



CEO power and corporate strategies: a review of the literature

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Abstract

In recent years, the impact of chief executive officers (CEOs) power on corporate strategies has attracted significant public debate in the academic milieu. In this study, we comprehensively review the academic literature on CEO power in relation to different corporate policies. We conduct a comprehensive review by dividing the literature into four streams: CEO power and firm performance, CEO power and executive compensation, CEO power and firm risk-taking, and finally, CEO power on other corporate strategies. Our review shows that the findings are mixed in relation to the effects of CEO power on firm strategies. Overall, the negative impact of CEO power on firm performance is attributed to agency theory, where CEOs pursue their own vested interests, thereby leading to weak corporate governance. The review reveals that the positive impact of CEO power on corporate outcomes is due to effective board monitoring, a powerful board, and high market competition. Our study also shows that most of the studies have adopted Finkelstein's (1992) four sources of CEO power but have taken different proxies to measure these powers. We have also identified several gaps in the current studies and recommend avenues for further research.

Keywords CEO power · Firm performance · Firm risk-taking · Executive compensation · Corporate governance

JEL Classification D21 · D22 · G3 · G32 · G34 · M12 · M52

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1 Introduction

Power is defined as the “capacity of individual actors to exert their will” (Finkelstein 1992, p. 506). CEOs are deemed to be the chief organizers and designers of an organization’s long-term strategy, and their position is considered a source of power (Sheikh 2019a). Management scholars unanimously support that CEOs are the most powerful players in every organization. However, corporate governance literature is divided on the consequences of CEO power on corporate governance. One strand of literature is grounded in the agency theory and maintains that CEOs are risk averse, self-serving, and pursue policies that render their own personal goals (Combs et al. 2007; Bebchuk and Fried 2003; Bigley and Wiersema 2002). These studies support the view that conferring power to CEOs could lead to managerial entrenchment and poor corporate governance (Bebchuk et al. 2011). Adams et al. (2005) assert that powerful CEOs are overconfident, which could lead them to make costly strategic mistakes. This strand of literature shows that CEO power is detrimental to firm performance. The other strand of literature argues that CEOs are the most powerful members of a business (Daily and Johnson 1997; Jaroenjitrkam et al. 2020) and they “set the tone for the entire corporation” (Wheelen and Hunger 1990, p. 69). CEO power could also alleviate information asymmetry costs and improve operational efficiency. Some studies advance that even though the corporate board might play a dominant role during a corporate crisis, in normal times, the board plays a passive role, and the decision-making power rests on the CEOs (Elhagrasy et al. 1999). Social psychology theory specifies that powerful CEOs are more optimistic about corporate strategies (Anderson and Galinsky 2006). CEO power could improve operational efficiency, remove information asymmetry, enhance bargaining power, increase firm value through CSR practices, and increase firm value by managing organizational capital (Ahsan et al. 2022; Chiu et al. 2022; Graham et al. 2020). Given the importance of powerful CEOs in defining corporate strategies, a review of empirical evidence on CEO power and corporate governance outcome is warranted. This study addresses this gap by reviewing the literature on CEO power and firm strategies.

This topic is of interest for two main reasons. First, in recent years there has been increased attention from regulatory bodies and investors towards the composition of corporate boards. This is because CEO power is an essential aspect of board dynamism, as weak CEOs with powerful boards could lead to excessive monitoring that could constrain firm performance and risk-taking. On the other hand, powerful CEOs could also lead to entrenched boards. Hence this review highlights the theories and empirical evidence on CEO power that would have significant policy implications for corporate boards and regulatory bodies. Second, in the last few years, there has been a steady increase in research papers on CEO power in Finance, Management, Economics, and Accounting journals. In the last five years alone, we have found 61 research papers on CEO power. This increased attention on CEO power literature could be attributed to the powerful dynamics played by the CEOs on the corporate boards. In addition, research databases like Boardex have made it possible to readily obtain data on CEO characteristics like CEO pay, CEO share ownership, CEO educational background, CEO age, network size, and others. This valuable data on CEO characteristics has opened new avenues for research on CEO power and thus led to a plethora of studies on CEO power. This rising tide of empirical research on CEO power calls for a thorough review of the literature in this area. Hence, in this study, we aim to comprehensively review all the theoretical and empirical research on CEO power.

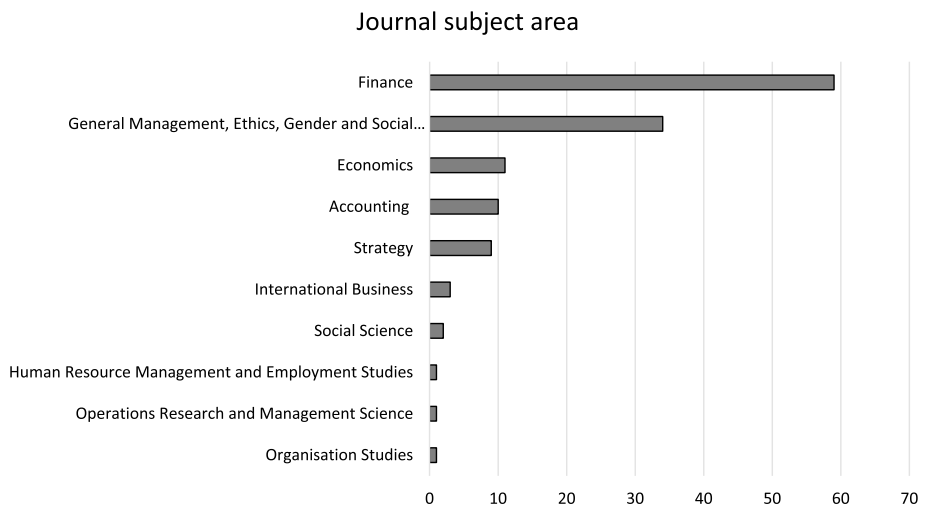


Fig. 1 Distribution of studies across different journal fields

In his seminal paper, Finkelstein (1992) classifies four types of CEO power. These are structural power, ownership power, expert power, and prestige power. Extant studies have used different variants of these four sources of power. The most popular indicators of CEO power are CEO duality (structural), CEO tenure (expert), CEO stock ownership (ownership), CEO founder (ownership), CEO pay slice (structural), CEO network or directors in other organizations (prestige), CEO education (prestige), and CEO triality or plurality (structural). Pfeffer and Salancik (1978) contend that CEO power could emanate from several formal and informal sources, and hence, the four sources named by Finkelstein (1992) may not be unequivocal. In this study, we have found and reviewed 131 papers from 1995 to 2023 to study powerful CEOs' influence on different corporate strategies. Figure 1 shows the distribution of studies across different subject areas. As shown in Fig. 1, the most popular studies on CEO power are published in the field of Finance (59), followed by General Management, Ethics and Social Responsibility (34), Economics (11), Accounting (10), Strategy (9), International Business and Area Studies (3), Social Science (2) and the rest of the fields have less than two studies on CEO power. We divide these studies into four different streams.

Stream 1: This stream reviews the studies associated with CEO power and firm performance. A review of studies on CEO power and firm performance shows mixed evidence. For instance, several studies report that CEO tenure (Simsek 2007; Tien et al. 2013; Ting et al. 2017), CEO duality (Chiu et al. 2021), and founder CEOs (Adams et al. 2005; Fahlenbrach 2009) improve firm performance. Some studies describe that CEO tenure (Veprauskaite and Adams 2013) and CEO duality (Duru et al. 2016; Tien et al. 2013; Veprauskaitė and Adams 2013) adversely affect firm performance. Others report that CEO power improves firm outcomes in the mature stage of firms' life cycle (Harjoto and Jo 2009), low to moderate strategic change (Zhang and Rajagopalan 2010), with powerful boards (Tang et al. 2011), only in markets with high competition (Sheikh 2018b), earnings management (Le et al. 2022), and CEO self-discipline in power (Tang 2021). Few studies document that CEO power reduces firm performance (Bebchuk et al. 2011; Cormier et al. 2016; Haynes et al. 2019; Park et al. 2018; Colak

and Liljebloom 2022). Daily and Johnson (1997) report mixed evidence of CEO power on firm performance.

Stream 2: Several studies sought to understand whether CEO power could influence executive compensation. A review of studies on CEO power and CEO compensation also shows mixed results. Some studies report that CEO power positively affects compensation (Choe et al. 2014; Elhagrasy et al. 1999; Hill et al. 2016; Luo 2015; Tian and Yang 2014), while others report negative consequence of CEO power on compensation (Zhu et al. 2021). Other studies on CEO power and compensation find that financial markets assist CEOs in earning higher compensation through stock options (Boyer 2005), powerful CEOs reprice executive stock options (Pollock et al. 2002), or adopt performance-vested stock options (PVSO) (Abernethy et al. 2015).

Stream 3: Several studies examine whether CEO power affects corporate risk-taking. The majority of papers report that CEO power has a favorable outcome on firm risk-taking (Altunbas et al. 2020; Chintrakarn et al. 2015; Korkeamäki et al. 2017; Lewellyn and Muller-Kahle 2012; Sheikh 2019b). Other studies report that CEO power positively impacts bank risk (Pour et al. 2023; Shabir et al. 2023). Few studies find that CEO power adversely impacts firm risk-taking (Haider and Fang 2018; Pathan 2009; Tan and Liu 2016), and CEO power strengthens the negative impact of ESG disclosure on firm risk-taking (Menla Ali et al. 2023; Zhao et al. 2023). Chintrakarn et al. (2015) find that the relation between CEO power and firm risk-taking is non-monotonic, while Zou et al. (2021) show that CEO formal power (informal power) has a positive (negative) effect on firm risk.

Stream 4: We have reviewed all the other studies on CEO power and corporate strategies in this category. The review shows that higher CEO power helps firms in the internationalization process (Sanders and Carpenter 1998), focuses on the same line of business (Bigley and Wiersema 2002), reduces audit committee effectiveness (Lisic et al. 2016), impedes the hiring of accounting experts in audit committee (Kim et al. 2017), brings unity of command in smaller boards (Dowell et al. 2011). CEO power also leads to hiring of directors with similar demography (Westphal and Zajac 1995; Zajac and Westphal 1996a, b), hiring fewer independent directors and tend to nominate monitor heavy boards (Baldenius et al. 2014), laying off senior non-executives who have lengthier tenure than the CEOs (Zhang et al. 2011), and powerful incumbent CEOs thwart the CEO-Chair dual roles of incoming CEOs (Horner and Valenti 2012). Several studies find that CEO power leads to lower bid premiums for acquisitions (Fralich and Papadopoulos 2008), more focused mergers generating higher returns (Fahlenbrach 2009), superior information of target firms during mergers (Balmaceda 2009), higher propensity to complete takeover deals (Chikh and Filbien 2011), higher bond yield (Liu and Jiraporn 2010), and lower dividend payout (Onali et al. 2016). Studies also report that CEO power improves firm innovation (Sariol and Abebe 2017; Sheikh 2018a), negatively affect corporate social responsibility (CSR) (Muttakin et al. 2018; Sheikh 2019a), positively impact CSR (Pucheta-Martínez and Gallego-Álvarez 2021). CEO power is increased by board gender diversity (Usman et al. 2018; Brodmann et al. 2022) and reduced by increased product market competition (Jaroenjitrkam et al. 2020).

This paper makes several important contributions. First, this study identifies and presents all the different measures of CEO power. Second, this literature review has helped to distinguish all the theories about CEO power, and we have ascertained the empirical studies that supported or refuted them. Third, this review has helped to recognize the methodological challenges faced in CEO power research and how empirical studies have addressed those challenges. Finally, this review also presents the key research areas in CEO power and has categorized the studies into various streams, as mentioned earlier. To the best of

our knowledge, this is the first comprehensive review of CEO power and corporate strategies. The rest of the paper is structured as follows. Section 2 reviews different measures of CEO power adopted by extant studies. Section 3 presents the theories related to CEO power literature. Section 4 presents the methodology adopted by the empirical studies. Sections 5, 6, 7, 8 review the literature categorized under streams 1, 2, 3, and 4, respectively. Finally, Sect. 9 concludes.

2 Indicators and theories of CEO power

In this section, we discuss the various measures of CEO power, starting with the four areas originally identified by Finkelstein (1992) and followed by other measures of CEO power.

2.1 Structural power

CEOs' structural power emanates from their formal organizational composition and hierarchical command through exercising their legislative rights (Finkelstein 1992; Finkelstein and D'aveni 1994). Most empirical studies have recognized CEO-Chair duality (see Daily and Johnson 1997; Deboskey et al. 2019; Haynes and Hillman 2010; Joseph et al. 2014; Korkeamäki et al. 2017) as the measure of structural power. This is measured as a dummy variable 1 if the CEO is also the board chair. From the organization perspective, CEO-Chair duality brings unity of command through unequivocal and explicit power over the company and proclaiming a definite line of influence (Finkelstein and D'Aveni 1994). Studies on strategy development suggest that organizations spearheaded by formidable leaders can provide strategic directions that can be possible when the same individual is both the CEO and the Chair of the board.

Finkelstein and D'Aveni (1994) argue that vigilant boards characterized by greater independent directors tend to support nonduality as they perceive that duality weakens the supervising mechanism of the board. Fralich and Papadopoulos (2018) document that CEO-Chair duality exerts its power over the board through information asymmetry, thereby preventing the board from making informed decisions. Finkelstein and D'Aveni (1994) report that CEO-Chair duality impedes the board's power to successfully supervise and control the board's agenda and directs the board's focus to fulfill the CEO's agenda.

A second indicator of CEO structural power pioneered by Bebchuk et al. (2009) and later by Bebchuk et al. (2011) is the CEO pay slice (CPS). This is taken as the ratio of CEO compensation to the total compensation of the top five executives on the board. Bebchuk et al. (2011) assert that CPS is a more objective measure as it accounts for different attributes of the CEO concerning its skills, influence, or power. In addition, CPS indicates the CEO's power relative to other board members. Sheikh (2018a) measures CPS as a dummy variable 1 if the firm's CPS is higher than the industry median CPS and 0 otherwise. CPS as a proxy of structural CEO power has been subsequently expended by several studies (see Jiraporn et al. 2012; Li et al. 2016; Liu and Jiraporn 2010; Ntim et al. 2019; Shahab et al. 2020; Sheikh 2019a, 2019b, 2018a, 2018b; Tian and Yang 2014; Usman et al. 2018). Zagonov and Salganik-Shoshan (2018) examine the validity of CPS as an effective measure of CEO power. They advance that CPS wrongly estimates CEO power as it does not control the allocation of pay amongst the top five executives. This is because CPS overlooks the vital evidence enclosed in the compensation data of top executives.

Few studies have also used CEO triality as a measure of structural power. This is a dummy variable of 1 if the same individual is the CEO, the Chair, and the firm's President (see Adams et al. 2005; Han et al. 2016; Sheikh 2018a, 2018b, 2019a). Harjoto and Jo (2009) has used CEO plurality by taking a categorical variable with value 1 to capture CEO-Chair duality and triality. Tang et al. (2011) and Tang and Crossan (2017) have taken a similar measure that they coined as "percentage of higher titles". They have applied a reverse coded indicator variable coded as zero implying lower CEO power if the top management team (TMT) has an executive vice president (VP), senior VP, and two VPs.

Several studies have taken board independence to gauge structural power (Abernethy et al. 2015; Choe et al. 2014; Gunasekarage et al. 2020; Han et al. 2016; Kalyta 2009; Kalyta and Magnan 2008; Sheikh 2018b; Zhu et al. 2021). The strength of independent directors to monitor the board is adversely affected by CEO power; hence a powerful CEO leads to a less diligent board (Sheikh 2018b). On the contrary, Abernethy et al. (2015) and Gunasekarage et al. (2020) assert that independent directors would also have fewer disagreements with the CEO due to their prior detachment from firms' decision-making. Board independence is evaluated by taking the proportion of unrelated directors (Kalyta and Magnan 2008), outside directors (Coles et al. 2001; Kalyta 2009), the proportion of executive directors on the board (Choe et al. 2014), the proportion of independent directors (Abernethy et al. 2015; Gunasekarage et al. 2020), and dependent directors (Han et al. 2016). Sheikh (2018b) has adopted an indicator variable as 1 if the proportion of independent directors is below the median proportion of independent directors.

Several studies have also implemented CEO compensation to measure structural power. Higher CEO compensation indicates that the CEO could influence the board (Bigley and Wiersema 2002; Daily and Johnson 1997; Finkelstein 1992; Westphal and Zajac 1995). Pay differential between the CEOs and other board members indicates CEOs exerting power over top managers (Bigley and Wiersema 2002). Agency theory envisages that powerful CEOs could persuade the remuneration committee to settle substantial compensation not tied to financial performance (Veprauskaitė and Adams 2013). Different studies have used variants of CEOs' compensation. CEO compensation is measured as CEOs' total compensation out of the total cash compensation of the next highest-paid officer in the firm (Bigley and Wiersema 2002; Daily and Johnson 1997; Gunasekarage et al. 2020; Lisic et al. 2016); annual total compensation (cash, salary, and bonuses) (Fang et al. 2020; Tang et al. 2011; Tang and Crossan 2017; Veprauskaitė and Adams 2013); average CEO cash compensation by average TMT cash compensation (Abebe et al. 2011).

CEO being the only insider has been taken to evaluate structural power by few studies (Adams et al. 2005; Chiu et al. 2021; Ting 2013), while Lewellyn and Fainshmidt (2017) recognize this measure as a prestige power as it bestows heightened status. Agency theory perceives that the CEO being the only insider will reduce CEO power as this would increase board independence and, thereby, effective board monitoring (Adams et al. 2005; Lewellyn and Fainshmidt 2017). On the other hand, insider CEOs have higher knowledge capital (Chiu et al. 2021), and as the only insider, the CEO would have the power to curb information shared with other directors (Adams et al. 2005; Lewellyn and Fainshmidt 2017). A dummy variable of value 1 captures this if the CEO is an insider and zero otherwise (Adams et al. 2005; Chiu et al. 2021; Ting 2013).

Other structural CEO powers used by a few studies are the CEO pay gap (Jaroenjitrkam et al. 2020; Sheikh 2019a, 2018b; Li 2016) and performance-related bonuses (Veprauskaitė and Adams 2013). The CEO pay gap is the difference between CEO's total compensation and second highest director's compensation over CEO's total compensation (Li 2016).

CEO bonus pay is determined by a categorical variable 1 if the CEO gets a performance-related bonus and zero otherwise.

2.2 Ownership power

Finkelstein (1992) observes that ownership grants CEOs to implement higher authority to make strategic decisions. The two most popular ownership power measures adopted by extant studies are CEO stock ownership and the CEO as the firm's founder. Stock ownership has been recognized as a vital measure of upper-echelon power (Bigley and Wiersema 2002; Daily and Johnson 1997; Finkelstein 1992). Morck et al. (1988) document that CEO stock ownership would increase their voting rights, which could give them substantial control in director nomination. Ownership over 5 percent could lead to CEO entrenchment (Morck et al. 1988) and could guard them against internal monitoring mechanisms. A higher ownership stake could also give CEOs legitimate rights to decide on firms' investment policies (Dowell et al. 2011), and increased CEO stock ownership could diminish the chances of involuntary turnover (Sheikh 2019a). CEO stock ownership is proxied by the percentage of stocks obtained by CEOs. Haynes and Hillman (2010) have taken a slightly different measure of ownership power: the proportion of CEOs to board equity holdings.

The second measure of ownership power that many studies have used is founder-CEO or CEO from the founding family. Founder-CEO maintains a level of formal power (equity ownership) and informal power (founder or relative of founder) that allows proclaiming strategic changes within the firm (Buyl et al. 2011; Daily and Johnson 1997; Dowell et al. 2011; Sheikh 2018a). Fahlenbrach (2009) observes that founder CEOs lower agency costs because they consider the firm as their life's work and are driven to maximize its value. CEO founder or from the founding family possess substantial authority over the business's strategy, culture, and aspirations (Le et al. 2022). Founder CEOs are perceived as internally hired and have a different type of motivation than other CEOs (Adams et al. 2005), have substantial sway on the board of directors (Sheikh 2018a; Walls and Berrone 2017), are unlikely to be removed from their position and may have a different perception of risk than other CEOs (Fahlenbrach 2009). Several studies have used categorical variable, one for founder CEOs and zero otherwise (Abebe et al. 2011; Adams et al. 2005; Buyl et al. 2011; Cormier et al. 2016). Cormier et al. (2016) and Jaroenjitrkam et al. (2020) adopt a different version of the founder CEO measure: the CEO's family owns more than a 5% share. Daily and Johnson (1997) have also used a CEO with the same last name as the third category of founder measure in addition to the above two.

