrnes et al. 1999; Jeong and Harrison 2017). As a result, the conventional perception of women's risk-taking propensity precipitates the role incongruity view on female leaders.

In contrast, female CEOs' risk-taking may supply an important behavioral signal about their abilities to fulfill the agentic requirements for the leadership position. In fact, female leaders may be as risk-seeking as male leaders are (Blau and Kahn 2017). Chen et al. (2016a) reiterate that it is problematic to extrapolate the gender difference in risk preferences in the general population to the much smaller and more selective population of senior leadership. In brief, women at the top are not necessarily less risk-seeking than their male counterparts. Supporting this contention, Sun et al. (2015) find that the presence of more female directors

on board actually *increases* bold, countercyclical investments during an economic crisis.

Female CEOs' risk-taking may prompt firms to reevaluate their fit with the leadership role. Fulfilling the behavioral prescriptions inherent in leadership functions, female leaders are thus likely to avert the role incongruity view. For example, Wessel et al. (2015) find that women significantly increase their chance into traditionally masculine occupations if they present themselves as agentic (such as verbalizing themselves showcasing agentic traits). In general, female CEOs who lead firms to take risks are more likely to be perceived as agentic, engendering an improved perception of their suitability as leaders. Thus, the evaluation of the female gender role and the leadership role may be better aligned, leading to improved compensation for female CEOs.

Overall, behaviorally aligning with the leadership position and showcasing agentic qualities, female CEOs may experience improved evaluation of their fit as leaders. As the perception of role incongruity is mitigated, the gender compensation gap in the CEO position may be narrowed. Thus,

**H2** The lower pay to female CEOs is negatively moderated by CEO risk-taking.

### Contextual Alignment—Female-Dominated Industries and Compensation

Mitigating the role incongruity view on female CEOs may also lie in the decreasing requirements of agentic traits for leaders, as there exists “variance in the level of agency associated with leadership roles” (Rosette and Tost 2010, p. 221). In the similar vein, Koenig et al. (2011) advance the notion that the expectation on the agentic qualities of leadership may vary across different organizational contexts. Echoing their propositions, we probe into how industry characteristics in particular may affect the expected leadership qualities and the subsequent evaluation of women in leadership positions.

The need for agentic traits differs across industries (Cumming et al. 2015; Leslie et al. 2017). We expect the perceived demands for leadership may be less agentic and probably be more communal in female-dominated industries, defined as industries with more than 50% female employees and thus women being the major group of stakeholders (Cumming et al. 2015). Representative female-dominated industries include clothing, hotels, retail trade, textile, and tourism. In such industries, we expect that the role incongruity view on female CEOs abates, substantiating Eagly and Karau's (2002, p. 577) statement that “to the extent that leader roles are less masculine, they would be more congruent with the female gender role.” For two reasons, in female-dominated industries, agentic attributes are likely to be downplayed,

whereas communal qualities tend to be incorporated in the requirements for leaders (Leslie et al. 2017).

First, the task environment in female-dominated industries emphasizes the contributions from female employees, who constitute a majority of the workforce (Cumming et al. 2015). Accordingly, female leaders' insight into and understanding of the workforce are essential, because improved internal coordination may result in better solutions to strategic questions concerning customers, employees, and trading partners (Daily et al. 1999). In general, in female-dominated industries, female leaders' perspectives are likely to compensate for the fact that women are not the historically accepted, agentic-behaving leaders. Moreover, women in such industries are considered as better candidates to thoroughly analyze strategic options and improve decision quality, and thus recognized as fit with the leadership position (Koenig et al. 2011). Essentially, female CEOs' deep insights into the workforce may contextually align them with the leadership position. Thus, the role incongruent view of female leaders may wane, leading to a reduced pay gap (Hill et al. 2015).

Second, the role incongruity view may be increasingly unpalatable, considering the pronounced positive spillover effects of female leaders on the lower levels of the firms in female-dominated industries (Dezsö et al. 2016; Iseke and Pull 2017). Studies have documented several benefits toward female subordinates with the presence of female leaders. For instance, McDonald and Westphal (2013) contend that female incumbent directors show greater willingness to help and teach novice female directors. Likewise, female executives would also guide more other female subordinates, building up human resources and thus contributing to firms' overall performance. Moreover, female leaders show more empathy and build more relationships inside firms (Ho et al. 2015), creating a more relationship-oriented (communal) culture that is valued by female employees (Rosette and Tost 2010). We posit that these benefits are more likely to materialize if female leaders themselves encounter reduced stereotypes and improved pay. Otherwise, they are more likely to seek voluntary exit (Oakley 2000), taking away the possible mentoring or relationship-building benefits.

In addition, from the perspective of female employees in female-dominated industries, the presence of female top executives is a critical factor for the perceptions about their own success at the firm (Nekhili et al. 2016). Reducing the agentic requirements for leaders and accepting women's presence at the top serve as important stimuli to motivate female workers to contribute. Therefore, firms in female-dominated industries may be discouraged to maintain the role incongruity view toward female CEOs and instead, demonstrate a growing preference to equitable compensation practices to their female leaders.

Overall, firms in female-dominated industries may have decreasing demands of agentic traits in leadership and

are refrained from showing biases toward female leaders reflected in pay. Female CEOs, contextually aligning with the leadership position in such industries, can therefore have narrowed pay disparities with their male peers.