A third measure of ownership power that has been used by a few studies is institutional ownership (Abernethy et al. 2015). Outside investors with significant stock ownership are expected to retrieve internal and external firm information, tend not to be influenced by the board of directors and enable the transfer of power from management to the shareholders (Lewellyn and Muller-Kahle 2012). Higher institutional ownership implies higher voting rights to nominate board members and greater supervision of executive compensation (Lewellyn and Muller-Kahle 2012) and, thereby, a more rigorous inspection of managers' power (Haider and Fang 2018). This is the percentage of shares obtained by an individual other than the CEO (Abernethy et al. 2015; Lewellyn and Muller-Kahle 2012; Pollock et al. 2002).

Other measures of ownership power that few studies have used are outside stock ownership (Kalyta 2009; Kalyta and Magnan 2008) or top outsider ownership (Lewellyn and

Muller-Kahle 2012); CEO blockholders¹ (Kalyta 2009; Kalyta and Magnan 2008); high CEO ownership² (Jaroenjitrkam et al. 2020). Increased ownership of outside directors would make them more watchful of CEOs' behaviors. Outside directors are also expected to possess superior internal and external information. Therefore, they are unlikely to be swayed by the CEO (Lewellyn and Muller-Kahle 2012) and would have higher voting rights (Finkelstein and D'Aveni 1994). Chen (2014) has taken this as the ratio of shares owned by the CEO to outside directors.

2.3 Expert power

CEO's ability to tackle business contingencies increases with their time on the board as they can develop more excellent contacts and relationships with different stakeholders (Finkelstein 1992). CEOs are also likely to amass social capital and knowledge with longer tenure, which could be a source of informal power (Finkelstein and D'aveni 1994; Greve and Mitsuhashi 2007). Increased tenure would lead CEOs to have greater knowledge of company information, and they could limit the board's accessibility of this information (Daily and Johnson 1997; Combs et al. 2007). Simsek (2007) also observes that increased CEO tenure could lead to increased social gathering with directors, other firm managers, and constituents that brings legitimacy to engage in risky ventures. CEO tenure could also alleviate board monitoring (Graham et al. 2020; Ryan and Wiggins 2004) and heighten managerial entrenchment leading to divergence of corporate resources (Sheikh 2019a). Most studies that have used CEO tenure to gauge CEO expert power have measured it in terms of the CEO length (in years) in the post (see Abernethy et al. 2015; Buyl et al. 2011; Chiu et al. 2021; Fang et al. 2020; Gunasekarage et al. 2020; Park et al. 2018). In contrast, Han et al. (2016) and Sheikh (2018a) use a dummy variable of value 1 if the CEO tenure is more than the industry median or CEO tenure is more than the median tenure of the whole sample (Mollah and Liljebloom 2016). Huang and Gao (2022) have considered CEO tenure as structural power.

Expert power could emanate from in-depth knowledge and familiarity with the salient elements of the firm (Finkelstein 1992). Few studies have used the number of years worked in the firm in different roles (Finkelstein and D'aveni 1994; Daily and Johnson 1997; Fralich and Papadopoulos 2018; Kalyta 2009; Kalyta and Magnan 2008) or number of years worked in the board (Walls and Berrone 2017) or CEOs' holding executive positions (Gunasekarage et al. 2020) or CEOs' holding roles in board committees (Abernethy et al. 2015) as measures of expert power. They assert that when CEOs serve the board in other roles, they have a stronger bond with the board to control and mobilize resources. Le et al. (2022) affirm that CEOs with financial expertise can manage earnings and have taken a categorical variable as 1 if the CEO has financial expertise and zero otherwise. Zhang and Rajagopalan (2010) adopt different categories³ of functional background to capture

¹ This is calculated using a dummy variable one if the outside shareholders own at least 10% of the shares outstanding, and zero otherwise.

² This is calculated using a dummy variable one if the CEO owns 20% or more of the firm's shares, and zero otherwise.

³ This study categorises the functional background into 'throughout' and 'non-throughout' backgrounds. Throughout functional background refers to CEOs in production, process R&D, operations, and accounting while non-throughout functional background refers to CEOs in merchandising, marketing, finance, R&D, and law.

expert power. Kalyta and Magnan (2008) use the unrelated director's tenure as another measure of CEO power, while Haider and Fang (2018) take CEO professional certificates as a measure of expert power. Finkelstein and D'aveni (1994) have taken another measure of expert power to represent CEOs' unique skills and expertise, and this is measured as the difference between the functional backgrounds of the TMT and the CEO weighted by the size of the board.

Buyl et al. (2011) identify two more sources of expert power: CEO generalist and CEO as a marketing specialist. Generalist CEOs are likely to have shared perception and trust with the TMT, and CEOs as marketing specialists are particularly useful for sectors with frequent product innovation. These are used as categorical variables. Lewellyn and Muller-Kahle (2012) use another measure of CEO expert power: outside directors' tenure. This study affirms that the long tenure of outside directors would give them enhanced information about the firm, and so they can have a better assessment of CEO decisions. This is evaluated by the number of years each outside director was a board member.

2.4 Prestige powers

CEO prestige is an informal power that emanates from the institutional environment and the CEO's interaction with individuals in other organizations holding similar authority (Finkelstein 1992; Finkelstein and D'Aveni 1994). Lewellyn and Muller-Kahle (2012) advance that CEOs with prestige power will face less scrutiny from outside directors as their prestige power will measure their successful leadership. Most extant studies have measured CEO prestige power by taking the number of directors' positions held by the CEO in other organizations (see Abebe et al. 2011; Altunbas et al. 2020; Bigley and Wiersema 2002; Daily and Johnson 1997; Finkelstein and D'Aveni 1994; Fralich and Papadopoulos 2018; Gunasekarage et al. 2020; Haynes et al. 2019; Lewellyn and Muller-Kahle 2012; Ting 2013) or as a dichotomous variable (Haider and Fang 2018). Fralich and Papadopoulos (2018) and Lewellyn and Fainshmidt (2017) have taken another indicator of prestige power: the number of non-profit board directorships. Fralich and Papadopoulos (2018) use a third measure, the relative prestige of the firm where the CEO holds office. This is possibly because outside directorship is viewed as CEO's networking ties and embeddedness within the business elites (Lewellyn and Muller-Kahle 2012). CEOs could expand their network through their outside directorship, allowing them to gain access to strategic information and hence reduce asymmetric information (Fralich and Papadopoulos 2018). Finkelstein and D'Aveni (1994) assert that CEO prestige power could increase entrenchment leading to centralized structures like CEO duality. Increased CEO prestige power could lead vigilant boards to appoint an independent chairperson to counter or balance the supremacy of the CEO.

Another source of prestige power is CEO's attendance in prestigious or elite universities for their undergraduate and postgraduate degrees. Some studies have taken this as a categorical variable (Finketsien and D'aveni 1994; Bigley and Wiersema 2002; Chikh and Filbien 2011; Daily and Johnson 1997; Dowell et al. 2011; Fang et al. 2020; Haider and Fang 2018; Ting et al. 2017; Zhang and Rajagopalam 2010; Zhu et al. 2021) or as the number of elite universities the CEO has attended (Gunasekarage et al. 2020; Haynes et al. 2019) or if CEO's qualification is more than the median qualification (Mollah and Liljebloom 2016).

Several extant studies have also taken CEO age as a gauge of prestige power since, with age, CEOs are likely to gather more skill and knowledge (Haider and Fang 2018; Mollah

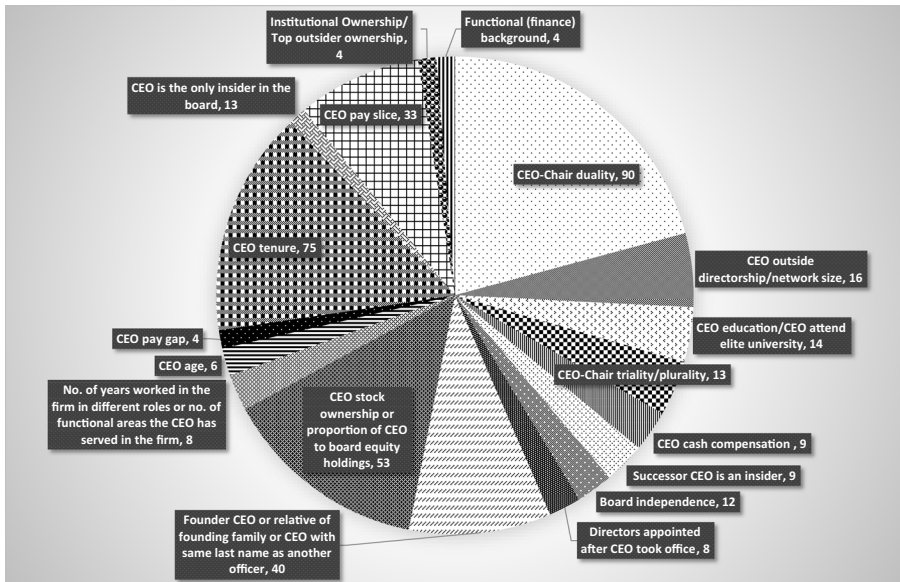


Fig. 2 Measures of CEO power

and Liljebloom 2016; Ntim et al. 2019; Zhang and Rajagopalam 2010). Haider and Fang (2018) consider CEO age and gender as CEO demographic power.

2.5 Other measures of CEO power

Kalyta and Magnan (2008) and Abernethy et al. (2015) have taken board size to measure CEO power, as large boards could lead to a fall in the board's efficiency in controlling CEO power. Other determinants of CEO power are CEO acquisition experience (Chikh and Filbien 2011); CEO unforced turnover (Onali et al. 2016); ownership concentration (Abernethy et al. 2015); CEO reputation (Ntim et al. 2019); political connection (Zhu et al. 2021); CEO is CFO (Tan and Liu 2016); staggered board (Pollock et al. 2002); CEO duality and nomination committee and CEO plurality (chair and nomination committee) (Harjoto and Jo 2009).

3 Summary of CEO power indicators

From the literature review under different streams, as shown in Tables 3, 4, 5, 6, most studies have used the four dimensions of CEO power originally coined by Finkelstein (1992). However, these studies have taken different proxies of CEO power. Figure 2 shows the distribution of studies across various measures of CEO power reviewed above. This figure has omitted those CEO power measures used by three or less than three studies listed in the previous paragraph.

The review reveals that 64 studies⁴ have used the CEO power index to measure CEO power. These indexes consider various proxies of the four CEO power dimensions coined by Finkelstein (1992) as discussed in Sect. 2. Figure 2 shows the measures of CEO power adopted by all the studies that have either used CEO power index or individual measures of CEO power. As Fig. 2 shows, the most popular measure of CEO structural power is CEO-Chair duality, which 90 studies have adopted. CEO tenure is the most popular source of expert power, and it has been used by 75 studies, CEO stock ownership is the most popular measure of ownership power, and 53 studies have used it. Other popular measures are CEO founder (40), CEO pay slice (33), CEO outside directorship or CEO network size (16), CEO education (14), board independence (12), CEO is the only insider (13), CEO triality/plurality (13), successor CEO is an insider (9), CEO cash compensation (9), number of years worked in the firm in different roles (8), directors appointed after CEO took office (8), CEO age (6), CEO functional background (4), CEO pay gap (4), top outside ownership (4). From Tables 3, 4, 5, 6, where we have reviewed all the studies under various streams, it is apparent that researchers favor no single measure of CEO power under any of the research streams. However, CEO duality stands out as the most popular measure of CEO power, as shown above, with 90 studies that have adopted this measure.

4 Theories related to CEO power literature

We have identified twenty-six theories pertaining to CEO power literature. A summary of all the studies linked to these theories is shown in Table 1. The definitions of all these theories are shown in the first column of Table 1. Some of these theories have received mixed support from empirical studies. These are shown in Panel A. Some theories have received unanimous support from empirical studies, which are reported in Panel B, and some theories have been refuted by empirical literature, and these are shown in Panel C.

4.1 Theories that have received mixed support

The most widely referred theory about CEO power literature is agency theory. Based on this theory, studies have found that CEO power leads to lower firm value and performance (Bebchuk et al. 2011; Veprauskaitė and Adams 2013; Duru et al. 2016); needs increased monitoring by outside directors (Combs et al. 2007), could lead to entrenchment (Finkelstein and D'Aveni 1994); lower leverage (Jiraporn et al. 2012; Chintrakarn et al. 2014); poor credit rating and higher bond yields (Liu and Jiraporn 2010); lower bank risk-taking (Pathan 2009); moderates the positive relation between board strength and firm strategy (Tuwey and Tarus 2016); lower dividend payout (Chintrakarn et al. 2018); use less equity-based compensation that weakens board monitoring (Ryan and Wiggins; 2004); lower CSR exposure and alleviates the positive effect of board capital on CSR exposure (Muttakin et al. 2018); reduces the effect of ESG disclosure on market-based risk than accounting-based risk (Menla Ali et al. 2023); positively influences earnings management (Le et al. 2022); lower R&D investment (Naaman and Sun 2022); lower entrepreneurial orientation (Saiyed et al. 2023); lower idiosyncratic volatility (Tan and Liu 2016); positively related

⁴ Refer to “Measures of CEO Power” columns in Tables 3, 4, 5, 6.

Table 1 Theories of CEO power and empirical results

Panel A: theories	Empirical studies that support the theories	Empirical studies that refute the theories
<p>Agency theory: there could be conflict of interests between principals and agents Jensen and Meckling (1976). This theory suggests that powerful CEOs might sway their influence over the board and curb board monitoring mechanism that could cause poor firm performance and lower risk-taking</p>	<p>Bebhuk et al. (2011); Veprauskaitė and Adams (2013); Brodmann et al. (2021); Duru et al. (2016); Combs et al. (2007); Jiraporn et al. (2012); Chintarakarn et al. (2014); Liu and Jiraporn (2010); Pathan (2009); Tuwey and Tarus (2016); Chintarakarn et al. (2018); Ryan and Wiggins (2004); Muttakin et al. (2018); Le et al. (2022); Naaman and Sun (2022); Tan and Liu (2016); Pucheta-Martínez and Gallego-Álvarez (2021); Menla Ali et al. (2023)</p>	<p>Haynes et al. (2019); Sanders and Carpenter (1998); Pollock et al. (2002); Jaroentjakam et al. (2020); Shui et al. (2022); Sheikh (2019a); Sheikh (2019b); Luo (2015); Mollah and Lijebloom (2016); Sariol and Abebe (2017); Sheikh (2018a); Sheikh (2018b); Saleh et al. (2022); Tien et al. (2013); Ntim et al. (2019); Maswadi and Amran (2023)</p>
<p>Managerial power/hegemony or rent extraction theory: CEOs use their power over the board to extract rent through increased compensation. Some studies have measured this in terms of CEO pay slice Bebhuk et al. (2011); Choe et al. (2014); Bugeja et al. (2017)</p>	<p>Choe et al. (2014); Ntim et al. (2019); Henderson et al. (2010); Shahab et al. (2020); Tian and Yang (2014); Shahab et al. (2022); Al-Shaer et al. (2023); Zhu et al. (2021); Joura et al. (2022); Hill et al. (2016); Kalyta and Magnan, (2008); Tien et al. (2013)</p>	<p>Luo (2015); Bugeja et al. (2017); Zou et al. (2021); Tien et al. (2013)</p>
<p>Optimal contract theory and dynamic bargaining theory: Pay structure and incentive contracts could effectively improve performance and reduce agency costs Bebhuk and Fried (2003)</p>	<p>Ntim et al. (2019); Zhu et al. (2021); Bugeja et al. (2017)</p>	<p>Boyer (2005)</p>
<p>Upper echelon theory: firms' strategic outcome could be explained by the TMT background and characteristics Hambrick and Mason (1984)</p>	<p>Bigley and Wiersema (2002); Simsek (2007); Sun and Skousen (2022); Jia et al. (2022); Saiyed et al. (2023)</p>	<p>Tan and Liu (2016)</p>
<p>Approach/Inhibition theory of power: Increased power leads to approach-related traits, while reduced power leads to inhibition traits Keltner et al. (2003)</p>	<p>Lewellyn and Muller-Kahle (2012); Zhang et al. (2022);</p>	<p>Zhou et al. (2021); Saiyed et al. (2023)</p>
<p>Organization theory: vigilant boards favor CEO duality as it creates an unambiguous line of authority within organizations and establishes clarity in decision-making Finkelstein and D'Aveni (1994)</p>	<p>Adams et al. (2005); Haider and Fang (2018); Sheikh (2018b); Breuer et al. (2022); Shabir et al. (2023)</p>	<p>Zou et al. (2021)</p>

Table 1 (continued)

Panel A: theories	Empirical studies that support the theories	Empirical studies that refute the theories
Stakeholder theory: Central tenet of CSR and it asserts that managers should work towards addressing the goals of all the stakeholders Freeman and Evan (1990)	(Li et al. 2018); Pucheta-Martínez and Gallego-Álvarez (2021); Al-Shaer et al. (2023)	Harper and Sun (2019)
Panel B: theories		
Empirical studies that support the theories		
Compensation transparency theory: deviation of TMT pay from optimum due to managerial power is conditional on transparency of managerial compensation Kalyta (2009)	Kalyta (2009)	
Resource dependence theory: firms collaborate with external stakeholders to gain access to resources needed to run the business Pfeffer and Salancik (1978)	Haynes and Hillman (2010); Chen, (2014); Krause et al. (2016); Maswadi and Amran (2023)	
Common sense theory: successor CEOs are nominated based on experience and professional background	Ting (2013)	
Director reputation theory: directors pursue to create and uphold their reputation, thereby improving their human capital to enhance their chances of getting appointments in other boards Fama (1980); Fama and Jensen (1983)	Zajac and Westphal (1996a, b); Zajac and Westphal (1996b); DeBoskey et al. (2019)	
Dynamic performance theory: CEOs' power and dominance increase with tenure, leading to CEO and board entrenchment Miller (1991)	Colak and Liljebloom (2022)	
Efficiency theory: advantages of hiring powerful CEOs outweigh agency costs	Chiu et al. (2021)	
Governance theory: firm governance depends on the underlying power struggles and how decision-making power is conferred to the board players Daily et al. (2003)	Lewellyn and Fainshmidt (2017)	
Human capital theory: CEOs' knowledge and expertise bring human capital that could improve firm performance Coff (2002)	Huang and Gao (2022)	
Impression management theory: firms are strongly motivated to conceal bad operating performance Merkel-Davies and Brennan (2007)	Sun et al. (2022)	
Life-cycle theory: firms in the mature stage of their business life cycle tend to pay dividends as they have lesser investment opportunities DeAngelo et al. (2006)	Harjoto and Jo (2009)	
Managerial discretion theory: managers' characteristics are reflected in their corporate strategies when managers are given more freedom in the decision-making process Donald (2007)	Schopohl et al. (2021)	

Table 1 (continued)

Panel B: theories	Empirical studies that support the theories
Managerial entrenchment theory: managers make investment decisions in their stake, and it could be costly for the shareholders to remove them Shleifer and Vishny (1989)	Park et al. (2018)
Power circulation theory: there is a continuous power struggle between the CEO and the board Shen and Cannella (2002)	Combs et al. (2007); Adams et al. (2005); Brahma et al. (2021)
Prospect theory: individual decisions are based on perceived gains rather than losses Kahneman and Tversky (1979)	Tang and Crossan (2017); Tang et al. (2011)
Self-categorization theory/attraction-selection-attrition/ Social categorization theory: individuals seek to construct homogeneous groups Turner et al. (1987)	Westphal and Zajac (1995); Cannella and Shen (2001); Buyl et al. (2011); Zhang et al. (2011)
Social capital theory: social relationships could help in the accumulation of human capital	Greve and Mitsuhashi (2007)
Structural elaboration theory: laws and legal requirements serving institutional logic are fundamentally ambiguous and are subject to interpretation Edelman (1992)	Joseph et al. (2014)
Panel C: theories	Empirical studies that refute the theories
Stewardship theory: CEO duality is likely to have a favorable effect on firm performance as CEOs in their dual role could channel resources that would increase firm performance Donaldson and Davis (1991)	Lewellyn and Fainshmidt (2017)
Shareholder theory: shareholder wealth maximization is the primary aim of all corporations, and in this regard, firm CSR initiatives could lead to a fall in firm value Friedman (1970)	Ahsan et al. (2022)

This Table summarizes all the theories related to CEO power literature.

to CSR (Pucheta-Martínez and Gallego-Álvarez 2021); lower corporate sexual orientation policies (Brodmann et al. 2021).

On the other hand, some studies have refuted agency theory. Some of these studies advance that agency problems through CEO power could be mitigated by board monitoring (Haynes et al. 2019); longer-term CEO pay, bigger TMT, and CEO non-duality (Sanders and Carpenter 1998); CEO ownership power (Pollock et al. 2002); market discipline (Jaroenjitrkam et al. 2020). Shui et al. (2022) contend that CEO power in weak boards should be complemented with institutional ownership to increase environmental innovation. Agency theory is refuted by some studies, which find that powerful CEOs have lower CSR engagement (Sheikh 2019a; Maswadi and Amran 2023), take more risk in the presence of discipline through increased market competition and strong corporate governance (Sheikh 2019b), no significant effect on pay performance (Luo 2015), positive effect on firm performance (Mollah and Liljebloom 2016), engage in more exploitative innovation (Sariol and Abebe 2017; Sheikh 2018a), increases firm value (Sheikh 2018b), positively affects firm performance and institutional ownership (Saleh et al. 2022), CEO directorship improves firm performance (Tien et al. 2013). Boards with concentrated ownership have higher second-tier agency problems (board power and vested interests of other directors) than first-tier agency problems (CEO power and their vested interests) (Ntim et al. 2019).