**H3** The lower pay to female CEOs is weakened in female-dominated industries.

### Dual Alignments—CEO Risk-Taking Within Female-Dominated Industries and Compensation

We propose there are two separate channels through which organizational attitudes toward the fit of female leaders are adjusted. On the one hand, female CEOs' risk-taking provides behavioral cues, indicating that they can fulfill the agentic requirements for leadership positions (Heilman and Okimoto 2007). On the other hand, women's contextual alignment in female-dominated industries predicts an emerging importance of communal traits in leadership qualities (Rosette and Tost 2010). How would the *combined* effects of CEO risk-taking in contextually aligned, female-dominated industries affect the evaluation of fit between the female gender role and the leadership role?

Although the two processes separately mitigate the role incongruity view, we contend that the underpinning mechanisms are fundamentally *contradictory*. Specifically, the behavioral fit preserves the value of leaders' agentic traits, whereas the contextual fit emphasizes the increasing importance of communal traits in leadership. Therefore, we expect CEO risk-taking in female-dominated industries adds to the perception of mismatch between the female gender role and the leadership role, sustaining the gender compensation gap.

We posit that revealing agentic attributes in contexts where communal traits are valued may inadvertently trigger biases against female leaders. Female CEOs are likely to be penalized for their risk-taking behaviors owing to the resulting conclusions that they are deficient in communal attributes (Heilman and Okimoto 2007), which are valued in female-dominated industries. The perception mismatch may be pronounced, so that the agentic-behaving female CEOs are considered as violating role expectations and are likely to provoke backlash (Eagly and Karau 2002; Heilman et al. 2004). For example, Heilman et al. (2004) contend that successful women suffer from negative reactions if they violate context-specific prescriptions about how they should behave. We argue that one form of such negative reactions may be lower compensation to female CEOs relative to male CEOs.

In general, deviation from communal traits in the form of risk-taking is problematic for female CEOs in female-dominated industries, because women's behavioral conformity to the agentic needs signals deviation from the communal qualities that are in fact valued in such contexts. Thus, female leaders may be negatively evaluated when they

**Table 1** Percentage of female CEOs in publicly listed firms in China and the USA *Source: Forbes 2012*

Year	China (%)	USA (%)
2004	3.95	1.59
2010	5.60	3.30

deviate from how they “ought to behave” and instead fulfill agentic requirements for leaders (Eagly and Karau 2002, p. 576). Our inquiry offers a more nuanced account on how and why the biases to agentic-behaving female CEOs occur, by identifying a contextual boundary—female-dominated industries.

Overall, displaying risk-taking behaviors often required of leaders may engender adverse effects in female-dominated industries due to the conflicting exhibition of agentic behaviors in contexts where communal characteristics are important. Thus, women's behavioral conformity to the traditional, agentic needs expected of leaders may appear less appropriate and may be less consequential in narrowing the CEO compensation gap. Specifically,

**H4** The effect of CEO risk-taking in mitigating female CEOs' lower pay is weakened in female-dominated industries.

## Methodology

### Data and Sample Selection

Our sample is drawn from Chinese publicly listed firms. China is chosen for our study for two reasons. First, an increasing number of women in China are ascending the corporate ladders. Interestingly, China is found to be one of the countries with more female CEOs than the USA or even Scandinavia (Time 2014). Among the publicly listed firms in USA, around 3.3% of them are headed by women in 2010, up from 1.59% in 2004. In comparison, the comparable figures in China are 5.6 and 3.95%, respectively (Forbes 2012) (Table 1). Therefore, a China inquiry may speak volumes about how female CEOs are compensated. Second, as a leading EE, China's institutional transitions have resulted in tremendous uncertainties that highlight the roles played by corporate leaders and subsequently affect the evaluation of them regarding pay (Mutlu et al. 2018; Peng et al. 2015). Therefore, investigating female CEO compensation in China may offer important insights into how female leaders are evaluated in terms of pay.

We construct our dataset from publicly listed firms on the Shanghai and Shenzhen Stock Exchanges between 2004 and 2010 (inclusive). Data are mainly collected from China Stock Market and Accounting Research (CSMAR) and Wind, two leading databases in conducting China research

(Luo et al. 2017; Markóczy et al. 2013; Peng et al. 2015). Specifically, we focus on “China Listed Firm’s Corporate Governance Research Database,” “China Listed Firm’s Shareholders Research Database,” “China Stock Market Financial Database,” and “China Listed Non-State-Owned Enterprise Database” in CSMAR, and the company research section in Wind.

Additional data are hand-collected from annual reports of the listed firms. We cross-validate some of the overlapping variables between annual reports and the secondary data sources to make sure the accuracy of the information. Our final sample contains 5416 firm-year observations, including 1667 unique firms in China. The data include 288 female CEO-year observations and 131 unique female CEOs across the span of 7 years.

## Measures

### Dependent Variable

CEO compensation is measured as the natural log of the cash remuneration (salary and bonuses) that CEOs receive annually. We confine our analysis to annual cash compensation only and exclude stock options and other long-term incentive plans (LTIPs), due to the reality of the “simple” compensation structure in China. This practice is consistent with a majority of CEO compensation studies in China (Gao et al. 2016; Peng et al. 2015). Moreover, the value of stock options and LTIPs is subject to the fluctuation of the market and methods of calculations (Markóczy et al. 2013). As a direct expression of the board’s—and the firm’s—willingness to pay CEOs, cash compensation is a closer reflection of each firm’s evaluation of the fit between the CEO characteristics and the leadership role. As such, our measurement is appropriate and accurate in capturing the theoretical intentions of our study (Peng et al. 2015, p. 128).

### Independent Variable

Female CEO is a dummy variable that takes 1 if the CEO is a woman, and 0 otherwise. From CSMAR, we identify the gender of the CEO in each firm. In our dataset, female CEOs comprise 5.78% of the total 2268 CEOs sampled across the 5416 firm-years.

### Moderators

We take firm leverage as a proxy of CEO risk-taking. Leverage is calculated as the ratio of financial debt divided by financial equity. Prior studies have shown leverage reflects the riskiness of corporate financing choice and is a standard measure of risk-taking (Coles et al. 2006; Faccio et al. 2016; Jeong and Harrison 2017). As CEOs are the chief

decision-makers among the upper echelons and influence greatly firms’ propensity to take risks (Fitza 2014; Li and Tang 2010), corporate financial structure thus closely reflects their behavioral preference (Palvia et al. 2015).

Female-dominated industries are categorized following Cumming et al.’s (2015) study. Industries with more than 50% female employees in the workforce are defined as female-dominated. Consequently, clothing, film and television, food processing and manufacturing, garment and apparel manufacturing, hotels, pharmaceutical manufacturing, publishing, radio, retail trade, textile, and tourism are classified as female-dominated industries. A female-dominated industry is coded as 1, and 0 otherwise (Cumming et al. 2015).

### Control Variables

A multitude of individual-, team-, and firm-level controls are included in our analyses. We control for CEOs’ individual-level human capital variables: *CEO age*, *CEO tenure*, and *CEO education*. We also incorporate *CEO duality*, a binary variable set as 1 if the CEO is also the chairman of the board of directors, and 0 otherwise.

On the team level, we control for *top management team (TMT) size*, a count measure of the number of top executives in the focal firm. Moreover, we include standard corporate governance variables, such as *board size* (a sum of the directors sitting on the focal board), and *independent director ratio* (the number of independent directors over the total number of directors on the board) (Luo et al. 2017; Peng 2004). In addition, the perceptions of incongruity can vary depending on the characteristics of leaders’ evaluators (Eagly and Karau 2002; Lucas-Perez et al. 2015). Accordingly, we add the *ratio of female directors* to account for the possible favorable evaluation toward female leaders (Elkinawy and Stater 2011; Macaulay et al. 2017). Regarding ownership controls, we include *CEO shareholding*, *director shareholding*, and *supervisor shareholding* reported by CSMAR.

Specific to the China context, we also include two other important governance controls: *supervisory board size* and *compensation committee (CC)*. The Chinese corporate governance system resembles the two-tier board structure in Germany. As the supervisory board serves the function of supervising top management (Sun et al. 2015), we count the number of supervisors on board. In addition, CEO compensation may be specifically determined by a specific board committee—*CC* (Bugeja et al. 2016). As Markóczy et al. (2013) and Peng et al. (2015) have identified the important impact of CC on CEO compensation in China, we code whether a firm has a CC (1) or not (0) as a binary indicator.

At the firm level, *firm age* and *size* are controlled. We also include *firm performance* as the annual profit reported

by CSMAR. *Tobin's Q* and *cash reserve* are also added to control for financial factors. All financial variables are lagged 1 year when entered into the regression equations. Finally, we include *year* and *industry dummies* to account for the unobservable differences between years and across industries.

## Analytical Technique

Following Peng et al.'s (2015) study on CEO compensation in China, we test our hypotheses using multi-level mixed linear regressions. Their study indicates that empirical work on CEO compensation in China should address the spatial dependency issue. Given the regional diversity within China (Peng and Lebedev 2017), firms headquartered within proximate geographical regions—namely, within the same province—tend to adopt similar CEO compensation practices, but not necessarily across provinces. Accordingly, we build our data into a two-level hierarchical structure, the first being the firm level and the second being the province level (where the firm is headquartered). Such a data structure allows us to run fixed effects at the firm level and random effects at the province level (Rabe-Hesketh and Skrondal 2012).

Overall, consistent with empirical studies in China, this paper employs multi-level mixed linear regressions with single-variable random effects specification (Goldstein 1986; Rabe-Hesketh and Skrondal 2012) at the province level. We use the *xtmixed* command in STATA 13 to test the hypotheses.

## Results

Table 2 shows the descriptive statistics and correlations. All of the correlation coefficients are less than 0.5. We also examine the variance inflation factors (VIFs) in order to avoid serious multi-collinearity problems. All VIFs are much lower than the threshold value of 10, the highest being 4.38. In general, our inspections of the correlations do not reveal serious multi-collinearity.