The second most popular theory is managerial power or rent extraction theory. In support of this theory, some studies have found that CEO managerial power is positively related to CPS, and where there is a cap in salary, CEO power causes rent extraction through stock-based compensation (Choe et al. 2014), leads to positive but relatively small pay-for-performance support (PPS) (Ntim et al. 2019), lesser decrease in bonus compensation, increase in equity compensation and greater chances of getting bonus when there are layoffs in their firms (Henderson et al. 2010), positively related to stock price crash (Shahab et al. 2020), positively related to bank CEO incentive pay (Tian and Yang 2014), causes CSR decoupling (Shahab et al. 2022), takes lesser environmental initiatives (Al-Shaer et al. 2023), increases CEO compensation and the gap between CEO and other executives' pay (Zhu et al. 2021; Joura et al. 2022) and is positively related to long term pay (Tien et al. 2013). Others have reported that economic terms could not explain powerful CEOs' excessive compensations but could be attributed to their power over the board (Hill et al. 2016) and rent extraction is contingent on the extent of transparency of management compensation (Kalyta and Magnan 2008). Refuting this theory, some studies show that CEO power does not lead to an increase in executive compensation in Chinese banks (Luo 2015); does not increase CPS overtime for newly appointed CEOs (Bugeja et al. 2017), is positively related to firm risk (Zou et al. 2021), and negatively affects CEOs' long term and short term pays (Tien et al. 2013).

Another theory pertaining to CEO power literature, particularly on CEO power and executive compensation literature, is grounded in optimal contract theory and dynamic bargaining theory. In support of this theory, studies find that pay for performance sensitivity improves in companies with powerful founding and shareholding CEOs (Ntim et al. 2019). CEO-chair age dissimilarity could restrain CEOs' rent-seeking behavior (Zhu et al. 2021), and firms tend to reduce excess CPS (Bugeja et al. (2017). Refuting this theory, Boyer (2005) argues that this theory is likely to fail as powerful managers use their power to convert stock options into financial market incentives.

The fourth theory is the upper echelon theory. Grounded in this theory, studies find that CEO long tenure indirectly leads to positive risk-taking through CEO power on TMT risk-taking tendencies (Simsek 2007), CEO equity ownership has a positive effect on CSR initiatives (Jia et al. 2022), CEO heir apparent experience influence the cognitive orientation

that leads them to take decisions that maintain the organization's status quo instead of corporate refocusing (Bigley and Wiersema 2002), and firms' strategic choices are swayed by CEO and TMT attributes (Byun and Al-Shammari 2021 and Sun and Skousen 2022). Refuting this theory, Tan and Liu (2016) find that CEO experience measured by long tenure could lead to entrenchment.

Another theory related to CEO power is the approach/inhibition theory of power. This theory suggests that power could trigger an individual's neurobiological approach to focus on positive outcomes and ignore the negative consequences. Based on this theory, Lewellyn and Muller-Kahle (2012) find that CEO power leads to excessive risk-taking, and Zhang et al. (2022) find that CEO power promotes environmental innovation. Refuting this theory, Zhou et al. (2021) find that CEO power disinhibition could thwart strategic change, and Saiyed et al. (2023) show that CEO power reduces the effect of entrepreneurial orientation on firm performance.

The next related theory is organization theory, and based on this theory, studies find that powerful CEOs are more confident in their decision-making and undertake risky decisions that could enhance firm performance (Sheikh 2018a), significantly impacts on firms' CSR policies (Breuer et al. 2022), powerful CEOs take more extreme decisions whereas decisions taken by a larger group is more moderate (Adams et al. 2005 and Haider and Fang 2018), powerful CEOs with strong boards improves firm performance (Shabir et al. 2023). On the other hand, Zou et al. (2021) find mixed evidence on CEO power and firm risk.

In support of the stakeholder theory, Pucheta-Martínez and Gallego-Álvarez (2021) and Al-Shaer et al. (2023) find that CEO compensation is linked to CSR initiatives, and Li et al. (2018) report that Environmental, Social, and Governance (ESG) score is more value enhancing in the presence of powerful CEOs. Refuting this theory, Li et al. (2016), Mutakin et al. (2018), Harper and Sun (2019), Maswadi and Amran (2023) find that powerful CEOs have lesser engagement in CSR activities. Jia et al. (2022) find mixed evidence between CEO power and CSR disclosure.

4.2 Theories that have received unanimous support from empirical studies

In support of the compensation transparency theory in Panel B, Kalyta (2009) suggests that CEO power determines the supplemental executive retirement plan (SERP) benefits whereas transparency in compensation is driven by economic factors. In support of resource dependence theory, studies find that powerful CEOs could strengthen the effect of board power on R&D investment (Haynes and Hillman 2010; Chen 2014), CEO power is required in firms that aim to cater to customers' needs and firms operating in competitive product markets with higher cultural power distance (Krause et al. 2016), CEO power moderates the effect of board director attributes on CSR disclosure. Ting (2013) finds support for common-sense theory and finds that when successor CEOs have similar power as predecessors, turnover announcements generate positive abnormal returns.

In support of director reputation theory, studies find that powerful CEOs show aggressiveness and optimism in their earnings announcement tone (DeBoskey et al. 2019), tend to hire successor CEOs who have similar demography as them (Zajac and Westphal 1996a, b), and attract directors from boards with governance change (Zajac and Westphal 1996b). Colak and Liljebloom (2022) find that CEOs' long tenure could be detrimental to firm performance even after the long-tenured CEO is replaced. Chiu et al. (2021) find support for efficiency theory and show that powerful CEOs with knowledge capital lead to an increase in firm value. Lewellyn and Fainshmidt (2017) show that discretion arising from CEO

duality could complement with firm and industry discretions to enhance firm value, thus supporting governance theory. Based on human capital theory, Huang and Gao (2022) show that CEO power leads to reduced debt policy persistence. In support of impression management theory, Sun et al. (2022) find that the positive association between CEO power and reading difficulty is due to bad operating performance. Harjoto and Jo (2009) report that CEO power favors firm performance in the initial stages of the business and is detrimental to firm performance in more advanced or mature stages of business, thus supporting life-cycle theory. Grounded on managerial discretion theory, Schopohl et al. (2021) find that lower-powered CEOs and diverse boards could lead female CFOs to reduce leverage in organizations.

Managerial entrenchment theory finds support from Park et al. (2018), who show that the negative relation between CEO hubris and firm performance is aggravated by CEO power. Grounded in power circulation theory, Combs et al. (2007) find that powerful CEOs could maintain a dominant coalition in the board and the strategic decisions taken by weaker CEOs result in poor outcome (Adams et al. 2005; Brahmana et al. 2021). Based on prospect theory, Tang and Crossan (2017) and Tang et al. (2011) find that troubled firms might take recourse to risky strategies by hiring dominant CEOs.

Several studies have found support for self-categorization or social categorization theory. Based on this theory, studies report that powerful CEOs are less likely to promote the heir apparent (Cannella and Shen 2001), less likely to share information with TMT (Buyl et al. 2011), prefer to hire directors of the same demography (Westphal and Zajac 1995), and non-CEO executives tend to exit firms where there is demographic dissimilarity (Zhang et al. 2011).

In support of the social capital theory, Greve and Mitsuhashi (2007) advance that powerful CEOs' social capital helps them to make strategic decisions without reliance on their subordinates. Based on structural elaboration theory, Joseph et al. (2014) show that a CEO-only board might embrace board independence but could cause CEO entrenchment.

4.3 Theories that are refuted by empirical studies

Lewellyn and Fainshmidt (2017) find partial support for stewardship theory and show that only when CEO duality is linked to certain other CEO powers this outcome is accomplished. Shareholder theory is refuted by Ahsan et al. (2022) as they report that powerful CEOs could create firm value through CSR activities when CSR practices align with firms' objectives.

4.4 Studies not related to any of the theories on CEO power

We have found the following studies unrelated to any of the theories discussed in Sect. 3. We have presented all these studies in Tables 3, 4, 5, 6. Table 3 discusses the following studies under CEO power and firm performance that are not related to any theory—Abebe et al. (2011), Ahsan et al. (2022), Cormier et al. (2016), Daily and Johnson (1997), Fang et al. (2020), Gunasekarage et al. (2020), Han et al. (2016), Li (2016), Tang (2021), Ting et al. (2017), Usman et al. (2018) and Table 4 shows the following studies under CEO power and executive compensation that are not related to any theory—Al-Dhamari et al. (2022), Joura et al. (2022). Table 5 presents the following studies on CEO power and firm risk-taking that are not related to any theory—Chintrakarn et al. (2015), Huang and Gao (2022), Korkeamaki et al. (2017), Pour et al. (2023), Zhao et al. (2023). Table 6 reports

the following studies under CEO power and corporate strategies that are not related to any theory—Al-Shaer et al. (2023), Bristy et al. (2022), Brodmann et al. (2022), Dowell et al. (2011), Dutta et al. (2011), Fahlenbrach (2009), Fralich and Papadopoulos (2018), Harper et al. (2020), Kim et al. (2017), Lo and Shiah-Hou (2022), Onali et al. (2016), Urban (2019), Walls and Berrone (2017), Zajac and Westphal (1996a, b), Zagonov and Salganik-Shoshan (2018).

5 Methodology

In Table 2, we have provided a summary of all the models used by different studies to examine the various aspects of CEO power, like firm performance, executive compensation, firm risk-taking, and other corporate strategies. Table 2 shows that the four most popular regression models are fixed effect (FE), ordinary least square (OLS), generalized method of moments (GMM), and two-stage least square (2SLS) regressions. One of the challenges researchers face in corporate governance studies is the issue of endogeneity. The problem of endogeneity in econometrics is caused when there is a correlation between explanatory variables and error terms, and this could be caused by reverse causality, omission of variables, or errors in the variables. In many studies, the issue of reverse causality or simultaneity in the variables has been addressed by 2SLS or 2SLS-IV regressions. Several studies have adopted GMM regression to address dynamic endogeneity bias in panel data. Other studies have addressed endogeneity concerns by adopting Heckman's two-stage regression to address sample selection bias and IV regression to address endogenous treatment effects. Several studies have also adopted lagged independent variables and subsample analysis to address endogeneity. FE regression that controls for firm characteristics is also adopted by several studies to address endogeneity. Other studies have used 3SLS and difference in difference (DiD) regression to address endogeneity. Few studies have applied the propensity score matching method (PSM) to randomize the endogenous treatment variables in the absence of reliable IV instruments. These studies are all listed in Table 2. Li (2016) extensively addresses the endogeneity issue to empirically investigate CEO power on corporate governance factors and recommends GMM, IV, and FE models as the top models to address this issue. This study also recommends including meaningful control variables in addition to firm fixed-effects and year fixed-effects. However, not all the studies reported in Tables 3, 4, 5, 6 have tackled endogeneity. Endogeneity concern is a prominent issue of corporate governance research models. Hence, research related to CEO power literature should adopt one or two of the above-mentioned models that address endogeneity. Results of the studies that have not adopted any of these models to tackle endogeneity should be considered with some skepticism. These studies can be identified by observing the methodology columns in Tables 3, 4, 5, 6.

6 CEO power and firm performance

Several studies examine how CEO power affects firm performance by considering Finkelstein's (1992) four categories of CEO power discussed in the previous section. Table 3 reviews all the studies that examine CEO power and firm performance.

Simsek (2007) advances that CEO tenure has a favorable effect on firm performance by directly impacting TMT's risk-taking initiatives. Tien et al. (2013) examine the four

Table 2 Research methodology

Methodology	Studies
DiD regression	Bristy et al. (2022); Colak and Liljeblom (2022); Schopohl et al. (2021)
Entropy balancing	Brodmann et al. (2021); Brodmann et al. (2022); Colak and Liljeblom (2022)
Event study	Combs et al. (2007)
Exploratory factor analysis	Wei (2021)
Fama–MacBeth	Harper et al. (2020); Kim et al. (2017)
Fixed effect (FE)/Industry FE regression	Ahsan et al. (2022); Bebchuk et al. (2011); Chen (2014); Chintrakarn et al. (2014); Chintrakarn et al. (2015); Chintrakarn et al. (2018); DeBoskey et al. (2019); Gunasekarage et al. (2020); Haider and Fang (2018); Harper and Sun (2019); Harper et al. (2020); Henderson et al. (2010); Jia et al. (2022); Jiraporn et al. (2012); Kalyta (2009); Le et al. (2022); Li (2016); Lo and Shiah-Hou (2022); Luo (2015); Ntim et al. (2019); Saleh et al. (2022); Schopohl et al. (2021); Sheikh (2018b); Sheikh (2019a); Sheikh (2019b); Shahab et al. (2022); Tang et al. (2011); Tang (2021); Tien et al. (2013); Urban (2019); Walls and Berrone (2017); Zhu et al. (2021)
FE with lagged independent variables/Multiple-high dimensional FE	Altunbas et al. (2020); Schopohl et al. (2021); Shabir et al. (2023)
Feasible general least squares (FGLS) regression	Greve and Mitsuhashi (2007)
Glejser test	Adams et al. (2005); Pathan (2009)
Generalized estimation equation	Krause et al. (2016); Zhang et al. (2022)
Generalized least square (GLS)/two-stage GLS regression	Park et al. (2018); Pathan (2009); Westphal and Zajac (1995); Zhang and Rajagopalam (2010); Pour et al. (2023)
Generalized method of moments (GMM)/one-step/two-step GMM/IV-GMM regression	Al-Shaer et al. (2023); Altunbas et al. (2020); Brahmana et al. (2021); Brodmann et al. (2022); Duru et al. (2016); Haider and Fang (2018); Haynes et al. (2019); Joura et al. (2022); Li (2016); Luo (2015); Pucheta-Martínez and Gallego-Álvarez (2021); Shahab et al. (2022); Pathan (2009); Saleh et al. (2022); Tan and Liu (2016); Veprauskaitė and Adams (2013); Pour et al. (2023)
Heckman two-stage estimation	Al-Shaer et al. (2023); Colak and Liljeblom (2022); Cyert et al. (2002); Harjoto and Jo (2009); Henderson et al. (2010); Kim et al. (2017); Li et al. (2018); Onali et al. (2016); Zajac and Westphal (1996a, b)
Instrumental variable (IV) regression/IV-GMM	Fahlenbrach (2009); Graham et al. (2020); Harjoto and Jo (2009); Jaroenjitrkam et al. (2020); Li (2016); Sheikh (2018b); Sheikh (2019b); Sheikh (2022); Usman et al. (2018)
Lagged independent variables/lagged hierarchical regression/lagged dependent/binomial hierarchical regression	Adams et al. (2005); Al-Dhamari et al. (2022); Altunbas et al. (2020); Brodmann et al. (2021); Brodmann et al. (2022); Chen (2014); Li (2016); Usman et al. (2018); Zhang et al. (2011)
Linear probability model	Sheikh (2022)

Table 2 (continued)

Methodology	Studies
Logit regression	Abernethy et al. (2015); Chintrakarn et al. (2018); Cormier et al. (2016); Lisic et al. (2016); Westphal and Zajac (1995)
Logistic regression	Chikh and Filbien (2011); Dutta et al. (2011); Horner and Valenti (2012); Kim et al. (2017); Lewellyn and Muller-Kahle (2012); Lo and Shiah-Hou (2022); Pollock et al. (2002); Sanders and Carpenter (1998); Sun and Skousen (2022); Tian and Yang (2014); Wei (2021)
Log-likelihood regression	Dowell et al. (2011)
Moderated regression analysis/Hierarchical moderated regression analysis	Abebe et al. (2011); Bigley and Wiersema (2002); Combs et al. (2007); Haynes and Hillman (2010); Tuwey and Tarus (2016)/ Zhou et al. (2021)
Multinomial logistic regression	Cannella and Shen (2001)
Necessity analysis	Lewellyn and Fainshmidt (2017); Shui et al. (2022)
Negative binomial regression with maximum likelihood estimation	Sariol and Abebe (2017)
Ordinary least square (OLS)/Pooled OLS regression	Abernethy et al. (2015); Baker et al. (2019); Breuer et al. (2022); Bristy et al. (2022); Bugeja et al. (2017); Buyl et al. (2011); Brodmann et al. (2021); Chintrakarn et al. (2014); Chintrakarn et al. (2018); Chiu et al. (2022); Choe et al. (2014); Duru et al. (2016); Elhagrasy et al. (1999); Fang et al. (2020); Fralich and Papadopoulos (2018); Graham et al. (2020); Harper et al. (2020); Hill et al. (2016); Huang and Gao (2022); Jiraporn et al. (2012); Kalyta and Magnan (2008); Kim et al. (2017); Korkeamaki et al. (2017); Lewellyn and Fainshmidt (2017); Li et al. (2016); Li et al. (2018); Liu and Jiraporn (2010); Lo and Shiah-Hou (2022); Mutakin et al. (2018); Naaman and Sun (2022); Ryan and Wiggins (2004); Sanders and Carpenter (1998); Shahab et al. (2020); Shahab et al. (2022); Sheikh (2018b); Sheikh (2019a); Sun and Skousen (2022); Sun et al. (2022); Tang and Crossan (2017); Tian and Yang (2014); Ting (2013); Ting et al. (2017); Urban (2019); Zou et al. (2021); Maswadi and Amran (2023)
Peterson regression	Chiu et al. (2021)
Poisson regression	Sanders and Carpenter (1998); Ting et al. (2017); Zajac and Westphal (1996b)
Propensity score matching (PSM)/PSM-DiD regression	Abernethy et al. (2015); Al-Shaer et al. (2023); Colak and Liljebloom (2022); Shahab et al. (2022)
Probit regression	Chintrakarn et al. (2018); Harjoto and Jo (2009); Ryan and Wiggins (2004)
Proportional hazard model Cox (1972)	Abernethy et al. (2015); Urban (2019)
Quantile regression	Huang and Gao (2022)
Random effect (RE) regression	Tang (2021); Tien et al. (2013)
Seemingly uncorrelated regression (SUR)	Abernethy et al. (2015)
Sensitivity analysis	Shahab et al. (2020)
Stepwise regression	Bugeja et al. (2017)

Table 2 (continued)

Methodology	Studies
Standardized cumulative average abnormal returns (SCAR)	Ting (2013)
Structural equation model	Daily and Johnson (1997); Simsek (2007)
Sub-sample analysis	Han et al. (2016); Henderson et al. (2010); Schopohl et al. (2021)
Tobit regression	Chintrakarn et al. (2018); Harper et al. (2020); Ryan and Wiggins (2004)
Two-stage least square (2SLS)/FE 2SLS regression	Adams et al. (2005); Bristy et al. (2022); Brodmann et al. (2021); Brodmann et al. (2022); Chintrakarn et al. (2014); Chintrakarn et al. (2015); Chiu et al. (2021); Colak and Liljebloom (2022); Harjoto and Jo (2009); Harper and Sun (2019); Jaroenjitkam et al. (2020); Jiraporn et al. (2012); Li et al. (2018); Liu and Jiraporn (2010); Luo (2015); Naaman and Sun (2022); Ntim et al. (2019); Onali et al. (2016); Saleh et al. (2022); Shahab et al. (2020); Shahab et al. (2022); Sun et al. (2022); Usman et al. (2018)
2SLS-IV/ 2SLS IV-GMM regression	Al-Shaer et al. (2023); Fahlenbrach (2009); Fang et al. (2020); Gunasekarage et al. (2020); Sheikh (2018a); Sheikh (2019a); Shabir et al. (2023); Menla Ali et al. (2023); Pour et al. (2023)
Two-step multilevel regression	Ntim et al. (2019)
3SLS/3SLS under DiD regression	Mollah and Liljebloom (2016); Onali et al. (2016); Pathan (2009)
Two-stage probit regression	Chintrakarn et al. (2018); Sheikh (2022)
Two-stage tobit regression	Chintrakarn et al. (2018); Zou et al. (2021)
Univariate analysis	Chikh and Filbien (2011); Dutta et al. (2011); DeBoskey et al. (2019); Gunasekarage et al. (2020); Li et al. (2016); Ryan and Wiggins (2004)

This Table summarizes all the research models used by empirical studies on CEO power

categories of CEO power and find that CEO duality adversely affects while CEO tenure increases long-term pay and leverage. They also find that CEO directorship and total pay positively influence firm performance. Ting et al. (2017) observe that CEO tenure has a favorable impact on bank performance, whereas CEO duality negatively impacts firm performance. They also find evidence suggesting that strong political connections could be forged through CEO expert or prestige power. Chiu et al. (2021) report that CEO founders and CEO duality with more knowledge capital are more effective than insider CEOs in improving productivity and resource deployment, which is more pronounced during the global financial crisis. Ahsan et al. (2022) also identify that powerful CEOs (proxied by CEO duality) could create firm value through CSR by aligning the CSR practices with the long-run firm objectives. Veprauskaitė and Adams (2013) examine all four categories of CEO power on the UK firms' performance and show that CEO duality, tenure, ownership, and ownership concentration all adversely impact on firm performance. So, overall, the empirical evidence about the consequence of the distinct types of CEO power on firm performance is varied. In a related study, Li (2016) reports that CEO power decreases firm performance, and Li et al., (2018) find that the positive effect of firms' ESG initiatives on firm value is enhanced by powerful CEOs.

Table 3 CEO power and firm performance

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Abebe et al. (2011)	USA	1990–2000	CEO power has diverse implications for a corporate turnaround of declining firms based on their operating environment	Moderated regression analysis	CEO power index; CEO compensation to average compensation of other members of TMT, CEO duality, CEO outside directorship, CEO founder
Adams et al. (2005)	USA	1992–1999	CEO power leads to more variability in firm performance	Glejser test, lagged independent, 2SLS	CEO power index; founder, CEO is the only insider; CEO triality
Ahsan et al. (2022)	China	2009–2017	Powerful CEOs could create firm value through CSR	FE	CEO duality
Bebchuk et al. (2011)	USA	1993–2004	CEO power gauged by CPS adversely affects firm outcomes, and CEO power leads to agency problems	FE	CPS
Brahmana et al. (2021)	Malaysia	2012–2016	CEO power improves the consequence of divestiture on firm performance	Two-step GMM	CEO power index; CEO duality, the ratio of non-affiliated to the total number of directors, proportion of CEO to board equity holdings of the focal firm, and proportion of directors appointed after the CEO began his or her tenure to the total directors
Bugeja et al. (2017)	USA	2001–2010	CPS of successor CEOs is similar to outgoing CPS, and most firms tend to reduce excessive CPS	Pooled OLS, Stepwise regression	CPS

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Buyl et al. (2011)	Netherlands and Belgium		CEO characteristics curb TMT functional diversity and firm outcome	OLS	CEO functional background (generalist and marketing specialist), CEO founder, CEO tenure overlap (measured to use shared experience with other TMT members)
Chiu et al. (2021)	USA	2007–2014	CEO founder and CEO duality are more powerful measures of CEO power than CEO insiders, and they increase efficiency and resource utilization within the firms	Peterson regression, 2SLS	Two CEO power indexes- CEO power and more CEO Power (MPOWER): CEO founder, duality, CEO insider. MPOWER is one when the CEO has at least two of the three powers
Chiu et al. (2022)	USA	1992–2014	For CEO founders, a higher level of investment in organization capital will increase firm value. For the CEO as the only insider on the board, a higher level of investment in organization capital to protect their position could reduce firm value. This effect is larger for more powerful CEOs (CEO H-power)	OLS	Two CEO power indexes- CEO power and CEO high power (H-POWER): CEO founder, CEO-only insider, CEO duality, CEO H-power (the combination of the previous three measures)

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Colak and Liljeblom (2022)	USA	1993–2013	The preceding CEO's tenure has a negative impact on operating performance and stock returns, leading to higher restructuring costs, larger asset write-offs and slower firm recovery	DiD, Heckman 2SLS	Preceding CEO's tenure, CEO duality
Cormier et al. (2016)	Canada	1995–2009	CEO power and hubris lead to financial misrepresentation	Logit regression	CEO power index: CEO founder or CEO control (their family owns more than 5% of the share)
Daily and Johnson (1997)	USA	1987–1990	CEO power and firm performance are interdependent	Structural equation model	CEO power index: CEO duality, interdependent directors (no. of directors appointed by CEO), CEO cash compensation to compensation of highest paid officer, CEO share ownership, CEO founder, CEO with same last name as another officer, CEO outside directorship, whether CEO attended prestigious universities, no. of other roles CEO served in the firm
Duru et al. (2016)	USA	1997–2011	CEO duality reduces firm performance, but independent directors mediate this	OLS, System GMM	CEO duality

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Fang et al. (2020)	China	2006–2016	CEO structural power increases a bank's effectiveness, risk-taking and loan attributes, CEO ownership power improves quality loans while CEO expert power raises bank's and shareholders' profits	OLS, 2SLS, 2SLS IV	CEO power index: cash compensation, CEO shareholding, CEO tenure, and CEO education
Gunasekarage et al. (2020)	Australia	2001–2015	The impact of CEO power varies in terms of companies in various categories of business life cycle as outlined in the Boston Consulting Group matrix	Univariate analysis, FE, 2SLS IV	CEO power index/ CEO power dummy: CEO duality, CEO relative pay, board independence, equity ownership, CEO tenure, no. of executive positions held in the firm, outside directorships, and CEO education
Han et al. (2016)	USA	1992–2012	During industry downturns, firms with powerful CEOs performed worse than firms with more dispersed ownership	Subsample regression	CEO power index: CPS, Duality, CEO triality, CEO tenure, Ownership, Dependent Directors, CEO founder
Harjoto and Jo (2009)	USA	1995–2005	CEO power is positively related to firm value and operating performance in the initial stage and adversely affects the later stages of the firm's life cycle	Probit, Heckman 2SLS, IV, GIM	CEO duality, CEO duality, CEO on nomination committee, CEO plurality (Chair and nomination committee)

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Haynes et al. (2019)	USA	2000–2006	The adverse consequence of CEO power on firm outcome is alleviated by board scrutiny and Sarbanes Oxley legislation	GMM	CEO power index: Duality, Triality, Founder, outside directorship, CEO education
Le et al. (2022)	Vietnam	2007–2016	CEO power positively impacts earnings management for firms that are foreign-owned	FE	CEO power index: CEO founder, CEO with financial expertise
Li (2016)	USA	1993–2012	CEO power reduces firm performance	GMM, FE, IV, lagged dependent	CEO pay gap
Li et al. (2018)	UK	2004–2013	CEO power strengthens the positive relationship between ESG and firm value	OLS, 2SLS, Heckman	CEO pay ratio
Mollah and Lijjebloom (2016)	Multi-country	2007–2011	CEO power improved bank profitability, asset quality, and insolvency risk through the sovereign debt crisis	3SLS under Difference in Difference (DID) regression	CEO power index: CEO duality, CEO is internally recruited, CEO tenure, CEO age, CEO banking experience, CEO education,
Park et al. (2018)	Vietnam	2001–2008	CEO hubris leads to firm underperformance, but this effect is moderated by CEO power and board vigilance	GLS	CEO tenure, CEO ownership, CEO non-duality, board independence
Saleh et al. (2022)	Palestine	2009–2019	Institutional ownership has a positive association with firm performance, and this is more pronounced in the presence of powerful CEOs	FE, one-step GMM, 2SLS	CEO power index: CEO qualification, CEO skill, CEO age, CEO tenure, CEO ownership, CEO disposition, CEO duality, CEO political connection, CEO busyness

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Shahab et al. (2020)	China	2005–2015	Adverse consequences of CEOs' power on stock price crashes are alleviated when there are more board members and in the presence of concentrated ownership and institutional ownership	OLS, 2SLS, sensitivity analysis	CPS and CEO tenure
Sheikh (2018b)	USA	1992–2015	CEO power improves firm value where there is high product market competition and where the firms have strong corporate governance	OLS, Industry FE, IV-GMM	CEO power index: CPS, CEO pay gap, CEO duality/triality, board independence, founding family, CEO tenure
Simsek (2007)	USA	2006	CEO tenure improves firm performance over its control on Top Management Team's (TMT) risk-taking tendency and the firm's quest for entrepreneurial projects	Two-step structural equation modeling	CEO tenure
Tang et al. (2011)	USA	1997–2003	Dominant CEOs tend to introduce deviant firm strategies that lead to extreme performances, i.e., big wins or significant losses, which are weakened if the board is powerful. Powerful boards could influence dominant CEOs	FE	CEO power index: Percentage with higher titles (VP or chair in the board), compensation, number of titles, ownership, founder or relative

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Tang and Crossan (2017)	USA	1994–2001	Troubled firms tend to hire dominant CEOs. Dominant CEOs enacted less strategic changes in troubled situations. However, they execute more planned transformations in non-troubled situations	OLS	CEO power index: Percentage with higher titles (VP or chair in the board), compensation, number of titles, ownership, founder or relative
Tang (2021)	USA	1994–2001	Develops a new measure that is CEO self-discipline in power use and shows that CEO self-discipline in power use reduces the favorable impact of CEO power on extreme outcomes and enhances the influence of CEO power on firm performance	FE, RE	CEO power index: CEO founder, CEO block holder, CEO tenure
Tien et al. (2013)	USA	2001–2005	CEO directorship improves firm performance, whereas CEO duality, tenure, and composite power have no significant influence on firms' performance	FE, RE	CEO power index and individual power measures: CEO duality, CEO directorship (CEO is also director), CEO tenure

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Ting et al. (2017)	China	1999–2011	CEO ownership and expert tenure positively affect banks' performances. However, structural power measured by CEO duality has an adverse effect on firms' performance. CEOs with expert or prestige power foster strong connections politically	OLS, Poisson	CEO duality, CEO ownership, CEO tenure, CEO outside directorship
Ting (2013)	Taiwan	2002–2006	Non-powerful CEO turnovers lead to high abnormal returns and liquidity and low volatility. Investors prefer firms where the CEO's power is unwavering	SCAR to measure a turnover's short-term announcement OLS	CEO power index: CEO as only insider, CEO duality, CEO ownership, CEO tenure, CEO outside directorship
Usman et al. (2018)	China	2005–2015	CEO power increases with an increase in firm's gender diversity, suggesting that female directors weaken monitoring as they face more pressure to agree with the management	Lagged model, 2SLS, IV	CPS

Table 3 (continued)

Author/ sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Veprauskaitė and Adams (2013)	UK	2003–2008	CEO power adversely affects financial performance. Ownership concentration has an adverse consequence on firm performance	GMM	CEO power index; CEO duality, CEO tenure, CEO ownership, CEO remuneration (salary, cash bonus, other benefits), CEO bonus pay (performance-related bonus)
Wei (2021)	China	2016	CEO structural power favorably impacts public support but leads to a rise in overhead costs	Exploratory factor analysis, logistic	Composite index of structural power and individual power: CEO duality, CEO founder, CEO compensation, experience in a non-profit organization, CEO tenure, CEO education
Zhang and Rajagopalam (2010)	USA	1993–1998	Firms with a low level of strategic change witness an increase in performance. The benefits and costs of this change are exacerbated when firms have outside CEOs	GLS	CEO duality, CEO tenure, CEO age, CEO education
Zhou et al. (2021)	China	2006–2017	Centralization of CEO power brings about corporate strategic change, while extreme centralization of power deters this strategic change	Group moderating regression	CEO power index; structural power (duality, insider ownership), owner power (CEO share, Top1), expert power (senior rank, tenure), reputation power (education, part-time)

This Table shows all the studies on CEO power and firm performance

Table 4 CEO power and executive compensation

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Abernethy et al. (2015)	UK	1997–2004	CEO power is linked to the early adoption of PVSO plans, and this is strengthened in face of public protest around executive compensation	Logit, OLS, SUR, PSM, proportional hazard model	CEO power index: the number of board committees in which the CEO has a role, CEO tenure, board size, board independence, ownership concentration, and institutional ownership
Boyer (2005)	Review of findings and data mostly from the US and the UK	1990s	Overall, CEO power may result in increased CEO remuneration	N/A	-
Choe et al. (2014)	USA	1999–2008	CEO power results in higher total CEO compensation. However, the structure of the compensation contract, i.e., having a binding salary ceiling or not, matters	OLS, Pooled OLS	Bargaining power (CPS), ratio (proportion of executive directors on the board), and the trinity (duality/triality)

Table 4 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Cyert et al. (2002)	USA	1992–1993	Inverse relationship between the largest shareholder's ownership and CEO contingent compensation, while CEO duality is positively associated with CEO compensation (all types). Overall, corporate-governance-related variables display asymmetric or even opposing effects on diverse types of compensation (i.e., CEO tenure has a favorable effect on base salary and an adverse effect on equity and discretionary compensation)	Heckman two-step	CEO compensation (base salary, equity compensation, total contingent compensation)
Elhagrasey et al. (1999)	USA	1985	Overall, CEO power (captured by CEO tenure) has favorable impact on CEO compensation. CEO tenure has a stronger effect on larger and high-performing firms, while CEO duality has a positive impact only on small and low-performing firms	OLS	CEO duality, CEO tenure

Table 4 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Henderson et al. (2010)	USA	2005	When a firm experiences layoffs, powerful CEOs experience less bonus reduction and a rise in equity compensation	FE, Heckman 2 step, and subsample analysis	CEO power index; CEO tenure, CEO duality, CPS
Hill et al. (2016)	USA	1992–2008	There is evidence of excessive CEO compensation, which cannot be justified based on economic terms, only for the most powerful CEOs	OLS	CEO power index (the sum of 3 dummies, from 0 to 3): duality, tenure, and pay slice
Joura et al. (2022)	Australia Canada, UK, USA	2012–2015 (Australia and Canada); 2014–2016 (UK); 2011–2015 (USA)	Shareholder voice could alleviate the gap in pay between CEOs and other executives, but CEO power measured by CPS increases this gap whereas CEO duality moderates the gap	IV-GMM	CPS, CEO duality

Table 4 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Kalyta and Magnan (2008)	Canada	1997–2003	CEO power is linked to the incidence and the magnitude of CEO SERPs. Exceptionally high SERP benefits the year before the CEO retires	OLS with robust Huber–White standard errors	9 proxies of CEO power: number of directors, proportion of unrelated directors on the board, blockholder (at least 10%), average unrelated director tenure, average unrelated director share, CEO tenure, CEO share, CEO duality, CEO served on the board before appointment
Kalyta (2009)	Canada	1997–2005	CEO power affects the least transparent compensation component measured by SERP benefits and also reduces R&D expenditures for the years before their retirement when SERP benefits depend on the functioning of the firm	FE	8 variables to proxy CEO power: board size, proportion of outside directors on the board, large outside blockholder (owns at least 10%), CEO duality, proportion of firm's shares held by an average outside director, CEO tenure, CEO served on the board before appointment, CEO ownership

Table 4 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Luo (2015)	China	2005–2012	Overall, the empirical results negate managerial power theory. No evidence that CEO power causes higher CEO compensation in Chinese banking, using CEO power proxies individually or the CEO power index	FE panel, 2SLS, GMM	CEO power index (average of the four power proxies): CEO founder, CEO is also an insider on the board, CEO duality, CEO tenure
Nitim et al. (2019)	South Africa	2002–2012	PPS increases in firms with strong governance, founder CEOs, and CEOs with higher ownership, independent nomination, and remuneration committees and lesser in firms with powerful CEOs and long-tenure CEOs	FE, two-step multilevel, 2SLS	CEO age, CEO founder, CPS, CEO tenure, CEO ownership, CEO duality, CEO reputation
Pollock et al. (2002)	USA	Last six months of 1998	As the spread between exercise price and strike price increases, the chance of option repricing increases in the presence of CEO duality but decreases with the other measures of CEO power	Logistic	Percentage of voting shares owned by CEOs and institutional shareholders, CEO duality, no. of board members appointed by CEO, staggered board

Table 4 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Ryan and Wiggins (2004)	USA	1995 and 1997	Equity-based compensation increases with board independence. However, equity-based pay decreases with an increase in CEO power	Univariate analyses, OLS, Tobit, and Probit	Board size, board composition, CEO tenure, duality
Tian and Yang (2014)	USA	2005–2010	Bank CEO incentive pay is higher than the justifiable portion and is associated with higher CEO power. Some indications are that higher CEO power is linked to CEO incentive pay switches	OLS, Logistic	CPS, CEO duality, CEO ownership, CEO entrenchment (CEO equity ownership divided by the market value of the firm)
Westphal and Zajac (1995)	USA	1987–1990	CEO power positively relates to CEO-new-director demographic similarity, and the greater demographic resemblance between the CEO and the board is linked to more favorable CEO compensation	Maximum likelihood logit, 2SGLS	CEO duality, CEO tenure

Table 4 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Zhu et al. (2021)	China	2009–2018	Greater CEO power is associated with higher CEO compensation, but this is weakened by the Chair-CEO age gap. Greater CEO power results in a wider pay gap with the other executives	FE	CEO power index is based on 7 variables- duality, shareholding, tenure, education, relatives in the board, political connection, and board independence. 3 alternative variables for CEO power: 1. Dummy variable CEO duality, founder, or the only insider, 2. Dummy variable CEO duality, founder, a graduate of elite education or has ownership, 3. Dummy variable CEO duality, CEO tenure and CEO founder are also used individually

This Table shows all the studies related to CEO power and executive compensation

Table 5 CEO power and firm risk-taking

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Al-Dhamari et al. (2022)	Malaysia	2013–2015	Overlap between audit and remuneration committees reduces the cost of debt, but the presence of powerful CEOs increases the cost of debt	Regression, lagged regression	CEO power index: Duality, ownership, independent directors, CEO founder, CEO family member, CEO tenure, CEO prominence measured by honorific title held by the CEO
Altunbas et al. (2020)	USA	1998–2015	Bank risk-taking increases with CEO power and poor balance sheet	FE, GMM	CEO power index: CEO tenure, CEO duality, CEO ownership, CEO network size
Chintrakam et al. (2015)	USA	1992–2012	CEO power needs to be significantly high to increase firm risk-taking	FE, 2SLS	CPS
Haider and Fang (2018)	China	2008–2013	CEO power is negatively related to firm risk-taking, but large shareholders moderate it. The effects for large shareholders are different between SOE and non-SOE	FE, GMM	CEO power index: CEO duality, inside director, CEO ownership, institutional share, certificate, CEO tenure, CEO education, outside directorship, age, CEO gender
Huang and Gao (2022)	China	2008–2018	CEO formal power increases firms' debt policy persistence, while CEO informal power reduces it, and the effect of formal power is stronger than informal power	OLS, quantile regression	CEO power index of formal and informal power: CEO duality, CEO tenure, CEO ownership, CEO founder, finance expert power, CEO outside directorship, CEO holding academic positions

Table 5 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Korkeamaki et al. (2017)	Finland	2002–2005	CEO individual leverage is positively related to firm leverage for CEOs characterized by lengthier tenure and CEO-chair duality but not for CEOs with higher ownership in the firm	OLS	CEO duality and tenure
Lewellyn and Muller-Kahle (2012)	USA	1997–2005	Firm excessive risk-taking is associated with higher CEO power, which is attributed to powerful CEOs' tendency to focus only on the positives and ignore the negative consequences of risk-taking	Logistic regression	CEO duality, board independence, institutional ownership, CEO ownership, CEO tenure, outside director's tenure, outsider ownership
Pathan (2009)	USA	1997–2004	Bank risk-taking is negatively affected by CEO power and positively affected by strong boards	GLS RE, 3SLS, two step GMM, Glejser	CEO duality, CEO internally hired
Pour et al. (2023)	Multiple countries	1999–2013	Large banks' risk-taking strategies are swayed by national culture and CEO power	GLS RE, two-step system GMM, IV 2SLS	CEO power index: CEO founder, CEO insider, CEO duality
Shabir et al. (2023)	19 countries	2009–2020	Economic and geopolitical uncertainty adversely affects bank risk, but this is moderated by CEO power	FE, 2SLS, two-step system GMM	CEO power index: CEO duality, CEO founder, CEO ownership, CEO tenure

Table 5 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Sheikh (2019b)	USA	1992–2015	Firm total risk and idiosyncratic risk is positively affected by CEO power when there is strong corporate governance and product market competition	FE, IV-GMM	CEO power index: CEO duality/triality, founder, pay slice, board independence, CEO tenure, founding family
Tan and Liu (2016)	Australia	2004–2013	Idiosyncratic volatility is negatively related to CEO power	GMM	CEO power index: CEO is CFO, CEO in audit, remuneration and nomination committee, executive director ratio, independent director ratio
Zhao et al. (2023)	China	2011–2018	ESG performance reduces firm risk-taking, and powerful CEOs strengthen this	OLS, Heckman, DiD regression, IV regression	CEO duality, degree of equity dispersion
Zou et al. (2021)	China	2009–2014	CEO ownership and founder status are positively related to firm risk, while CEO tenure has a negative relationship with firm risk. Corporate social responsibility has a mediating role	Tobit, multiple linear regression model	CEO power index: CEO duality, CEO ownership, CEO founder status, CEO tenure, CEO social ties (the number of outside corporate boards the CEO served), CEO's educational level