Our results for Hypotheses 1–3 are presented in Table 3. Model 1 reports the relationship between CEO compensation and all the controlling and moderating variables. In Model 2, our independent variable—female CEO—is added. The result from the base model shows that female CEOs are paid 5.34%<sup>1</sup> less than male CEOs, supporting Hypothesis 1. Model 3 shows the interaction of female CEO and CEO

risk-taking is positive and significant ( $\beta = 0.182$ ;  $p < 0.01$ ). Model 4 reports a positive and significant interaction term ( $\beta = 0.223$ ;  $p < 0.1$ ) of female CEO and female-dominated industries. Therefore, both CEO risk-taking and female-dominated industries tend to weaken the negative relationship between female CEOs and their compensation, supporting Hypotheses 2 and 3, separately. We investigate these relationships further in Model 5, which presents results for the regression with our main variables and both interaction terms. An increase in CEO risk-taking is associated with a decrease in the gap of the gender pay difference ( $\beta = 0.182$ ;  $p < 0.01$ ), lending support to Hypothesis 2. In female-dominated industries, female CEOs' lower pay is mitigated ( $\beta = 0.222$ ;  $p < 0.1$ ), indicating a decrease in the gender pay gap and thus supporting Hypothesis 3.

We also present the interaction effects graphically in Figs. 3 and 4. In Fig. 3, we observe that low risk-taking (mean – one standard deviation, dotted line) is associated with a steeper negative slope compared with high risk-taking (mean + one standard deviation, solid line). This indicates that the lower pay for female CEOs is mitigated if they take more risks, supporting Hypothesis 2. Similarly, Fig. 4 demonstrates that the lower pay for female CEOs is less pronounced in female-dominated industries (solid line) relative to male-dominated industries (dotted line) and thus lends support to Hypothesis 3.

To test Hypothesis 4, we split the sample into two subsets according to the industry characteristics: female-dominated and male-dominated industries. Adopting the same regression technique, we rerun the analyses using the two sub-samples. Models 6 and 7 report the results using the sub-sample of female-dominated industries, and Models 8 and 9 present the results using the sub-sample of male-dominated industries. Models 6 and 8 are base models, including female CEOs, CEO risk-taking, and all the other controls. We observe that the coefficient for female CEOs is negative but not significant in female-dominated industries, but it is significantly negative in male-dominated industries ( $\beta = -0.229$ ;  $p < 0.05$ ). In male-dominated industries, female CEOs are paid 20.47% less than male CEOs.

Models 7 and 9 in Table 4 include the interaction of female CEOs and risk-taking. Comparing the results of two sub-samples shown in Models 7 and 9, we find that the coefficient for the interaction in Model 7 is negative but not significant, whereas it is significantly positive in Model 9. Therefore, Model 7 indicates that CEO risk-taking is not an effective approach to reduce the gender pay gap in female-dominated industries. In contrast, Model 9 shows that in male-dominated industries, CEO risk-taking significantly mitigates the lower pay for female CEOs ( $\beta = 0.357$ ;  $p < 0.01$ ). The interaction effect between female CEOs and risk-taking in male-dominated industries is visualized in Fig. 5. Taken together, CEO risk-taking is substantially less

<sup>1</sup> Because the dependent variable—CEO compensation—is log-transformed, we should interpret the coefficients using the  $e^\beta - 1$  formula to obtain the ratio of change in compensation. For example, in Model 2, the coefficient for female CEO is  $-0.0549$ , indicating that female CEOs earn 5.34% ( $1 - e^{-0.0549}$ ) less than male CEOs.



**Table 2** Descriptive statistics and correlation matrix

	1	2	3	4	5	6	7	8	9	10	11
1. CEO pay	1										
2. Female CEO	-0.013	1									
3. CEO education	0.14	-0.032	1								
4. CEO age	0.171	-0.007	-0.177	1							
5. CEO tenure	0.094	0.024	0.004	0.091	1						
6. Board size	0.112	-0.078	0.077	0.066	0.026	1					
7. Independent director ratio	0.033	0.044	-0.003	0.001	-0.003	-0.306	1				
8. Compensation committee	0.101	0.018	-0.002	0.033	0.006	-0.022	0.085	1			
9. Firm performance	0.042	0.003	0.001	0.015	0.001	0.001	0.005	0.014	1		
10. Tobin's Q	-0.015	-0.001	0.012	-0.002	-0.001	-0.039	0.009	-0.016	0.003	1	
11. Firm size	0.387	-0.049	0.171	0.156	0.032	0.325	-0.008	0.035	0.063	-0.097	1
12. Firm age	0.075	-0.007	0.044	0.082	-0.018	-0.032	0.04	0.125	-0.012	-0.024	0.086
13. CEO risk-taking	0.003	-0.002	0.004	0.001	0.002	0.002	0.001	0.003	0.001	0.152	0.019
14. Cash reserve	0.166	0.04	-0.007	-0.007	0.019	-0.1	0.06	0.075	0.005	0.02	-0.161
15. CEO shareholding	0.064	0.025	-0.034	0.013	0.071	-0.133	0.109	0.091	0.003	0.004	-0.139
16. Director shareholding	0.068	0.073	-0.082	-0.05	0.038	-0.162	0.109	0.111	0.004	0.003	-0.173
17. Supervisor shareholding	0.027	0.013	-0.036	-0.008	0.023	-0.054	0.018	0.052	0.002	0.003	-0.081
18. CEO duality	0.08	-0.032	-0.006	0.146	0.045	-0.133	0.074	0.03	-0.019	0.007	-0.136
19. TMT size	0.091	-0.028	0.031	0.03	-0.002	0.137	-0.005	-0.002	-0.044	-0.008	0.136
20. Female director ratio	0.016	0.225	-0.059	0.014	0.007	-0.145	0.072	0.068	-0.013	0.015	-0.128
21. Supervisory board size	0.023	-0.064	0.082	0.051	0.008	0.377	-0.118	-0.049	0.006	0.001	0.267
22. Female-dominated industry	-0.006	0.062	-0.041	-0.009	0.012	-0.007	-0.011	0.016	0.005	-0.023	-0.094
Mean	12.59	0.054	3.461	46.57	3.095	9.30	0.36	0.832	18.01	3.823	21.55
SD	0.846	0.226	0.811	6.235	1.09	1.89	0.05	0.374	1.51	5.20	1.166