This Table shows all the studies related to CEO power and firm risk-taking

Table 6 CEO power and corporate strategies

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Al-Shaer et al. (2023)	UK	2011–2019	Newly appointed CEOs pursue environmental policies, while CEOs with greater managerial power take less environmental initiatives, and this is more pronounced in the presence of independent directors. These businesses are not loss-making and operate in sectors sensitive to environmental issues	OLS, GMM, 2SLS with IV, PSM, Heckman two-stage estimation	Two power indexes: Managerial power (CEO duality, presence of executive directors) and legitimate power (CEO tenure)
Baker et al. (2019)	USA	1992–2010	The scale of earnings management is reliant on the relative power of the CEO in comparison with CFO	OLS	CEO power index: duality and centrality (the CEO's pay share is in the top quartile in the sample)
Baldenius et al. (2014)	NA	NA	Shareholders tend to nominate advisor-heavy board whereas powerful CEOs nominate monitoring boards to prevent information from flowing to shareholders	Theoretical study	NA
Balmaceda (2009)	NA	NA	Powerful CEOs of acquirer firms use their network to access information of target firms to gauge the latter's value	Theoretical study	NA

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Bigley and Wiersema (2002)	USA	1990–1994	CEO power is negatively related to refocusing corporate strategies as their apparent experience increases. However, this result is reversed when CEO power is measured by number of outside directorships	Hierarchical model regression analysis	No. of titles (duality, triality), compensation, stock ownership, family linked to founders, functional expertise, elite education, outside directorship
Breuer et al. (2022)	40 countries	2002–2017	Powerful CEOs engage in excessive CSR strategies to obtain reputational gains that lead to a fall in firm value	OLS	CEO power index: CEO duality and CEO importance measured by the CEO being the only insider
Bristy et al. (2022)	USA	1996–2016	CEO power is negatively related to labor-friendly policy without impacting firm value. Powerful CEOs invest more in labor-friendly programs when the market is competitive, innovation-intensive firms, and union-intensive industries, resulting in higher firm value	OLS, 2SLS, DiD	CEO power index: founder, duality, triality, CEO Ownership, CEO Tenure, dependency ratio CEO power index and CPS above the industry median for robustness
Brodmann et al. (2021)	USA	2003–2017	CEO power negatively affects corporate sexual orientation and equality policies	OLS	CEO power index: High CPS, Long CEO Tenure, CEO/Chair, Duality, High board Cooption, Founder CEO

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Brodmann et al. (2022)	USA	2003–2017	CEO power has a positive association with board gender diversity, and this is most effective in the presence of younger and larger boards	Entropy balancing, 2SLS, lead lag specification, GMM	CEO power index: CEO duality, CEO founder, CPS, long tenure, high entrenchment
Cannella and Shen (2001)	USA	1986–1991	Powerful CEOs and outside directors play a significant role in their apparent and exit. Outside directors support the heir apparent and prevent CEOs from exploiting power in firms characterized by high performance, whereas outside directors undertake the exit of heir apparent to stall the power of incumbent CEOs in firms characterized by low performance	Multinomial logistic regression	CEO power index: CEO ownership, CEO duality, and CEO tenure
Chen (2014)	Taiwan	2007–2010	Board capital positively affects R&D innovation, and CEO power moderates this relationship	Lagged independent, FE	CEO power index: CEO duality, the ratio of shares held by the CEO to director ownership, proportion of non-independent directors, proportion of directors who were appointed after the CEO began his or her tenure

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Chikh and Filbien (2011)	France	2000–2005	CEOs with strong network power would undertake M&A despite the negative market reaction to the acquisition announcement	Univariate analysis, logistic regression	CEO duality, CEO ownership, CEO founder, CEO acquisition experience, CEO directorship, CEO education
Chintrakarn et al. (2014)	USA	1992–2010	Powerful CEO perceives leverage negatively, and CEOs embrace sub-optimal leverage after consolidation of their power. Weak CEOs do not shy away from high leverage	Pooled OLS, FE, FE 2SLS	CPS
Chintrakarn et al. (2018)	USA	1992–2010	An increase in CEO power by one standard deviation leads to a fall in the probability of dividend payments, and for firms paying dividends, it leads to a fall in the size of dividend payouts	Logit, OLS, FE, Tobit, two stage probit, two stage tobit	CPS
Combs et al. (2007)	USA	1978–2001	Share price increased (decreased) following the death of high (low) powered CEOs when board independence is low, and share price decreased (increased) following the death of high (low) powered CEOs when board independence is high	Event study of CEO deaths and moderated regression	CEO tenure, CEO ownership, CEO duality

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
DeBoskey et al. (2019)	USA	2008–2013	Powerful CEOs measured by tenure and duality positively influence earnings announcement tone. This effect is moderated by board oversight only when CEO tenure is weaker, but not for dual-role CEOs	Univariate analysis and FE	CEO tenure and CEO duality
Dowell et al. (2011)	USA	1996–1999	Powerful CEOs and smaller, more independent boards are effective in making faster decisions for firms going through financial distress	Log-likelihood regression	CEO power index: CEO duality, CEO founder, CEO ownership, elite education
Dutta et al. (2011)	Canada	1997–2005	CEO power does not lead to poor acquisitions. CEOs with higher relative power make more acquisitions	Univariate analysis and logistic regression	CEO excess pay
Fahlenbrach (2009)	USA	1992–2002	Investment in firms with founder CEOs leads to positive excess returns compared to firms with successor CEOs, which is robust after adjusting for different firm characteristics	IV, 2SLS IV	CEO founder

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Fralich and Papadopoulos (2018)	USA	2005–2010	CEO power will lead to lower bid premiums as these CEOs are better prepared to manage higher information asymmetry from their risk-averse nature or better evaluation of the quality of the target	OLS	CEO power index: CEO duality, CEO ownership, CEO prestige (measured by outside directorship, number of non-profit board directorships, relative prestige of firms where CEO sits), and CEO expert measured by the number of years the CEO worked in the firm in different roles
Graham et al. (2020)	USA	1918–2011	Board independence is inversely related to CEO tenure, and this relation appears weaker under uncertainty	OLS, IV	CEO tenure
Greve and Mitsuhashi (2007)	Japan	1975–1996	CEO tenure is effective in diversification strategies and reversing such strategies, but the proportion of executives appointed by CEOs is ineffective	Feasible general least squares	Formal power (CEO tenure) and informal power (proportion of executives in TMTs appointed by CEO)
Harper and Sun (2019)	USA	1991–2014	CEO power negatively influences firms' CSR activities, and female CEOs are more engaged in CSR than their male counterparts	FE, 2SLS	CPS, managerial ability (robustness test)

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Harper et al. (2020)	USA	2001–2014	CEO power is minimized after the stock price crash, and female CEOs see a significant reduction in power compared to male CEOs following the crash	OLS, FE, Fama–MacBeth, Tobit,	CPS, log CEO pay (robustness test), and log (CEO pay–median VP pay) (robustness test)
Haynes and Hillman (2010)	USA	1998–2002	CEO power restrains the influence of board capital breadth on a firm's planned change and helps maintain the status quo	Moderated regression analysis	CEO power index: CEO duality, board independence, proportion of CEO to board equity holdings, proportion of directors appointed by the CEO
Horner and Valentini (2012)	USA	2002–2007	When outside CEOs have prior chair experience, they take up CEO duality roles in the new firm, whereas powerful incumbent CEOs measured by tenure would prevent the new CEOs from taking up CEO-chair dual roles	Binary logistic regression	Outgoing CEO tenure, outgoing CEO duality, outside CEO held CEO duality role, outside CEO was CEO in the previous firm, outside directorship
Jaroenjitrkam et al. (2020)	USA	1992–2016	Product market competition lowers CEO power, which is higher in firms with entrenched management	IV, 2SLS, PSM-DiD	CPS, CEO pay gap, CEO duality, CEO tenure, high CEO ownership

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Jia et al. (2022)	China	2009–2019	CEO structural power leads to lower CSR practices, while CEO expert power has a favorable effect on CSR practices, and CEO ownership and prestige do not exert any impact on CSR initiatives, and this is moderated by firm visibility	FE	CEO power index: CEO duality, CEO equity ownership, number of functional areas served, number of outside public boards served
Jiraporn et al. (2012)	USA	1992–2004	Powerful CEOs take on substantially lower leverage to evade disciplinary processes concerning debt-financing	OLS, FE, 2SLS	CPS
Joseph et al. (2014)	USA	1981–2007	The CEO-only structure is prevalent in firms with higher insiders, and powerful CEOs use this structure to remove insiders who disagree with their decisions	Regression	CEO duality, CEO functional (finance) background, and CEO ownership
Kim et al. (2017)	USA	2003–2010	Having accounting experts on the audit committee leads to a detailed auditing process, but a powerful CEO impedes this	OLS, Fama–Macbeth, Logistic, Heckman two-stage	CEO tenure and CEO duality (simultaneously)

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Krause et al. (2016)	USA	2003–2012	Customers of firms operating in high power distance cultures consider increased CEO power legitimate, which is more pronounced for firms that rely on their customers	Generalized estimating equation	CEO power index: CEO duality, proportion of independent directors and CEO ownership
Lewellyn and Fainshmidt (2017)	USA	2006–2007	CEO duality is combined into power bundles with organizational and industry discretions to evolve as four effective and four ineffective governance structures	Necessity analysis, OLS	CEO duality, CEO tenure, CEO ownership, CEO insider
Lisic et al. (2016)	USA	2004–2010	Expert audit committees do not always lead to effective monitoring. The effective monitoring by audit committees is contingent on CEO power	Logit regression	CEO power index: CEO duality, CEO founder, CEO relative compensation, CEO ownership
Li et al. (2016)	UK	1998–2013	CEO power reduces firms' CSR events in terms of the volume of CSR events	Univariate analysis, OLS	CEO duality, CPS, and CEO tenure
Liu and Jiraporn (2010)	USA	1993–2006	CEO power leads to higher bond ratings as bondholders perceive that CEO power is associated with asymmetric information	OLS, 2SLS	CPS

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Lo and Shiah-Hou (2022)	USA	2000–2015	CEO power is inversely linked to firm overinvestment, and this is attributed to CEOs' risk aversion and ability to make investment decisions prudently	FE, OLS, Logistic regression	CEO power index: CPS, duality, founder, tenure, stock ownership, number of executive roles held in the firm before CEO, number of years in other executive roles
Maswadi and Amran (2023)	Saudi	Active firms listed before 2017	CEO power moderates the relationship between the directors' education, directors' expertise, and directors' interlocking with CSR disclosure quality	OLS	CEO power index: CEO ownership and CEO tenure
Menla Ali et al. (2023)	Russell 3000	2005–2020	ESG disclosures reduce corporate risk-taking, but this is weakened by the presence of powerful CEOs	FE, 2SLS IV	CEO duality
Muttaakin et al. (2018)	Bangladesh	2005–2013	CEO power negatively affects CSR disclosures and diminishes the influence of board capital on CSR disclosures	Panel least square regression	CEO power index: CEO duality, ownership, tenure, and family CEO status
Naaman and Sun (2022)	USA	1994–2017	The negative relationship between CEO power and R&D investment. CEO power impact is stronger for firms with weaker corporate governance	OLS, 2SLS	CPS, CPS dummy (greater than the median), CEO duality

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Onali et al. (2016)	15 EU countries	2005–2013	Powerful CEOs of European banks pay low dividends and do not have inducements to pay high dividends to discourage minority shareholders' monitoring	2SLS, 3SLS, Heckman	CEO ownership, CEO tenure, and forced CEO turnover is instrumented by CEO founder
Pucheta-Martínez and Gallego-Alvarez (2021)	16 countries	2009–2018	There is a positive relation between CEO power and firms' CSR disclosure, and this is pronounced when CEOs' compensation is linked to shareholder return	GMM	CEO power index based on 3 dummies: CEO duality, CEO tenure, CEO board membership
Sanders and Carpenter (1998)	USA	1999	Long-term CEO pay, large boards, and CEO non-duality help firm in the internationalization process	Logistic, Poisson, OLS	CEO duality, CEO stock ownership, CEO tenure
Saiyed et al. (2023)	India	2009–2011	Entrepreneurial innovation has a non-monotonic relation with firm performance that is adversely moderated by CEO power		CEO power index: CEO founder, CEO insider, CEO duality/triality
Sartol and Abebe (2017)	USA	2006–2013	CEO power significantly improves firm innovation	Negative binomial regression with maximum likelihood estimation	CEO power index: CEO duality, CEO founder, CEO tenure

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Schopohl et al. (2021)	UK	1999–2017	Female chief financial officers could lower firm risk-taking in the presence of gender-diverse boards, diverse nationalities, and ages and where the CEO is less powerful	FE, DiD analysis, Multiple high dimension fixed effect, subsample analysis	CEO duality, insiders whose incentives match with the CEO, CPS
Shahab et al. (2022)	USA	2002–2017	CEO power is positively related to CSR decoupling	OLS, FE, PSM, 2SLS, GMM	CPS
Sheikh (2018a)	USA	1992–2006	CEO power leads to higher firm innovation only for firms with higher product market competition	2SLS (IV-GMM)	CEO power index: CEO triality, founder, CPS, board independence, CEO ownership, CEO tenure
Sheikh (2019a)	USA	2003–2015	CEO power reduces firm CSR activities. CEO structural and ownership power negatively affects CSR, while expert power has no significant effect	OLS, Industry FE, 2SLS (IV-GMM)	CEO power index: CEO duality/triality, CPS, CEO pay gap, board independence, CEO founder, CEO ownership, CEO tenure
Sheikh (2022)	USA	1992–2016	CEO power is positively related to the likelihood of paying and increasing dividends in the presence of low profitability and high cash flow volatility	Probit and linear probability model (LPM) regressions, IV	CEO power index: CPS, tenure, equity ownership, and job titles

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Shui et al. (2022)	USA	2015	Both powerful and weak CEOs can initiate environmental innovations if they are accompanied by an appropriate board of directors and ownership structure	Necessary condition analysis	CEO duality, percentage of shares owned by CEOs, CEO outside directorship, CEO informal power from environmental expertise measured by CEOs who had served in environmental committee or CEOs were appointed in environmental management position, CEO informal power from R&D expertise measured by whether CEO was an inventor or whether the CEO held any R&D related position
Sun et al. (2022)	USA	1993–2016	A positive relationship between CEO power and annual report reading difficulty, moderated by earnings performance or corporate governance. Stronger in the case of firms that display lower financial reporting quality or shorter-tenured CEOs	OLS, 2SLS	CPS, CEO duality CEO tenure to divide the sample
Sun and Skousen (2022)	USA	1992–2019	Powerful CEOs are more likely to cause discontinued operations and could also lead to a larger scale of discontinued operations	Logistic, OLS	CPS

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Tuwey and Tarus (2016)	Kenya	NA	CEO power restrains the effect of board leadership on strategy involvement. An increase in CEO power leads to passive boards that tend to accept the decisions of the CEO	Moderated regression analysis	CEO duality, CEO tenure, CEO ownership
Urban (2019)	multiple countries	1998–2010	CEOs are more powerful in hierarchical countries, which weakens firms' governance, and these CEOs are unlikely to be removed	Firm FE, OLS, and COX proportional hazard model	CEO duality, CEO tenure, CEO ownership, CEO insider

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Walls and Berrone (2017)	USA	2001–2007	CEO power acts as a catalyst to promote environmental activity when shareholder activism exists	FE	Index of CEO formal and informal power: CEO informal environmental expert power (i) content-based (CEOs involvement in environment activities, honors or awards received by CEOs for environmental work) (ii) process-based (prior official roles in environmental posts, prior membership in environmental matters), CEO formal power over TMT: (CEO tenure, tenure in company, no. of directors appointed by CEO), CEO formal power over the board: CEO duality, CEO founder or relative
Zagonov and Salganik-Shoshan (2018)	USA	1993–2004	CPS does not consider the vital information included in the compensation data of top executives	Alternate measures of CEO pay	CPS
Zajac and Westphal (1996a, b)	USA	1986–1991	When outgoing CEO power is more than board power, successor CEOs have the same demographic characteristics and vice versa	Heckman selection model	CEO duality, CEO tenure, no. of outside directors appointed after CEO took office, outside stock ownership

Table 6 (continued)

Author/sample period	Country	Sample/firm-year observation	Main findings	Methodology	Measures of CEO Power
Zajac and Westphal (1996b)	USA	1985–1992	Directors withare control in their current boards are attracted to other companies' boards where they can enjoy similar control	Poisson	CEO duality, multiple directorships, board independence; participation in decreased outsider ratio; participation in CEO/board chair combination; participation in increased diversification; participation in reduced compensation contingency; and participation in increased compensation
Zhang et al. (2011)	China	2001–2003	CEOs tend to dismiss senior non-CEO executives who have lengthier tenure than them. This relationship is reinforced by CEO founder status and poor firm performance and diminished by CEO ownership	Binomial hierarchical linear models (HLM)	CEO founder; CEO ownership
Zhang et al. (2022)	China	2008–2018	This study finds that CEO power has a positive association with environmental innovation, and this is more pronounced in the presence of independent directors and market competition	Generalized estimation model	CEO power index: CEO duality, CEO insider director, CEO ownership, shareholding of institutional investors, CEO professional title, CEO tenure, CEO education, CEO part-time job

This Table shows all the studies related to CEO power and other corporate strategies

Other studies of CEO power on bank performance observe a significant positive impact on bank profitability, asset quality, and insolvency risk in the context of the credit and sovereign debt crises (Mollah and Liljeblom 2016). In a similar vein, using a sample of different Chinese banks in terms of ownership structure, Fang et al. (2020) report that CEO power improves bank performance in terms of profitability, lending quality, and risk-taking ability. This study also shows that board strength measured by the percentage of foreign directors and board independence could curb the favorable impact of CEO power on these bank performance indicators. Within the same context of firm ownership, Le et al. (2022) demonstrate that firms with high foreign ownership have witnessed a positive and significant effect of CEO power on earnings management.

As mentioned in Sect. 2, Bebchuk et al. (2011) use CPS to measure CEO power and report that CPS can explain a range of corporate performance indicators. Specifically, CPS is linked to lower Tobin's Q, reduced accounting profitability, lower stock return after the acquisition announcement, inferior performance to CEO turnover, and a drop-in stock returns following proxy statement filings in periods of high CPS. As shown in Sect. 2, subsequently, several studies have adopted CPS as the proxy of CEO power.

In an earlier study, Adams et al. (2005) show that CEO power leads to more variability in firm performances measured by stock price variability in terms of best and worst performances, and this is prominent in firms where the CEO is also the founder. This study also suggests that dilution of CEO power, as advocated by governance literature, would be costly and reduce the chances of remarkable performances. In a comparable study, Ting (2013) also notice that volatility is lower for firms with less successor power and higher announcement period abnormal returns are generated when the power level is the same between these successors and predecessors. In a related study, Tang et al. (2011) find that dominant CEOs bring varied strategies that lead to extreme performances. They also show that dominant CEOs with powerful boards could positively affect firm performance, while with less powerful boards, it could lead to negative effects. Using data from US publicly traded firms, Tang and Crossan (2017) observe that distressed firms have a higher likelihood of hiring dominant CEOs, and these dominant CEOs have a lower likelihood of initiating strategic changes during distressed conditions but bringing additional strategic changes in normal state. Taking a similar dataset, Tang (2021) suggests a novel proxy of CEO self-discipline in power use⁵ and shows that this measure leads to the favorable consequence of CEO power on firm performance. Saleh et al. (2022) find that the positive relation between institutional ownership and firm value is more pronounced in the presence of powerful CEOs. Buyl et al. (2011) find that CEOs with higher shared experience would assist TMT functional diversity in improving performance compared to CEO power stemming from their founder status. In a similar vein, Park et al. (2018) examine a sample of big Korean firms and report that CEO power worsened the adverse impact of CEO hubris on firms' outcome, whereas vigilant board moderated this effect. Chiu et al. (2022) examine the impact of CEO power on the relationship between operational efficiency and organization capital. The authors report that when the firm's CEO is also the founder, a higher level of investment in organization capital will increase firm value. On the contrary, when the firm's CEO is the only insider on the board, a higher level of investment in organization capital to protect their position could reduce firm value. In firms with even more powerful CEOs (who combine CEO founder, CEO-only insider, and CEO duality), the negative

⁵ This is measured by CEO's relative pay and CEO's photograph presence in the annual report.

effect of a higher level of investment in organization capital on future firm value is even larger. Taken together, these studies suggest that CEO power measured by different measures may not always lead to agency costs and could actually improve firm performance under certain conditions.