	12	13	14	15	16	17	18	19	20	21	22
12. Firm age	1										
13. CEO risk-taking	0.013	1									
14. Cash reserve	-0.202	-0.02	1								
15. CEO shareholding	-0.204	-0.015	0.34	1							
16. Director shareholding	-0.28	-0.019	0.418	0.437	1						
17. Supervisor shareholding	-0.143	-0.006	0.182	0.211	0.375	1					
18. CEO duality	-0.083	-0.001	0.193	0.449	0.256	0.101	1				
19. TMT size	0.218	0.003	-0.072	-0.079	-0.111	-0.044	-0.031	1			
20. Female director ratio	0.072	0	0.061	0.092	0.108	0	0.095	-0.023	1		
21. Supervisory board size	0.041	0.013	-0.149	-0.17	-0.221	-0.054	-0.139	0.108	-0.093	1	
22. Female-dominated industry	0.066	0.004	0.006	-0.063	-0.077	-0.035	-0.02	0.016	0.113	-0.027	1
Mean	11.3	1.210	0.175	0.017	0.045	0.002	0.159	8.107	0.131	3.978	0.218
SD	4.32	1.404	0.133	0.06	0.12	0.011	0.366	4.90	0.122	1.346	0.413

*n* = 5416 firm-year observations; |coefficients| larger than 0.04 are significant at the 0.05 level

effective in female-dominated industries in mitigating the stereotype-generated lower compensation to female CEOs.

**Robustness Checks<sup>2</sup>**

Supplementary tests are conducted to assess the robustness of our findings. First, we implement firm-fixed effects

<sup>2</sup> Results are available upon request.

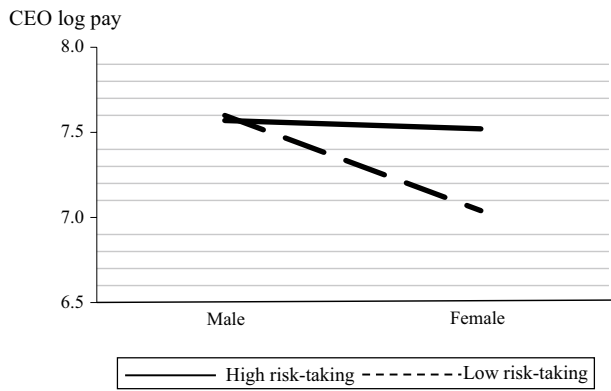
regressions to examine the within firm variance in evaluating male versus female leaders, thereby accounting for potential unobservable factors. These regressions yield substantially similar findings with those from multi-level mixed regressions and consistently support our hypotheses. Our results are thus less subject to different estimation approaches.

Second, further analyses are conducted to check the robustness of Hypotheses 2–4. We follow Wade et al. (2006) to create a measure of CEO underpayment as the dependent

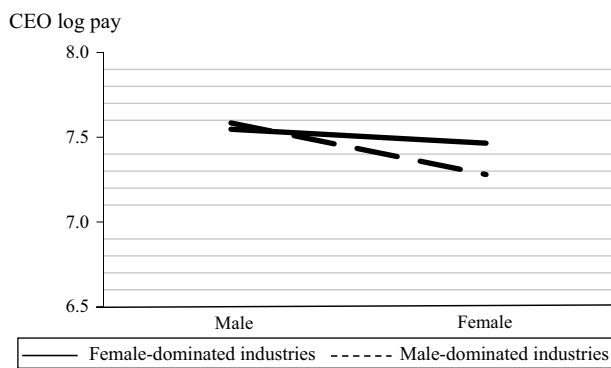
**Table 3** Results from multi-level mixed linear models predicting CEO compensation