Some studies have examined whether the influence of CEO power on firm performance could be mediated by corporate governance mechanisms. For instance, using a sample from Fortune 500 firms, Daily and Johnson (1997) observe that CEO power and firm performance are intertwined and find that the number of independent directors does not increase firm performance. Harjoto and Jo (2009) report that CEO power has an unfavorable influence on firm value and operating performance in the early stage of firms' life cycle and positive effect in the mature stage of firms' life cycle, thereby lending support to life cycle theory. This study also indicates that external monitoring by institutional investors could curb the negative effect of CEO power in comparison to internal monitoring through board independence and blockholder ownership. Cormier et al. (2016) document that strong CEO power could lead to financial misreporting, and corporate governance mechanisms in terms of board independence proved ineffective in curbing this. However, Duru et al. (2016) observe that CEO duality adversely affects firm performance because of entrenchment, but independent directors could moderate this. In a related study, Haynes et al. (2019) show that CEO power has an adverse consequence on firm performance regarding the functioning of internal and external corporate governance processes. This study also shows that this negative influence is moderated by board monitoring and Sarbanes Oxley (SOX) statute. Colak and Liljebloom (2022) examine the impact of CEOs' tenure on firm performance after the replacement of the CEO. Their results indicate that preceding CEOs' tenure negatively impacts operating performance and stock returns and is associated with higher restructuring costs, larger asset write-offs, and slower firm recovery. Moreover, weaker corporate governance, along with a long tenure of preceding CEOs with lower skills, intensifies the reported effects.

Few studies have shown the influence of board gender diversity on CEO power and find contrasting results. Harper et al. (2020) report that CEO power is alleviated after a firm undergoes a stock price crash, and female CEO power is curbed after the crash compared to male CEOs. Saiyed et al. (2023) attempt to examine the effect of CEO power on entrepreneurial orientation (EO) and find a U-shaped association between EO and firm performance. However, this is negatively moderated by CEO power. This suggests that CEO power has a favorable impact only at lower levels of EO. Shahab et al. (2020) note a reverse causal effect as they report that CEO power aggravates stock price crashes. However, this effect is alleviated in a gender-diverse board characterized by a critical mass of three or more directors and with high ownership by blockholders and institutions.

Conversely, Usman et al. (2018) and Brodmann et al. (2022) observe that CEO power increases with board gender diversity as female directors are weak monitors and suggest legislative gender quotas on boards could be implemented on ethical and social grounds but not from the perspective of economic advantage. Brodmann et al. (2022) further observe that the positive effect of CEO power on gender diversity is higher in younger and larger boards and the presence of a higher level of institutional ownership. Brodmann et al. (2021) show that CEO power has an adverse effect on corporate sexual orientation and equality policies measured by corporate equality index score.

Several studies have examined CEO power on firm performance in the context of different environmental factors. For instance, Abebe et al. (2011) show that CEO power leads to increased corporate turnaround for firms in a stable environment but negative turnaround for firms in a dynamic environment. Sheikh (2018b) examines whether CEO power has a

different consequence on firm performance depending on whether firms are driven by high and low product market competition. This study reveals that CEO power has a favorable impact on firm performance only in markets with high competition. Conversely, Han et al. (2016) report the unfavorable impact of CEO power on firm performance during exogenous shocks characterized by industry downturns and recommend a dispersed decision-making structure during such exogenous shocks. In a similar vein, Gunasekarage et al. (2020) report that CEO power has a varying influence on firm performances for different firms categorized by the Boston Consulting Group (BCG) matrix. Specifically, this study reports that CEO power has a favorable and substantial influence on firm performance for firms characterized by high growth and high market share and for firms with high growth and low market share and has an adverse effect in the low growth/ high market share category. The results are insignificant for the low growth/low market share category.

Other studies of CEO power and firm performance look into corporate divestiture (Brahmana et al. 2021), outside versus inside CEOs (Zhang and Rajagopalan 2010) and endogeneity issues (Li 2016). Brahmana et al. (2021) report that CEO power could curb the adverse effect of corporate divestiture on firm performance and lends support to the entrenchment hypothesis of agency theory and suggests that incentives and bargaining power of CEOs are plausible reasons behind this result. Zhang and Rajagopalan (2010) observe that the effect of CEO power on firm strategic change is positive when this change is from low to moderate and negative when this change is from moderate to high, and this is more prominent for firms with outside CEOs.

7 CEO power and executive compensation

Table 4 reviews all the studies on CEO power and executive compensation.

Westphal and Zajac (1995) find that when CEOs and boards have similar demography, it increases CEO compensation. Choe et al. (2014) observe that CEO power leads to a rise in CEO salary, and in the absence of salary constraint, CEO stock-based compensation is not related to CEO power. CEO power leads to a rise in stock-based compensation in cases with a salary cap. These results hold only when CEO power is gauged by CPS, thereby supporting managerial power theory. In a related study, Tian and Yang (2014) report that CEO power is linked to CEO incentives over a reasonable portion. They also find that although bank CEO compensation fell during the 2008 financial crisis, it was better than firm performance. Similarly, using the CEO power index, Hill et al. (2016) find that powerful CEOs could cause excessive CEO compensation. In related research, Elhagrasy et al. (1999) aim to examine whether CEOs use political power to sway boards' compensation choices and show that there is indeed a favorable influence of CEO power proxied by CEO tenure, CEO duality, and CEO compensation. Specifically, this study finds that CEO tenure strongly influences CEO compensation for large and high-performing firms. At the same time, CEO duality has a more substantial impact on smaller and low-performing firms. They also report multiple determinants of CEO compensation, thereby suggesting legitimacy in the compensation obtained by CEOs. Joura et al. (2022) find that shareholder voice could help to reduce the pay gap between CEOs and other executives, but CPS tends to increase the pay gap whereas duality has no direct impact on the pay gap, but it indirectly affects the pay gap through enhancing the effectiveness of shareholders' say on pay. This study also finds that older or female CEOs tend to reduce the pay gap. Bugeja et al. (2017) find that the

CPS of successor CEOs is like that of outgoing CEOs, and most firms are efficient in reducing excess CPS, thus refuting managerial power theory and supporting optimal contract theory.

Luo (2015) shows that CEO power did not cause an increase in executive compensation in Chinese banks. In addition, this study reveals that ownership structure substantially affects executive compensation and attributes this to the distinct corporate governance mechanism of Chinese banks. Zhu et al. (2021) show that CEO power causes a reduction in the CEO-Chair pay gap; however, this relation is moderated by the Chair-CEO age gap. They also find that the dampened impact of Chair-CEO age disparity is weakened with the rise in working time between the CEO and Chair. In addition, their result also supports the view that powerful CEOs would negate the Chair-CEO age disparity on Chair-CEO pay gap. This study provides crucial corporate governance implications on the board supervisory role through the cognitive conflict of Chair-CEO age disparity.

Boyer (2005) attempt to analyze the puzzling paradox of high CEO compensation at a time when shareholders' value creation should be the norm. This study provides an alternative rationalization of this paradox by showing that financial markets that are supposed to discipline managers are instead conspiring with opportunistic CEOs to provide higher compensation through stock options. Another research on public outrage regarding executive compensation reports that powerful CEOs use performance-vested stock options (PVS0) early when there is public outrage over executive compensation, albeit this could be detrimental to shareholder value creation (Abernethy et al. 2015). Pollock et al. (2002) study the consequence of CEO power on the repricing of executive stock options and find that CEO duality boosts the chances of repricing when the spread between strike price and stock price is higher. In comparison, the other pointers of CEO power used in the study, which are the number of board members hired by the CEO, staggered board, percentage of voting shares by CEO, and institutional investors, reduce the likelihood of repricing. Ryan and Wiggins (2004) show that directors' equity-based compensation is reduced by CEO power, whereas board independence tends to increase this.

Kalyta and Magnan (2008) find that supplemental executive retirement plans (SERP) benefits are widespread and considerable across CEOs, and CEO power significantly augments the SERP benefits. They also report that CEO SERP benefits increase significantly in the last year before CEOs' retirement. Kalyta (2009) extends this research by taking eight proxies of CEO power and reports that greater CEO power is associated with higher CEO compensation via SERPs, thereby supporting managerial theory. Moreover, CEOs reduce R&D expenditures for the years before retirement when SERP benefits depend on firm performance.

Henderson et al. (2010) show that when firms undergo layoffs, powerful CEOs face lower cuts in bonuses and more equity-based compensation than less powerful CEOs. They also document that CEO power does not lead to a substantial difference in post-layoff performance. Ntim et al. (2019) examine whether CEO power and corporate governance mechanism moderate PPS and find that PPS increases in firms with robust governance, thus supporting the optimal contract theory. Mainly their evidence shows that firms with reputable founder CEOs and CEOs with high ownership with independently appointed nomination and remuneration committees have higher PPS than firms with powerful CEOs, long tenure, and larger board size. They also find support for the managerial power hypothesis as their results show a direct causal link between executive pay and performance, albeit comparatively small PPS.

8 CEO power and firm risk-taking

Few studies have examined the consequence of CEO power on firm risk-taking. Table 5 reviews all the studies that examine CEO power and firm risk-taking.

Chintrakarn et al. (2015) show that the relationship between firm risk-taking is non-monotonic. This study finds that at low levels of CEO power, firm risk-taking is minimal, and firm risk-taking increases only when CEO power is above the 75th percentile of CPS. Lewellyn and Muller-Kahle (2012) show that CEO power positively impacts firm excessive risk-taking. They attribute this to a corporate governance mechanism guided by agency theory that drives managers to take excessive risks. Sheikh (2019b) also shows that CEO power positively influences firm total and idiosyncratic risk when the firms have robust corporate governance mechanisms and strong external discipline through increased product market competition. In a similar vein, it has been reported that bank risk-taking increases with powerful CEO, and this effect is strengthened by institutional investors and poor balance sheets (Altunbas et al. 2020). This study suggests that when it comes to bank risk-taking, the goals of the powerful CEOs are aligned with those of the institutional investors. This study does not find corporate governance characteristics like board size and board independence to moderate this effect. Shabir et al. (2023) report that powerful CEO with a strong board alleviates the negative impact of economic and geopolitical uncertainty on bank risk. However, this result is true for large banks with higher liquidity and profitability. Pour et al. (2023) show that CEO power positively affects bank risk-taking in the presence of individualism and uncertainty avoidance. Zhao et al. (2023) show that firms' ESG performance alleviates firm risk, and this relationship is stronger with CEO power and lower institutional investor holdings. In a related study, Menla Ali et al. (2023) show that ESG disclosure negatively impacts firm risk, which is more pronounced for market-based risk rather than accounting-based risk in the presence of powerful CEOs. This study also reports that firms' reputation, information transparency, and internal control are channels by which ESG performance affects firm risk. Korkeamäki et al. (2017) examine whether CEO personal leverage leads to heightened firm leverage, and they find the result to be affirmative for higher CEO power characterized by long-tenured CEOs and CEO-Chair duality. However, they find that this result does not hold for those CEOs whose significant percentage of wealth is linked to the firm and also in the presence of blockholders.

Zou et al. (2021) distinguish between formal and informal CEO power when testing their relationship with firm risk. They find that CEO ownership and CEO founder status (formal power) positively relate to firm risk. In contrast, CEO's expertise captured by CEO tenure (informal power) has a negative relationship with firm risk. CEO duality, CEO social ties, and CEO educational level do not display statistically significant results. Moreover, corporate social responsibility has a mediating role in the relationship between CEO power and firm risk.

In contrast, Pathan (2009) reports that CEO power adversely impacts bank risk-taking. This study also shows that bank risk-taking is positive, with strong boards characterized by reduced board size and fewer restrictions. Tan and Liu (2016) construct a CEO power index and show an inverse relation between managerial power and idiosyncratic volatility. This study further suggests that powerful managers undertake their vested interests under market limitations at the cost of shareholder wealth creation since shareholders cannot gauge managerial endeavors. Drawing from the organizational and behavioral theory perspective that individual choices are radical, Haider and Fang (2018) also report that CEO power adversely influences firm risk-taking, proxied by total risk and idiosyncratic

risk. This result is moderated by the presence of large shareholders, thereby supporting the agency theory that large shareholders can supervise and sway management. However, CEO power and firm risk-taking differ across state-owned and non-state-owned enterprises.

Using data from US firms, Liu and Jiraporn (2010) document that bondholders find CEO power to be crucial in determining bond financing. Particularly they perceive that powerful CEOs create an opaque information situation, demanding higher bond yields. In a related study, Huang and Gao (2022) find that CEOs formal power led to a rise in firms' debt policy persistence while CEOs' informal power has the opposite effect, and this is more pronounced for CEOs' formal ownership power and CEOs' informal financial expert power.

9 CEO power and other corporate strategies

This section reviews all the other literature on CEO power and corporate strategies. The review of all these studies is shown in Table 6.

9.1 CEO power and governance structure

Sanders and Carpenter (1998) report that long-tenure CEO pay, CEO non-duality and large boards help firms to deal with information-processing demands and agency problems stemming from the internationalization process. Bigley and Wiersema (2002) attempt to integrate corporate governance research with upper echelon theory and shows that powerful CEOs maintain the status quo instead of refocusing firms' business portfolio as their apparent experience increases. However, when CEO power is measured by CEOs' prestige power, that is, the number of outside directorships held by the CEO, this result is negated. Deriving from resource dependence theory, Haynes and Hillman (2010) explore how the breadth and depth of board capital impact firms' strategic change and whether CEO power curbed this. The results partially support that CEO power moderates the consequence of board capital breadth and has no impact on board capital depth. Specifically, CEO power curbs the influence of board heterogeneity on strategic divergence.

In another study of CEO power and governance structure, by constructing a CEO power index using ten distinctive characteristics, Lisic et al. (2016) show that the effectiveness of audit committee decreases with CEO power, and this is more pronounced when CEOs extract more rent from the firm through insider trading. In a similar vein, Kim et al. (2017) looks into the post-Sarbanes–Oxley period and find that having an accounting expert on the audit committee could improve the auditing process as it leads to a comprehensive audit process. However, CEO power acts as an impediment to this process. Extending this line of research, Al-Dhamari et al. (2022) advance that powerful CEOs weaken the favorable impact of the overlap between audit and remuneration committees on the cost of debt.

Combs et al. (2007) adopt event study methodology to measure the interaction of board composition and CEO power in the event of CEO deaths. They report that in the event of deaths of high (low) powered CEOs, the market reacted favorably (unfavorably) when the boards were governed by inside directors and unfavorably (favorably) when outside directors governed the boards. Overall, their results suggest that although regulation favors board independence, it may not be favorable to shareholders. Hence, the level of CEO power should be considered while determining board independence. In a related study, Dowell et al. (2011) advance that one size fits all governance structure is unsuccessful in

the context of examining the collapse of publicly traded internet firms. Specifically, this study conducts event history analysis and shows that CEO power and smaller boards create a unity of command which is advantageous for fast decision-making for firms facing financial distress. Deriving from theories of institutional logic and structural elaboration, Joseph et al. (2014) assert that CEO-only structure is prevalent among firms with more insiders in the board. This study further contends that although a CEO-only structure is in line with the shareholder value logic, it is favored by powerful CEO to remove insiders who are voices of dissent.

Another study on CEO power and board leadership suggests that CEO power diminishes the positive influence of board leadership on firm strategy (Tuwey and Tarus 2016). Graham et al. (2020) investigate CEO power and board dynamics and report that when performance is weak, powerful CEOs are unlikely to be removed, and in the event of the death of powerful CEOs, market reaction is positive. This study also finds that board independence increases with the hiring of a new CEO, as new CEOs are likely to have a lower power to bargain, and board independence decreases with an increase in CEO tenure. Lewellyn and Fainshmidt (2017) suggest that CEO duality or non-duality is strengthened or counterbalanced by other types of power embedded in the CEO. They show that CEO duality bundled with information power provides effective corporate governance when it is moderated by high organizational and industry discretion. Conversely, CEO non-duality is effective when high organizational and industry discretion is absent. Graham et al. (2020) show that CEO power measured by tenure is inversely linked to board independence, and this gets weaker during uncertainty. They also find that higher CEO tenure increases the likelihood of CEO duality and reduces the chance of the CEO getting replaced in the event of poor firm performance. In addition, they show that stock market reaction is positive when powerful CEOs die, consistent with the results of Combs et al. (2007) discussed above.

Krause et al. (2016) investigate cultural power distance and CEO power and advance that shareholders determine firms' legitimacy, and customers also have a crucial role. In this context, they argue that customers of firms competing in a high-power-distance culture view increased CEO power as legitimate, and this is more prevalent for firms that rely on their customers. Another study on CEO and culture investigates hand-collected data from 37 countries and observes that CEO retention is higher in hierarchical countries (Urban 2019). These CEOs have idiosyncratic management styles, and their greater power reduces firm governance.

Bristy et al. (2022) examine the impact of CEO power on labor-friendly policy. According to their findings, CEO power, captured by a CEO power index, is negatively related to labor-friendly policy without affecting firm value. However, powerful CEOs invest more in labor-friendly programs in the cases of a competitive market, innovation-intensive firms, and union-intensive industries, resulting in higher firm value.

9.2 CEO power and CEO succession

Some of the earlier studies by Westphal and Zajac (1995) and Zajac and Westphal (1996a, b) report that when CEOs are more (less) powerful than the board, new directors are hired with similar demographic similarities as the CEOs (board). This supports the social psychological perception that CEOs and boards use their power to hire directors with similar philosophies to avoid the chances of dissent. However, this result is at odds from a political standpoint as studies on corporate governance attribute political motives only to CEOs and not to board members. Another study finds that in firms with

inferior performance, outside directors facilitate the exit of an heir apparent to restrict the sway of incumbent CEOs. In contrast, outside directors protect the heir apparent for firms with high performance and prevent the incumbent CEOs from abusing power (Cannella and Shen 2001). Horner and Valenti (2012) show that incoming and outgoing CEOs are the strongest players in the CEO nomination process. Firms looking to have CEO-Chair duality would hire CEOs with prior Chair experience, and outgoing CEOs with long tenure reduce the chance of CEO-Chair duality for incoming CEOs, suggesting that powerful CEOs can manipulate the succession process. Zajac and Westphal (1996b) show that powerful directors who enjoyed significant control over the board would like to move to companies where they can exert similar control. In addition, this study finds that directors who have faced governance changes prefer to move to firms with powerful CEOs and weaker boards.

Using a model of project appraisal, Baldenius et al. (2014) find that shareholders tend to nominate more advisors to the board to curb CEO entrenchment. In contrast, powerful CEOs could dictate the nomination process and create a monitor-heavy board to prevent information cascading to shareholders. This study reports that board monitoring negatively affects firm performance. However, the relationship is driven by firm attributes like agency issues. Zhang et al. (2011) report that non-CEO executives are expected to be dismissed and exit from TMT if they have higher age and tenure than CEOs, and this is exacerbated by firms with founder CEOs and poor performance and alleviated by CEO ownership.

9.3 CEO power, investments, and acquisitions

Fralich and Papadopoulos (2008) report that CEO power leads to lower bid premiums in a merger sample of S&P 500 firms during the financial crisis. They attribute this to powerful CEOs adopting more risk-averse behavior driven by heightened information asymmetry. Balmaceda (2009) suggests a model of merger where gains of mergers were distributed between buyers and sellers as a generalized Nash bargaining solution. In addition, powerful CEOs use their network to get information about target firms, enabling them to evaluate the attributes of the target firms better. In a related study, taking all four categories of CEO power coined by Finkelstein (1992), Chikh and Filbien (2011) show that powerful CEOs had a propensity for takeover deal completion even when the market signaled negative announcement period returns. Similarly, Dutta et al. (2011) also document that powerful CEOs engage in more acquisitions and show that CEO power may not lead to value-destroying acquisitions as M&A announcement period returns are unrelated to CEO power. Greve and Matsushashi (2007) have used two proxies of CEO power: CEO social capital, which has been proxied by CEO tenure, and formal power concentration, which is the proportion of executives hired by the CEO during their tenure. They show that CEO tenure has a favorable effect on diversification, whereas the proportion of executives appointed is ineffective to reverse diversification. Falenbrach (2009) reports that investment in firms with founder CEOs generates higher returns and higher firm valuations than firms with successor CEOs, which is robust across various firm characteristics. This study also observes that founder CEOs invest in more research and development, capital-intensive projects, and more focused mergers and acquisitions. Lo and Shiah-Hou (2022) find that increased CEO power reduces overinvestment and attribute this to CEOs' risk averseness. They also link this result to powerful CEOs' ability to make prudent investment decisions.

9.4 CEO power, firm innovation, and product market competition

Using data from S&P 500 firms, Sariol and Abebe (2017) show that explorative firm innovation rises with CEO power, which is prominent for firms with outsider CEOs. In a related study, Sheikh (2018a) observes that CEO power leads to increased firm innovation, as shown by patents and citations, only for firms characterized by high product market competition. This study concludes that product market competition alleviates agency problems and encourages CEOs to make decisions that would create shareholder wealth. Jaroenjitrkam et al. (2020) investigate S&P 1500 firms and report that CEO power is reduced by higher product market competition, and this is exacerbated in firms with entrenched management, with a reduction in CEO ownership and analyst coverage and those earning windfall performance. Lo and Shia-Hou (2022) find that powerful CEOs with greater discretion tend to overinvest, and it is the reverse for powerful CEOs with higher risk aversion and higher managerial skills.