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Female CEO (H1)		− 0.0549* (0.0298)	− 0.270*** (0.0932)	− 0.190** (0.0940)	− 0.304*** (0.098)
Female CEO × CEO risk-taking (H2)			0.182*** (0.0605)		0.182*** (0.0605)
Female CEO × Female-dominated industry (H3)				0.223* (0.120)	0.222* (0.120)
CEO risk-taking	− 0.00641 (0.0112)	− 0.00671 (0.0112)	− 0.0107 (0.0113)	− 0.00673 (0.0112)	− 0.0107 (0.0113)
Female-dominated industry	0.0177 (0.0402)	0.0208 (0.0403)	0.0230 (0.0403)	0.0352 (0.0410)	0.0374 (0.0410)
CEO education	0.0791*** (0.0168)	0.0788*** (0.0168)	0.0792*** (0.0168)	0.0773*** (0.0168)	0.0778*** (0.0168)
CEO age	0.0108*** (0.00225)	0.0109*** (0.00225)	0.0110*** (0.00225)	0.0109*** (0.00225)	0.0110*** (0.00225)
CEO tenure	0.0138 (0.0117)	0.0142 (0.0117)	0.0153 (0.0117)	0.0140 (0.0117)	0.0151 (0.0117)
CEO duality	0.0434 (0.0385)	0.0413 (0.0385)	0.0377 (0.0385)	0.0421 (0.0385)	0.0384 (0.0385)
TMT size	4.96e−05 (0.00296)	2.01e−05 (0.00296)	− 0.000194 (0.00296)	− 0.000195 (0.00297)	− 0.000408 (0.00296)
Board size	0.0276*** (0.00793)	0.0272*** (0.00794)	0.0278*** (0.00793)	0.0276*** (0.00794)	0.0282*** (0.00793)
Independent director ratio	0.229 (0.270)	0.235 (0.270)	0.207 (0.270)	0.194 (0.270)	0.166 (0.270)
Female director ratio	0.175 (0.109)	0.195* (0.111)	0.198* (0.111)	0.201* (0.111)	0.204* (0.111)
Supervisory board size	− 0.0219** (0.0106)	− 0.0222** (0.0106)	− 0.0220** (0.0106)	− 0.0225** (0.0106)	− 0.0224** (0.0106)
Compensation committee	0.0503 (0.0388)	0.0506 (0.0388)	0.0511 (0.0387)	0.0526 (0.0388)	0.0530 (0.0387)
Firm performance	0.155*** (0.0138)	0.155*** (0.0138)	0.155*** (0.0137)	0.155*** (0.0138)	0.156*** (0.0137)
Tobin's Q	0.00151 (0.00282)	0.00155 (0.00282)	0.00166 (0.00281)	0.00154 (0.00282)	0.00165 (0.00281)
Firm size	0.0797*** (0.0208)	0.0802*** (0.0208)	0.0784*** (0.0207)	0.0806*** (0.0207)	0.0789*** (0.0207)
Firm age	− 0.00341 (0.00381)	− 0.00360 (0.00381)	− 0.00377 (0.00381)	− 0.00350 (0.00381)	− 0.00366 (0.00381)
Cash reserve	0.319*** (0.110)	0.320*** (0.110)	0.324*** (0.110)	0.317*** (0.110)	0.320*** (0.110)
CEO shareholding	− 0.0666 (0.310)	− 0.0822 (0.310)	− 0.0989 (0.310)	− 0.0568 (0.310)	− 0.0737 (0.310)
Director shareholding	− 0.119 (0.171)	− 0.104 (0.172)	− 0.0705 (0.172)	− 0.109 (0.172)	− 0.0761 (0.172)
Supervisor shareholding	− 0.771 (1.279)	− 0.781 (1.279)	− 0.892 (1.277)	− 0.806 (1.278)	− 0.916 (1.277)
Year dummy	Included	Included	Included	Included	Included
Industry dummy	Included	Included	Included	Included	Included
Constant	7.558*** (0.393)	7.544*** (0.393)	7.592*** (0.393)	7.536*** (0.393)	7.584*** (0.393)
Wald Chi-square	1120.62	1121.78	1134.22	1126.54	1138.96
observations	5416	5416	5416	5416	5416
Number of groups (provinces)	30	30	30	30	30

Standard errors in parentheses; \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$  (two-tailed statistics tests)



**Fig. 3** Interaction between female CEOs and risk-taking in predicting CEO pay



**Fig. 4** Interaction between female CEOs and female-dominated industries in predicting CEO pay

variable. Two essential steps are: (1) constructing a wage equation to reflect the CEO benchmark pay, and (2) deriving the residuals from the wage equation. Positive residuals indicate overpayment to CEOs while negative ones indicate underpayment. The CEO underpayment variable is constructed by setting the measure equal to the CEO residual

term if the residual is negative, and zero otherwise. For the ease of interpretation of the results, we reverse the sign so that the larger the positive value is, the greater CEO underpayment it represents. Multi-level mixed linear regression is adopted to examine whether CEO risk-taking and female-dominated industries are negatively related to the underpayment, and whether CEO risk-taking is less effective in reducing the underpayment in female-dominated industries. Overall, our hypothesized relationships are supported.

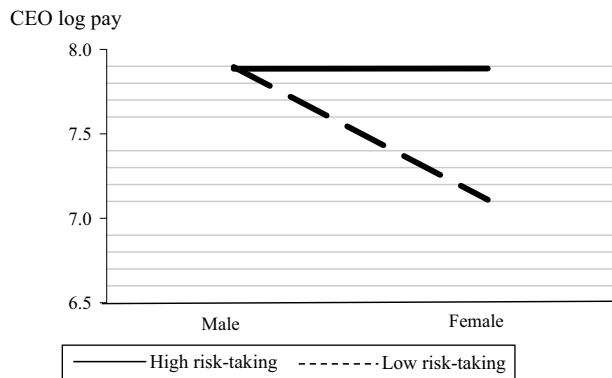
Third, specifically targeting our Hypothesis 4, we adopt a method other than splitting the sample. Instead, we add a three-way interaction term among female CEO, CEO risk-taking, and female-dominated industries. In this full model, we find consistent support for our Hypotheses 1–4. Fourth, we further construct CEO compensation as the proportion of CEO pay over that of the top three executives of the focal firm. This ratio reflects how CEOs are compensated in a relative sense. These supplementary tests show essentially the same pattern of significance for the independent variables and interaction terms, as the findings we report above in the main section of Results. Cumulatively, our findings demonstrate reasonably conclusive support for our hypotheses.