9.5 CEO power and payout policy

Onali et al. (2016) report that powerful CEOs of European banks pay low dividends to maintain the capital position of the banks and do not have incentives to pay high dividends to discourage monitoring by minority shareholders. In a related study, Chintrakarn et al. (2018) show that CEO power negatively impacts dividend payout. They interpret this result in terms of agency theory to suggest that higher dividends reduce free cash flows for CEOs, and hence powerful CEOs are reluctant to pay higher dividends. Sheikh (2022) documents that CEO power (captured by an index including CEO pay slice, tenure, equity ownership, and job titles) is positively related to the likelihood of paying and increasing dividends in low profitability and high cash flow volatility. Moreover, powerful CEOs are more likely to pay dividends to gain a reputation in capital markets and raise funds externally at favorable terms.

9.6 CEO power and earnings management

Baker et al. (2019) examine CEO power relative to Chief Financial Officer (CFO) power in the context of accruals earnings management (AEM) and relative earnings management (REM) both in the pre-Sarbanes–Oxley Act (SOX) and post-SOX eras. In the pre-SOX period, this study discerned that when the CEO is powerful compared to CFO, AEM is greater than REM and vice versa. However, in the post-SOX period, they find that the consequence of CEO power on AEM is reduced, whereas the effect of CFO power on REM remained unchanged. They also find that CFOs' power could obstruct the AEM choice in both the pre-SOX and post-SOX period, whereas the REM choice of a powerful CFO is curbed by powerful CEOs only in the pre-SOX era. In another study of corporate earnings, DeBoskey et al. (2019) argue that powerful CEOs also use powerful rhetoric and positive tone in their earnings management, and this is moderated by board oversight for CEOs with longer tenure.

Sun et al. (2022) report a positive relationship between CEO power and annual report reading difficulty (i.e., difficulty in reading and understanding the annual report). This relationship is moderated by earnings performance or corporate governance and gets

stronger in the case of firms that display lower financial reporting quality or shorter-tenured CEOs.

9.7 CEO power, CSR, and R&D investment

Studies on powerful CEOs and corporate social responsibility (CSR) observe that CEO power is inversely linked to firms' decision to be involved in CSR, thereby corroborating the legitimacy of the stakeholder theory of CSR and showing that CSR activities increase firm values (Harper and Sun 2019; Li et al. 2016). Harper and Sun (2019) also find that female CEOs are more involved in CSR activities than their male counterparts. In a similar vein, Muttakin et al. (2018) report that CEO power negatively affects CSR disclosures and lowers the impact of board capital on CSR practices. Sheikh (2019a) also reports this result and further contends that structural and ownership dimensions of CEO power adversely affect CSR, while expert power bears no influence on CSR. Using a large international sample, Breuer et al. (2022) investigate the interaction of organizational and external factors and report that powerful CEOs tend to engage in CSR activities that lead to a fall in firm value when given more discretion. They assert that the main motivation for CEOs to engage in CSR is to enhance their reputation. On the contrary, Pucheta-Martínez and Gallego-Álvarez (2021) report that CEO power is positively related to CSR disclosure, and this relationship is reinforced when CEO compensation is linked to shareholder return. Maswadi and Amran (2023) find that CEO power moderates the relationship between board capital attributes and CSR disclosure (CSRD) quality. This study also finds that directors' political ties are negatively associated with CSRD quality. Walls and Berrone (2017) assert that in the presence of shareholder activism, CEO power plays a vital role in environmental performance, while only CEO expert power contributes towards environmental activism when there is no shareholder activism. This study has introduced several novel measures of CEO power related to environmental issues, as discussed in Sect. 2. Al-Shaer et al. (2023) report that CEO managerial power measured by CEO duality and number of executives on the board has a positive effect on environmental performance, and this is greater in firms with more independent boards and diverse boards, in firms that are not loss-making and those which operates in environmentally sensitive sectors. However, CEO legitimate power measured by CEO tenure does not affect firms' environmental performance. In related research, Zhang et al. (2022) find that CEO power positively impacts environmental innovation, which is greater in the presence of independent boards and higher market competition. Shui et al. (2022) report that both powerful and weak CEOs can engage in environmental initiatives when a suitable board and ownership structure complements them. This study also contends that CEOs with formal power should be monitored, and boards with strong industry connections could balance less powerful CEOs. Shahab et al. (2022) document that CEO power positively influences CSR decoupling. Jia et al. (2022) report that firm visibility, which is the scrutiny firms face from investors, explains the relationship between CEO power and CSR. Specifically, this study finds that firm visibility moderates the negative relation between CEO structural power and CSR and increases the positive relation between CEO expert power and CSR.

Chen (2014) finds that CEO power substantiates the favorable impact of board capital on R&D investment. Naaman and Sun (2022) observe a negative relationship between CEO power (using alternative proxies) and R&D investment, indicating that firms with more powerful CEOs are less likely to make R&D investments, and CEO power impact being stronger for firms with weaker corporate governance.

9.8 CEO power and firm leverage

Jiraporn et al. (2012) find that powerful CEOs adopt a low level of leverage to evade disciplinary procedures linked to debt financing. Using a sample over 20 years, Chintrakarn et al. (2014) report that the relation between CEO power and capital structure is non-monotonic and find that powerful CEOs avoid leverage while CEOs with weaker power do not evade leverage. This study advances that CEOs become self-serving at higher power levels, thereby leading to agency problems. Schopohl et al. (2021) report that female CFOs tend to take lower leverage when the CEO is less powerful, the board is more diverse, and when the CFOs are externally appointed.

10 Conclusion

This paper first comprehensively reviews the different proxies of CEO power used by empirical studies, and second, it reviews the consequences of CEO power on different corporate strategies. Our review shows that several studies have adopted the four categories of CEO power originally formulated by Finkelstein (1992). The review also indicates that the most popular measure of structural power is CEO-Chair duality. The two most popular measures of ownership power are CEO stock ownership and CEO founder. CEO tenure is the most accepted indicator of expert power, and CEO outside directorship is the most prevalent measure of prestige power. Other common indicators of CEO power are CPS, board independence, CEO education, and CEO age. From the review of the proxies of CEO power, we recommend using all four types of CEO power and constructing a CEO power index either through CEO power dummies (Gunasekarage et al. 2020; Sheikh 2019a, 2019b; Muttakin et al. 2018; Haider and Fang 2018; Mollah and Liljeblom 2016; Ting 2013), or through principal component analysis (Altunbas et al. 2020; Veprauskaite and Adams 2013; Chikh & Filbien 2011) are the best approaches to measure CEO power rather than taking only one or two measures as adopted by some studies (Ahsan et al. 2022; Bebhuk et al. 2011; Chintrakarn et al. 2015; Colak and Liljeblom 2022; Korkeamäki et al. 2017; Usman et al. 2018).

Section 4 summarizes the research models used in relation to the research methodology, and Table 2 shows a detailed list of these studies. The summary of methodology reveals that numerous studies have not addressed the endogeneity issue. These studies could be identified in Tables 3, 4, 5, 6 under the methodology columns. Future research should ensure that robustness tests are conducted to eliminate endogeneity concerns.

The review of theories related to CEO power literature shows that only two or three studies have studied several theories reported in Panels B and C of Table 1, like the power circulation theory, life cycle theory, resource dependence theory, stewardship theory, and shareholder theory. Future research should address this dearth in literature by investigating CEO power on these theories.

The review also shows that the most common study on CEO power is its effect on firm performance, and it provides mixed evidence. Adams et al. (2005), Brahmana et al. (2021), Chiu et al. (2021), Fahlenbrach (2009), Harjoto and Jo (2009), Le et al. (2022), Li et al. (2018),

Tang (2021), Ting et al. (2017), Tien et al. (2013), Simsek (2007), Villalonga and Amit (2006), Zhang and Rajagopalan (2010) report that CEO power improves firm performance,

while Bebchuk et al. (2011), Colak and Liljeblom (2022), Cormier et al. (2016), Duru et al. (2016), Haynes et al. (2019), Park et al. (2018), Tien et al. (2013), Veprauskaite and Adams (2013) report that CEO power reduces firm performance. Most of these studies are on the US data, few from China, and only three studies from the European sample. Only one study by Mollah and Liljeblom (2016) has used multi-country data, but their sample analysis period is too short (2007–2011). Hence, future research should take a more comprehensive multi-country sample in an extended sample period to assess whether CEO power could influence firm performance.

The review of studies on CEO power and executive compensation is focused on the USA, Canada, and China, two have used the UK data, and one from South Africa. These studies also generated mixed results. Six studies (Abernethy et al. 2015; Al-Dhamari et al. 2022; Henderson et al. 2010; Hill et al. 2016; Luo 2015; Zhu et al. 2021) have incorporated the CEO power index to examine whether CEO power can explain executive compensation. Moreover, the influence of CEO power on executive compensation in developed markets in the post-financial crisis period is scant. We also find that empirical evidence is non-existent in continental European markets and other major emerging countries apart from China. Hence, another scope of future research is to address this gap.

Only a handful of studies examined CEO power and firm risk-taking, and more than seventy percent of these studies are based on the US data. Two of these studies are focused on US banking sector, and the data used is more than five years old. Since credit risk is a key element of bank operational risk, more research is needed in this area. In addition, there is no evidence of CEO power and firm risk-taking in other emerging markets apart from China. One study is on multi-country data, and this is based on large banks. So, more research is needed in this area.

The review of studies in Sect. 6 overall shows the consequence of CEO power on several different corporate strategies. However, further research is needed in most of these areas as the evidence is scant and inconclusive. So far, only three studies have examined whether CEO power has any bearing on audit committee effectiveness (Kim et al. 2017; Lisic et al. 2016; Al-Dhamari et al. 2022). Since CEOs are essential in determining board composition, more comprehensive evidence is needed on how CEO power shapes the functioning of audit committees. Few have examined whether CEO power could influence the hiring of new directors (Westphal and Zajac 1995), independent directors, and nomination of new CEOs (Baldenius et al. 2014; Zhang et al. 2011). The data used in these studies are more than ten years old, and none used the CEO power index by incorporating all four dimensions of CEO power. Future research must address this gap.

Only one study has investigated CEO power and board size (Dowell et al. 2011), and the data is from the nineties. So, more recent evidence on CEO power and board composition is warranted, particularly in the light of corporate governance reforms undertaken in several countries, like SOX. In a similar vein, only three studies examine whether CEO power can explain board gender diversity (Usman et al. 2018; Schopohl et al. 2021; Brodmann et al. 2022). Given the increasing number of corporate governance literature on board gender diversity, more research is needed. In addition, there is a growing focus on recognizing LGBTQ employees' supportive policies taken by businesses. Only one study (Brodmann et al. 2021) has examined this. Hence another imperative line of inquiry would be to examine how CEO power could affect company LGBTQ-supportive policies, and this is a notable gap in research. These findings can also initiate policy debates and possible corporate governance reforms on channeling CEO power for positive corporate outcomes and strategies.

Declarations

Conflict of interest There are no competing interests to declare.

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References

- Abebe MA, Angriawan A, Liu Y (2011) CEO power and organizational turnaround in declining firms: does environment play a role? *J Leadersh Org Stud* 18(2):260–273. <https://doi.org/10.1177/1548051810385004>
- Abernethy MA, Kuang YF, Qin B (2015) The influence of CEO power on compensation contract design. *Account Rev* 90(4):1265–1306. <https://doi.org/10.2308/accr-50971>
- Adams RB, Almeida H, Ferreira D (2005) Powerful CEOs and their impact on corporate performance. *Rev Financ Stud* 18(4):1403–1432. <https://doi.org/10.1093/rfs/hhi030>
- Ahsan T, Al-Gamrh B, Mirza SS (2022) Corporate social responsibility and firm-value: the role of sensitive industries and CEOs power in China. *Appl Econ* 54(16):1844–1863. <https://doi.org/10.1080/00036846.2021.1983136>
- Al-Shaer H, Albitar K, Liu J (2023) CEO power and CSR-linked compensation for corporate environmental responsibility: UK evidence. *Rev Quant Financ Acc*. <https://doi.org/10.1007/s11156-022-01118-z>
- Al-Dhamari R, Alquhaif AS, Al-Gamrh BA (2022) Modelling the impact of audit/remuneration committee overlap on debtholders' perceptions of accounting information quality: the role of CEO power. *Int J Financ Econ* 27(3):2898–2920. <https://doi.org/10.1002/ijfe.2304>
- Altunbaş Y, Thornton J, Uymaz Y (2020) The effect of CEO power on bank risk: do boards and institutional investors matter? *Financ Res Lett* 33:101202. <https://doi.org/10.1016/j.frl.2019.05.020>
- Anderson C, Galinsky AD (2006) Power, optimism, and risk-taking. *Eu J Soc Psychol* 36(4):511–536. <https://doi.org/10.1002/ejsp.324>
- Baker TA, Lopez TJ, Reitenga AL, Ruch GW (2019) The influence of CEO and CFO power on accruals and real earnings management. *Rev Quant Financ Acc* 52(1):325–345. <https://doi.org/10.1007/s11156-018-0711-z>
- Baldenius T, Melumad N, Meng X (2014) Board composition and CEO power. *J Financ Econ* 112(1):53–68. <https://doi.org/10.1016/j.jfineco.2013.10.004>
- Balmaceda F (2009) Mergers and CEO power. *J Inst Theor Econ* 165(3):454–486
- Bebchuk LA, Fried JM (2003) Executive compensation as an agency problem. *J Econ Perspect* 17(3):71–92. <https://doi.org/10.1257/089533003769204362>
- Bebchuk L, Cohen A, Ferrell A (2009) What matters in corporate governance? *Rev Financ Stud* 22(2):783–827. <https://doi.org/10.1093/rfs/hhn099>
- Bebchuk LA, Cremers KM, Peyer UC (2011) The CEO pay slice. *J Financ Econ* 102(1):199–221. <https://doi.org/10.1016/j.jfineco.2011.05.006>
- Bigley GA, Wiersema MF (2002) New CEOs and corporate strategic refocusing: how experience as heir apparent influences the use of power. *Admin Sci Quart* 47(4):707–727. <https://doi.org/10.2307/3094914>
- Boyer R (2005) From shareholder value to CEO power: the paradox of the 1990s. *Compet Change* 9(1):7–47. <https://doi.org/10.1179/102452905X38623>
- Brahmana RK, You HW, Yong XR (2021) Divestiture strategy, CEO power and firm performance. *Manag Res Rev* 44(3):418–436. <https://doi.org/10.1108/MRR-04-2020-0196>
- Breuer W, Hass M, Rosenbach DJ (2022) The impact of CEO power and institutional discretion on CSR investment. *Rev Financ Econ* 40(1):20–43. <https://doi.org/10.1002/rfe.1131>
- Bristy HJ, Han J, Tian GG (2022) CEO power and labor-friendly policy. *Pac Basin Financ*, J 71:101699. <https://doi.org/10.1016/j.pacfin.2021.101699>

- Brodmann J, Hossain A, Al Masum A, Singhvi M (2021) Chief executive officer power and corporate sexual orientation equality. *J Behav Exp Financ* 31:100543. <https://doi.org/10.1016/j.jbef.2021.100543>
- Brodmann J, Hossain A, Singhvi M (2022) Chief executive officer power and board gender diversity. *Financ Res Lett* 44:102099. <https://doi.org/10.1016/j.frl.2021.102099>
- Bugeja M, Matolcsy Z, Spiropoulos H (2017) The CEO pay slice: managerial power or efficient contracting? Some indirect evidence. *J Contemp Account Econ* 13(1):69–87. <https://doi.org/10.1016/j.jcae.2017.01.003>
- Buyl T, Boone C, Hendriks W, Matthyssens P (2011) Top management team functional diversity and firm performance: the moderating role of CEO characteristics. *J Manage Stud* 48(1):151–177. <https://doi.org/10.1111/j.1467-6486.2010.00932.x>
- Byun KAK, Al-Shammari M (2021) When narcissistic CEOs meet power: effects of CEO narcissism and power on the likelihood of product recalls in consumer-packaged goods. *J Bus Res* 128:45–60. <https://doi.org/10.1016/j.jbusres.2021.02.001>
- Cannella AA Jr, Shen W (2001) So close and yet so far: promotion versus exit for CEO heirs apparent. *Acad Manag J* 4(2):252–270. <https://doi.org/10.5465/3069454>
- Chen HL (2014) Board capital, CEO power and R&D investment in electronics firms. *Corp Gov Int Rev* 22(5):422–436. <https://doi.org/10.1111/corg.12076>
- Chikh S, Filbien JY (2011) Acquisitions and CEO power: evidence from French networks. *J Corp Financ* 17(5):1221–1236. <https://doi.org/10.1016/j.jcorpfin.2011.06.007>
- Chintrakarn P, Jiraporn P, Singh M (2014) Powerful CEOs and capital structure decisions: evidence from the CEO pay slice (CPS). *Appl Econ Lett* 21(8):564–568. <https://doi.org/10.1080/13504851.2013.875102>
- Chintrakarn P, Jiraporn P, Tong S (2015) How do powerful CEOs view corporate risk-taking? Evidence from the CEO pay slice (CPS). *Appl Econ Lett* 22(2):104–109. <https://doi.org/10.1080/13504851.2014.927565>
- Chintrakarn P, Chatjuthamard P, Tong S, Jiraporn P (2018) How do powerful CEOs view dividends and stock repurchases? Evidence from the CEO pay slice (CPS). *Int Rev Econ Financ* 58:49–64. <https://doi.org/10.1016/j.iref.2018.02.023>
- Chiu J, Chen CH, Cheng CC, Hung SC (2021) Knowledge capital, CEO power, and firm value: evidence from the IT industry. *N Am J Econ Financ* 55:101012. <https://doi.org/10.1016/j.najef.2019.101012>
- Chiu J, Li YH, Kao TH (2022) Does organization capital matter? An analysis of the performance implications of CEO power. *N Am J Econ Financ* 59:101382. <https://doi.org/10.1016/j.najef.2021.101382>
- Choe C, Tian GY, Yin X (2014) CEO power and the structure of CEO pay. *Int Rev Financ Anal* 35:237–248. <https://doi.org/10.1016/j.irfa.2014.10.004>
- Coff RW (2002) Human capital, shared expertise, and the likelihood of impasse in corporate acquisitions. *J Manag* 28:107–128. <https://doi.org/10.1177/014920630202800107>
- Colak G, Liljeblom E (2022) Easy cleanups or forbearing improvements: the effect of CEO tenure on successor's performance. *J Financ Stab* 63:101072. <https://doi.org/10.1016/j.jfs.2022.101072>
- Coles JW, McWilliams VB, Sen N (2001) An examination of the relationship of governance mechanisms to performance. *J Manag* 27(1):23–50
- Combs JG, Ketchen DJ Jr, Perryman AA, Donahue MS (2007) The moderating effect of CEO power on the board composition–firm performance relationship. *J Manag Stud* 44(8):1299–1323. <https://doi.org/10.1111/j.1467-6486.2007.00708.x>
- Cormier D, Lapointe-Antunes P, Magnan M (2016) CEO power and CEO hubris: a prelude to financial misreporting? *Manag Decis* 54(2):522–554. <https://doi.org/10.1108/MD-04-2015-0122>
- Cyert RM, Kang SH, Kumar P (2002) Corporate governance, takeovers, and top-management compensation: theory and evidence. *Manag Sci* 48(4):453–469. <https://doi.org/10.1287/mnsc.48.4.453.205>
- Daily CM, Johnson JL (1997) Sources of CEO power and firm financial performance: a longitudinal assessment. *J Manag* 23(2):97–117. [https://doi.org/10.1016/S0149-2063\(97\)90039-8](https://doi.org/10.1016/S0149-2063(97)90039-8)
- Daily CM, Dalton DR, Cannella AA (2003) Corporate governance: decades of dialogue and data. *Acad Manag Rev* 28:371–382. <https://doi.org/10.5465/amr.2003.10196703>
- DeAngelo H, DeAngelo L, Stulz R (2006) Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *J Financ Econ* 81:227–254
- DeBoskey DG, Luo Y, Zhou L (2019) CEO power, board oversight, and earnings announcement tone. *Rev Quant Financ Acc* 52(2):657–680. <https://doi.org/10.1007/s11156-018-0721-x>
- Donald CH (2007) Upper echelons theory: an update. *Acad Manag Rev* 32(2):334–343. <https://doi.org/10.5465/amr.2007.24345254>
- Donaldson L, Davis JH (1991) Stewardship theory or agency theory: CEO governance and shareholder returns. *Aust J Manag* 16:49–64. <https://doi.org/10.1177/0312896291016001>