Fifth, we test the sensitivity of the results for potential reverse causality—specifically, whether firms paying low salary are more likely to hire female CEOs. Following Jeong and Harrison (2017) and Xia et al. (2014), we turn CEO gender as the dependent variable and use it to regress on prior-period CEO compensation. The coefficients of CEO compensation are positive but not significant, suggesting that reverse causality is less likely in our sample (Jeong and Harrison 2017; Xia et al. 2014). Lastly, we adopt the propensity-score matching approach to rule out endogeneity issues and further test the main hypothesis. We find consistent support.

**Table 4** Split sample results from multi-level mixed linear regressions

Hypothesis 4 testing	Female-dominated industries		Male-dominated industries	
	Model 6	Model 7	Model 8	Model 9
Female CEO	- 0.045 (0.097)	- 0.053*** (0.0149)	- 0.229** (0.108)	- 0.393*** (0.119)
Female CEO × CEO risk-taking (H4)		- 0.079 (0.0908)		0.357*** (0.0778)
CEO risk-taking	- 0.0899*** (0.0268)	- 0.0844*** (0.0276)	0.00435 (0.0123)	- 0.00049 (0.0122)
Other controls	Included	Included	Included	Included
Wald Chi-square	443.71	445.03	839.88	868.62
observations	1203	1203	4213	4213
Number of groups (provinces)	27	27	30	30

Standard errors in parentheses; \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$  (two-tailed statistics tests)



**Fig. 5** Interaction between female CEOs and risk-taking in predicting CEO pay in male-dominated industries

## Discussion

According to Wrangham and Peterson (1996), tracing centuries back, men and women are different and behave distinctively, which shapes our perceptions toward different gender roles over time. These stereotypical views tend to leave a mark on social and economic issues. In this paper, we focus on how the typical views toward women and leaders affect the compensation to female CEOs in China. Taking CEO compensation as a revealing indicator of firms' evaluation of corporate leaders, our empirical test extends and supports the role incongruity view toward female CEOs. Leveraging data from China where a relatively high percentage of listed firms' CEOs are female, we find that female CEOs are significantly paid less compared with male CEOs (see Table 5). Against this backdrop of the female CEO compensation gap, we further show that female CEOs may behave in agentic ways by taking more risks and thus demonstrating agentic traits desirable for leaders, resulting in a narrower compensation gap. Alternatively, female CEOs may work in female-dominated industries where communal traits are valued in leadership positions, and hence female leaders confront a reduced gender pay gap. Yet, risk-taking in female-dominated industries produces conflicting valuation of agentic

and communal traits that undermines the effectiveness of gap-narrowing processes.

## Contributions

From our investigation, three contributions emerge. First, this paper enriches the limited number of studies focusing on the gender difference in CEO pay. As gender is an important and visible demographic attribute (Leslie et al. 2017; Zhang and Qu 2016), the role congruity lens enables us to develop and test a novel framework of the gender effect on CEO compensation. Our paper differs from previous studies that take on more economic rationales, such as a resource-based angle, to examine the gender effect on CEO pay (Hill et al. 2015; Mohan and Ruggiero 2007). Regarding the CEO compensation literature in general, our framework is a departure from theoretical lenses such as agency (Tosi et al. 1997) or power structure inside firms (Boyd 1994; Sauerwald et al. 2016). Considering that CEOs play the most important roles among upper echelons (Fitza 2014), we add another layer of nuances to the compensation offered to them. Specifically, CEO pay is also a reflection and consequence of firms' evaluation toward the fit of CEO characteristics and leadership positions. By extending female CEO compensation studies to the China context, we suggest that female CEOs, albeit being underrepresented to a lesser extent compared with those in the USA, are still paid less.

Second, going above and beyond the simple compensation gap contention, we also provide a potential silver lining and advocate possible gap-narrowing processes. Taking a role congruity lens and delving into the roots of the female penalty, we identify contingencies that may allow female CEOs to reduce the compensation gap. As the penalties to female leaders largely stem from the incongruity between the female gender role (communal traits) and the leadership role (agentic traits) (Eagly and Karau 2002; Heilman and Okimoto 2007), the adaptation in either role expectations would mitigate the perception mismatch for female CEOs. Our investigation uncovers the possible behavioral and contextual factors in weakening the unfavorable perceptions toward women at the top, narrowing the gender pay gap.

**Table 5** Gender pay gap in selected studies

	Country ( <i>N</i> = observations)	Pay gap (%)	Measure of pay
Bertrand and Hallock (2001)	USA ( <i>N</i> = 46,670)	23.66	Total compensation
Mohan and Ruggiero (2003)	USA ( <i>N</i> = 47)	67.00	Cash and non-cash (such as options) compensation
Elkinawy and Stater (2011)	USA ( <i>N</i> = 60,040)	5.60	Annual base salary, total direct compensation
Vieito and Khan (2012)	USA ( <i>N</i> = 7422)	15.72	Total compensation
Our study	China ( <i>N</i> = 5416)	5.34	Annual cash compensation, excluding stock options and other long-term incentive plans
Male-dominated industries	( <i>N</i> = 4213)	20.47	

Third, we argue for a detailed understanding of potential reactions toward women's exhibition of agentic behaviors (Eagly and Karau 2002; Kulich et al. 2011). The prior literature diverges regarding whether or not female leaders are likely to face disapproval when they demonstrate assertion, dominance, and competitiveness—qualities considered agentic and out of bound for typical women (Heilman et al. 2004; Heilman and Okimoto 2007). Our fine-grained investigation shows that firms penalize successful women who “act like men” only in contexts where communal traits are valued. It is not female CEOs' counterintuitive agentic behaviors, but rather the exhibition of agentic attributes in certain contexts, that fuels the negative reactions. In other words, female leaders' “male-like” behaviors per se are not necessarily perceived as unacceptable if those behaviors are valued in certain (non-female-dominated) industries.

Overall, our detailed investigation on issues of the gender pay gap and of the gap-narrowing mechanisms in CEO positions enriches the ethics literature on income inequality in general and on the evaluation of underrepresented female leaders in particular (Beal and Astakhova 2017; Lips 2013). The promotion of social justice and fairness—specifically, equitable pay—can start with leadership positions, which may have positive spillovers to the lower levels of the business and social system in general (McGuinness 2016). Additionally, as the underrepresentation of women at the top has come to the forefront as an ethical issue (Gao et al. 2016; Oakley 2000), how female CEOs are compensated likewise carries some ethical connotations. This paper sheds light on the ethical dilemma in today's business world: the evaluation of and compensation to already underrepresented female CEOs. Our exploration of the industry contingency reveals that the ethical dilemma is relatively easier to be resolved in female-dominated industries.

### Limitations and Future Research Directions

Our findings are subject to limitations that also suggest promising avenues for future studies. First, our data are limited. We empirically test our hypotheses only in China. Thus, the results are fundamentally skewed by this scope of inquiry. But as one of the leading EE, China may help guide and influence the institutional development of other EE, and thus firms in other economies may follow similar trajectories. Future research can take the opportunity and have a broader investigation into the gender compensation gap in CEO positions in other EE.

Also, due to data constraints, we adopt corporate leverage as the proxy of CEO risk-taking. While prior studies have validated the practice (Coles et al. 2006; Faccio et al. 2016), a more direct, proximate measure of CEO risk-taking would further strengthen our arguments. A related theoretical issue is that the proxy of CEO risk-taking—firm leverage—may

also indicate task complexity within the firm. That is, our measurement may capture the demanding contextual environment confronting female CEOs. We conjecture that task complexity may be opportunities for female CEOs to bring in individual capabilities and skills as well as leadership qualities (Sun et al. 2015), potentially mitigating the role incongruity perception. This falls in line with our general predication relying on firm leverage as a reflection of individual risk preferences.<sup>3</sup>

Second, the gender effect on non-cash compensation to executives is not examined. Especially in EE, non-cash compensation, including perquisites such as entertainment, housing, dining, and travel, is prevalent (Adithipyangkul et al. 2011). As it is more difficult to gather data on non-cash compensation, our results may not necessarily capture the real gender gap in pay. Considering non-cash compensation is more subject to ingrained biases indicated by role congruity theory, our choice of cash compensation may be a conservative measure of the role-incongruity-generated pay gap. Moreover, a finer-grained examination of female CEOs' compensation package would be a promising focus for further research. For instance, incentive pay has generated considerable interests among scholars (Chng et al. 2012; Chng and Wang 2016; Hoskisson et al. 1993). Therefore, future studies can also probe into what proportion of female leaders' pay is incentive compensation, and whether incentive mechanisms affect female and male CEOs differently.

Third, barely scratching the surface of what underlies the gender pay gap in EE, our use of risk-taking and female-dominated industries as the behavioral and contextual fit, respectively, is not comprehensive. As Vecchio (2002) promotes a wider scope of contingencies in evaluating leaders, researchers should also survey a broader range of possible moderators that could change the perceptions of fit between the female gender role and the leadership role.

Lastly, although beyond the scope of our research, an analysis of the *change* of gender compensation gap among CEOs over time would be another avenue for future studies. Cohen et al. (2009) argue that the gender pay difference at the managerial level shrinks over time in the USA. Bugeja et al. (2012) hardly find a pay gap, and Hill et al. (2015) even report a pay premium for some US female CEOs. How would the gender gap be in EE with the passage of time (Peng 2003)? Is the gender gap narrowing? If so, is such narrowing accelerating or decelerating? Blau and Kahn (2017) conclude that the gender pay gap at higher levels declines more slowly over time than at lower levels in the USA. How is the situation in China? In addition, comparative research

<sup>3</sup> We also use (1) stock return volatility, (b) cash flow volatility, and (c) capital expenditure as alternative measures of risk-taking. H2 receives consistent support. These results are available upon request.

between China and the USA, and between China and other EE, will yield more interesting results. Future scholars can entertain crucial but unexplored questions such as: Do female CEOs face more hurdles in DE or EE?

## Conclusion

Focusing on the gender effect on CEO pay, we have extended the inquiry to China, and offered a novel perspective to illustrate factors that shape the pay for female leaders. Our findings are sobering: In China, the second large economy in the world (and the largest EE by GDP), although a higher percentage of women have advanced to the CEO suite than that in the USA, the female CEO compensation gap is nevertheless substantial. Although enduring the perception of role incongruity, female leaders may be viewed less incongruent with behaviors displaying agentic traits or in contexts that communal traits are valued, but not both. Despite highlighting the challenges to women after their ascendance to CEO positions, we also offer a silver lining to successful women. In conclusion, role incongruity is not a permanent yoke preventing She'-E-Os from reaping the fruits that their hard work justifies.

## Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no competing interests.

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