- Dowell GW, Shackell MB, Stuart NV (2011) Boards, CEOs, and surviving a financial crisis: evidence from the internet shakeout. *Strateg Manag J* 32(10):1025–1045. <https://doi.org/10.1002/smj.923>
- Duru A, Iyengar RJ, Zampelli EM (2016) The dynamic relationship between CEO duality and firm performance: the moderating role of board independence. *J Bus Res* 69(10):4269–4277. <https://doi.org/10.1016/j.jbusres.2016.04.001>
- Dutta S, MacAulay K, Saadi S (2011) CEO power, M&A decisions, and market reactions. *J Multinatl Financ Manag* 21(5):257–278. <https://doi.org/10.1016/j.mulfin.2011.07.003>
- Edelman LB (1992) Legal ambiguity and symbolic structures: organizational mediation of civil rights law. *Am J Sociol* 97:1531–1576
- Elhagrasy GM, Harrison JR, Buchholz RA (1999) Power and pay: the politics of CEO compensation. *J Manag Gov* 2:309–332. <https://doi.org/10.1023/A:1009975019195>
- Fahlenbrach R (2009) Founder-CEOs, investment decisions, and stock market performance. *J Financ Quant Anal* 44(2):439–466. <https://doi.org/10.1017/S0022109009090139>
- Fama EF (1980) Agency problems and the theory of the firm. *J Polit Econ* 88:288–303
- Fama EF, Jensen MC (1983) Separation of ownership and control. *J Law Econ* 26(2):301–325
- Fang H, Lee JS, Chung CP, Lee YH, Wang WH (2020) Effect of CEO power and board strength on bank performance in China. *J Asian Econ* 69:101215. <https://doi.org/10.1016/j.asieco.2020.101215>
- Finkelstein S (1992) Power in top management teams: dimensions, measurement, and validation. *Acad Manag J* 35(3):505–538. <https://doi.org/10.5465/256485>
- Finkelstein S, D’aveni RA (1994) CEO duality as a double-edged sword: how boards of directors balance entrenchment avoidance and unity of command. *Acad Manag J* 37(5):1079–1108. <https://doi.org/10.5465/256667>
- Fralich R, Papadopoulos A (2018) The financial crisis, acquisition premiums and the moderating effect of CEO power. *Long Range Plann* 51(2):204–218. <https://doi.org/10.1016/j.lrp.2017.08.004>
- Freeman RE, Evan WM (1990) Corporate governance: a stakeholder interpretation. *J Behav Econ* 19(4):337–359. [https://doi.org/10.1016/0090-5720\(90\)90022-Y](https://doi.org/10.1016/0090-5720(90)90022-Y)
- Friedman M (1970) A friedman doctrine: the social responsibility of business is to increase its profits. *N Y times Mag* 13(1970):32–33
- Graham JR, Kim H, Leary M (2020) CEO-board dynamics. *J Financ Econ* 137(3):612–636. <https://doi.org/10.1016/j.jfineco.2020.04.007>
- Greve HR, Mitsuhashi H (2007) Power and glory: concentrated power in top management teams. *Organ Stud* 28(8):1197–1221. <https://doi.org/10.1177/0170840607075674>
- Gunasekarage A, Luong H, Truong TT (2020) Growth and market share matrix, CEO power, and firm performance. *Pac Basin Financ J* 59:101257. <https://doi.org/10.1016/j.pacfin.2019.101257>
- Haider J, Fang HX (2018) CEO power, corporate risk taking and role of large shareholders. *J Financ Econ Pol* 10(1):55–72. <https://doi.org/10.1108/JFEP-04-2017-0033>
- Hambrick DC, Mason PA (1984) Upper echelons: the organization as a reflection of its top managers. *Acad Manag Rev* 9(2):193–206
- Han S, Nanda VK, Silveri S (2016) CEO power and firm performance under pressure. *Financ Manag* 45(2):369–400. <https://doi.org/10.1111/fima.12127>
- Harjoto MA, Jo H (2009) CEO power and firm performance: a test of the life-cycle theory. *Asia-Pac J Financ Stud* 38(1):35–66. <https://doi.org/10.1111/j.2041-6156.2009.tb00007.x>
- Harper J, Sun L (2019) CEO power and corporate social responsibility. *Am J Bus* 34(2):93–115. <https://doi.org/10.1108/AJB-10-2018-0058>
- Harper J, Johnson G, Sun L (2020) Stock price crash risk and CEO power: firm-level analysis. *Res Int Bus Financ* 51:101094. <https://doi.org/10.1016/j.ribaf.2019.101094>
- Haynes KT, Hillman A (2010) The effect of board capital and CEO power on strategic change. *Strateg Manag J* 31(11):1145–1163. <https://doi.org/10.1002/smj.859>
- Haynes KT, Zattoni A, Boyd BK, Minichilli A (2019) Figureheads or potentates? CEO power and board oversight in the context of Sarbanes Oxley. *Corp Gov Int Rev* 27(6):402–426. <https://doi.org/10.1111/corg.12293>
- Henderson BC, Masli A, Richardson VJ, Sanchez JM (2010) Layoffs and chief executive officer (CEO) compensation: does CEO power influence the relationship? *J Account Audit Financ* 25(4):709–748. <https://doi.org/10.1177/0148558X1002500410>
- Hill MS, Lopez TJ, Reitenga AL (2016) CEO excess compensation: the impact of firm size and managerial power. *Adv Acc* 33:35–46. <https://doi.org/10.1016/j.adiac.2016.04.007>
- Horner SV, Valenti A (2012) CEO duality: balance of power and the decision to name a newly appointed CEO as chair. *J Leadersh Account Ethics* 9(3):53–74
- Huang Z, Gao W (2022) The effects of formal and informal CEO power on debt policy persistence. *N Am J Econ Financ* 62:101748. <https://doi.org/10.1016/j.najef.2022.101748>

- Jaroenjitkam A, Yu CF, Zurbruegg R (2020) Does market power discipline CEO power? An agency perspective. *Eur Financ Manag* 26(3):724–752. <https://doi.org/10.1111/eufm.12240>
- Jensen MC, Meckling WH (1976) Theory of the firm: managerial behavior, agency costs and ownership structure. *J Financ Econ* 3(4):305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jia X, Liao S, Van der Heijden B, Li W (2022) Power and responsibility: how different sources of CEO power affect firms' corporate social responsibility practices. *Bus Eth Environ Responsib* 31(3):682–701. <https://doi.org/10.1111/beer.12438>
- Jiraporn P, Chintrakarn P, Liu Y (2012) Capital structure, CEO dominance, and corporate performance. *J Financ Serv Res* 42(3):139–158. <https://doi.org/10.1007/s10693-011-0109-8>
- Joseph J, Ocasio J, McDonnell MH (2014) The structural elaboration of board independence: executive power, institutional logics, and the adoption of CEO-only board structures in US corporate governance. *Acad Manag J* 57(6):1834–1858. <https://doi.org/10.5465/amj.2012.0253>
- Joura E, Xiao Q, Ullah S (2022) The moderating effects of CEO power and personal traits on say-on-pay effectiveness: insights from the Anglo-Saxon economies. *Int J Financ Econ*
- Kahneman D, Tversky A (1979) Prospect theory: an analysis of decision under risk. *Econometrica* 47:263e291
- Kalyta P (2009) Compensation transparency and managerial opportunism: a study of supplemental retirement plans. *Strateg Manag J* 30(4):405–423. <https://doi.org/10.1002/smj.737>
- Kalyta P, Magnan M (2008) Executive pensions, disclosure quality, and rent extraction. *J Account Public Pol* 27(2):133–166. <https://doi.org/10.1016/j.jaccpubpol.2008.01.002>
- Keltner D, Gruenfeld DH, Anderson C (2003) Power, approach, and inhibition. *Psychol Rev* 110(2):265. <https://doi.org/10.1037/0033-295X.110.2.265>
- Kim H, Kwak B, Lim Y, Yu J (2017) Audit committee accounting expertise, CEO power, and audit pricing. *Asia-Pac J Account Econ* 24(3–4):421–439. <https://doi.org/10.1080/16081625.2015.1105753>
- Korkeamäki T, Liljeblom E, Pasternack D (2017) CEO power and matching leverage preferences. *J Corp Financ* 45:19–30. <https://doi.org/10.1016/j.jcorpfin.2017.04.007>
- Krause R, Filatotchev I, Bruton GD (2016) When in Rome, look like Caesar? Investigating the link between demand-side cultural power distance and CEO power. *Acad Manag J* 59(4):1361–1384. <https://doi.org/10.5465/amj.2014.0532>
- Le HTM, Kweh QL, Ting IWK, Nourani M (2022) CEO power and earnings management: dual roles of foreign shareholders in Vietnamese listed companies. *Int J Financ Econ* 27:1240–1256. <https://doi.org/10.1002/ijfe.2211>
- Lewellyn KB, Fainshmidt S (2017) Effectiveness of CEO power bundles and discretion context: unpacking the ‘fuzziness’ of the CEO duality puzzle. *Organ Stud* 38(11):1603–1624. <https://doi.org/10.1177/0170840616685364>
- Lewellyn KB, Muller-Kahle MI (2012) CEO power and risk taking: evidence from the subprime lending industry. *Corp Gov Int Rev* 20(3):289–307. <https://doi.org/10.1111/j.1467-8683.2011.00903.x>
- Li F (2016) Endogeneity in CEO power: a survey and experiment. *Invest Anal J* 45(3):149–162. <https://doi.org/10.1080/10293523.2016.1151985>
- Li F, Li T, Minor D (2016) CEO power, corporate social responsibility, and firm value: a test of agency theory. *Int J Manag Financ* 12(5):611–628. <https://doi.org/10.1108/IJMF-05-2015-0116>
- Li Y, Gong M, Zhang XY, Koh L (2018) The impact of environmental, social, and governance disclosure on firm value: the role of CEO power. *Brit Account Rev* 50(1):60–75. <https://doi.org/10.1016/j.bar.2017.09.007>
- Lisic LL, Neal TL, Zhang IX, Zhang Y (2016) CEO power, internal control quality, and audit committee effectiveness in substance versus in form. *Contemp Account Res* 33(3):1199–1237. <https://doi.org/10.1111/1911-3846.12177>
- Liu Y, Jiraporn P (2010) The effect of CEO power on bond ratings and yields. *J Empir Financ* 17(4):744–762. <https://doi.org/10.1016/j.jempfin.2010.03.003>
- Lo HC, Shiah-Hou SR (2022) The effect of CEO power on overinvestment. *Rev Quant Financ Acc* 59:1–41. <https://doi.org/10.1007/s11156-022-01060-0>
- Luo Y (2015) CEO power, ownership structure and pay performance in Chinese banking. *J Econ Bus* 82:3–16. <https://doi.org/10.1016/j.jeconbus.2015.04.003>
- Maswadi L, Amran A (2023) Does board capital enhance corporate social responsibility disclosure quality? The role of CEO power. *Corp Soc Responsib Environ Manag* 30(1):209–225. <https://doi.org/10.1002/csr.2349>
- Menla Ali F, Wu Y, Zhang X (2023) ESG disclosure, CEO power and incentives and corporate risk-taking. *Eur Financ Manag*. <https://doi.org/10.1111/eufm.12447>
- Merkel-Davies DM, Brennan NM (2007) Discretionary disclosure strategies in corporate narratives: incremental information or impression management? *J Account Lit* 27(1):116–196

- Miller D (1991) Stale in the saddle: CEO tenure and the match between organization and environment. *Manag Sci* 37(1):34–52. <https://doi.org/10.1287/mnsc.37.1.34>
- Mollah S, Liljeblom E (2016) Governance and bank characteristics in the credit and sovereign debt crises—the impact of CEO power. *J Financ Stab* 27:59–73. <https://doi.org/10.1016/j.jfs.2016.09.003>
- Morck R, Shleifer A, Vishny RW (1988) Management ownership and market valuation: an empirical analysis. *J Financ Econ* 20:293–315. [https://doi.org/10.1016/0304-405X\(88\)90048-7](https://doi.org/10.1016/0304-405X(88)90048-7)
- Muttakin MB, Khan A, Mihret DG (2018) The effect of board capital and CEO power on corporate social responsibility disclosures. *J Bus Ethics* 150(1):41–56. <https://doi.org/10.1007/s10551-016-3105-y>
- Naaman C, Sun L (2022) CEO power and R&D investment. *Account Res J* 35(2):160–177. <https://doi.org/10.1108/ARJ-07-2020-0195>
- Ntim CG, Lindop S, Thomas DA, Abdou H, Opong KK (2019) Executive pay and performance: the moderating effect of CEO power and governance structure. *Int J Hum Res Man* 30(6):921–963. <https://doi.org/10.1080/09585192.2017.1282532>
- Onali E, Galiakhmetova R, Molyneux P, Torluccio G (2016) CEO power, government monitoring, and bank dividends. *J Financ Intermed* 27:89–117. <https://doi.org/10.1016/j.jfi.2015.08.001>
- Park JH, Kim C, Chang YK, Lee DH, Sung YD (2018) CEO hubris and firm performance: exploring the moderating roles of CEO power and board vigilance. *J Bus Ethics* 147(4):919–933. <https://doi.org/10.1007/s10551-015-2997-2>
- Pathan S (2009) Strong boards, CEO power and bank risk-taking. *J Bank Financ* 33(7):1340–1350. <https://doi.org/10.1016/j.jbankfin.2009.02.001>
- Pfeffer J, Salancik GR (1978) *The external control of organizations: a resource dependence perspective*. Stanford University Press, Stanford University Press
- Pollock TG, Fischer HM, Wade JB (2002) The role of power and politics in the repricing of executive options. *Acad Manag J* 45(6):1172–1182. <https://doi.org/10.5465/3069432>
- Pour EK, Uddin M, Murinde V, Amini S (2023) CEO power, bank risk-taking and national culture: international evidence. *J Financ Stab*. <https://doi.org/10.1016/j.jfs.2023.101133>
- Pucheta-Martínez MC, Gallego-Álvarez I (2021) The role of CEO power on CSR reporting: the moderating effect of linking CEO compensation to shareholder return. *Sustainability* 13(6):3197. <https://doi.org/10.3390/su13063197>
- Ryan HE Jr, Wiggins RA III (2004) Who is in whose pocket? Director compensation, board independence, and barriers to effective monitoring. *J Financ Econ* 73(3):497–524. <https://doi.org/10.1016/j.jfineco.2003.11.002>
- Saiyed AA, Tatoglu E, Ali S, Dutta DK (2023) Entrepreneurial orientation, CEO power and firm performance: an upper echelons theory perspective. *Manag Decis* 61(6):1773–1797. <https://doi.org/10.1108/MD-05-2022-0641>
- Salah MW, Eleyan D, Maigoshi ZS (2022) Moderating effect of CEO power on institutional ownership and performance. *EuroMed J Bus*. <https://doi.org/10.1108/EMJB-12-2021-0193>
- Sanders WG, Carpenter MA (1998) Internationalization and firm governance: the roles of CEO compensation, top team composition, and board structure. *Acad Manag J* 41(2):158–178. <https://doi.org/10.5465/257100>
- Sariol AM, Abebe MA (2017) The influence of CEO power on explorative and exploitative organizational innovation. *J Bus Res* 73:38–45. <https://doi.org/10.1016/j.jbusres.2016.11.016>
- Schopohl L, Urquhart A, Zhang H (2021) Female CFOs, leverage and the moderating role of board diversity and CEO power. *J Corp Financ* 71:101858. <https://doi.org/10.1016/j.jcorpfin.2020.101858>
- Shabir M, Jiang P, Shahab Y, Wang P (2023) Geopolitical, economic uncertainty and bank risk: do CEO power and board strength matter? *Int Rev Financ Anal* 87:102603. <https://doi.org/10.1016/j.irfa.2023.102603>
- Shahab Y, Ntim CG, Ullah F, Yugang C, Ye Z (2020) CEO power and stock price crash risk in China: do female directors' critical mass and ownership structure matter? *Int Rev Financ Anal* 68:101457. <https://doi.org/10.1016/j.irfa.2020.101457>
- Shahab Y, Gull AA, Ahsan T, Mushtaq R (2022) CEO power and corporate social responsibility decoupling. *Appl Econ Lett* 29(21):1965–1969. <https://doi.org/10.1080/13504851.2021.1966368>
- Sheikh S (2018a) The impact of market competition on the relation between CEO power and firm innovation. *J Multinatl Financ Manag* 44:36–50. <https://doi.org/10.1016/j.mulfin.2018.01.003>
- Sheikh S (2018b) CEO power, product market competition and firm value. *Res Int Bus Financ* 46:373–386. <https://doi.org/10.1016/j.ribaf.2018.04.009>
- Sheikh S (2019a) An examination of the dimensions of CEO power and corporate social responsibility. *Rev Acc Financ* 18(2):221–244. <https://doi.org/10.1108/RAF-01-2018-0034>

- Sheikh S (2019b) CEO power and corporate risk: the impact of market competition and corporate governance. *Corp Gov: Int Rev* 27(5):358–377. <https://doi.org/10.1111/corg.12285>
- Sheikh S (2022) CEO power and the likelihood of paying dividends: effect of profitability and cash flow volatility. *J Corp Financ* 73:102186. <https://doi.org/10.1016/j.jcorpfin.2022.102186>
- Shen W, Cannella AA Jr (2002) Power dynamics within top management and their impacts on CEO dismissal followed by inside succession. *Acad Manag J* 45(6):1195–1206. <https://doi.org/10.5465/3069434>
- Shleifer A, Vishny RW (1989) Management entrenchment: the case of manager-specific investments. *J Financ Econ* 25(1):123–139. [https://doi.org/10.1016/0304-405X\(89\)90099-8](https://doi.org/10.1016/0304-405X(89)90099-8)
- Shui X, Zhang M, Smart P, Ye F (2022) Sustainable corporate governance for environmental innovation: a configurational analysis on board capital, CEO power and ownership structure. *J Bus Res* 149:786–794. <https://doi.org/10.1016/j.jbusres.2022.05.037>
- Simsek Z (2007) CEO tenure and organizational performance: an intervening model. *Strateg Manag J* 28(6):653–662. <https://doi.org/10.1002/smj.599>
- Sun L, Skousen CJ (2022) CEO power and discontinued operations. *Adv Account* 58:100613. <https://doi.org/10.1016/j.adiac.2022.100613>
- Sun L, Johnson G, Bradley W (2022) CEO power and annual report reading difficulty. *J Contemp Account Econ* 18(2):100315100315. <https://doi.org/10.1016/j.jcae.2022.100315>
- Tan M, Liu B (2016) CEO's managerial power, board committee memberships and idiosyncratic volatility. *Int Rev Financ Anal* 48:21–30. <https://doi.org/10.1016/j.irfa.2016.09.003>
- Tang J (2021) CEO self-discipline in power use: a key moderator for the effect of CEO power. *Eur Manag J* 39(5):633–644. <https://doi.org/10.1016/j.emj.2021.01.007>
- Tang J, Crossan M (2017) Are dominant CEOs the saviors of troubled firms? *Long Range Plann* 50(6):782–793. <https://doi.org/10.1016/j.lrp.2016.03.002>
- Tang J, Crossan M, Rowe WG (2011) Dominant CEO, deviant strategy, and extreme performance: the moderating role of a powerful board. *J Manag Stud* 48(7):1479–1503. <https://doi.org/10.1111/j.1467-6486.2010.00985.x>
- Tian GY, Yang F (2014) CEO incentive compensation in US financial institutions. *Int Rev Financ Anal* 34:64–75. <https://doi.org/10.1016/j.irfa.2014.05.008>
- Tien C, Chen CN, Chuang CM (2013) A study of CEO power, pay structure, and firm performance. *J Manag Organ* 19(4):424–453. <https://doi.org/10.1017/jmo.2013.30>
- Ting HI (2013) CEO turnover and shareholder wealth: evidence from CEO power in Taiwan. *J Bus Res* 66(12):2466–2472. <https://doi.org/10.1016/j.jbusres.2013.05.036>
- Ting HI, Chueh H, Chang PR (2017) CEO power and its effect on performance and governance: evidence from Chinese banks. *Emerg Mark Rev* 33:42–61. <https://doi.org/10.1016/j.ememar.2017.09.005>
- Turner JC, Hogg MA, Oakes PJ, Reicher SD, Wetherell MS (1987) *Rediscovering the social group: a self-categorization theory*. Basil Blackwell, Oxford
- Tuwey JK, Tarus DK (2016) Does CEO power moderate the relationship between board leadership and strategy involvement in private firms? Evidence from Kenya. *Corp Gov* 16(5):906–922. <https://doi.org/10.1108/CG-01-2016-0010>
- Urban D (2019) The effects of culture on CEO power: evidence from executive turnover. *J Bank Financ* 104:50–69. <https://doi.org/10.1016/j.jbankfin.2019.05.003>
- Usman M, Zhang J, Farooq MU, Makki MAM, Dong N (2018) Female directors and CEO power. *Econ Lett* 165:44–47. <https://doi.org/10.1016/j.econlet.2018.01.030>
- Veprauskaitė E, Adams M (2013) Do powerful chief executives influence the financial performance of UK firms? *Brit Account Rev* 45(3):229–241. <https://doi.org/10.1016/j.bar.2013.06.004>
- Villalonga B, Amit R (2006) How do family ownership, control and management affect firm value? *J Financ Econ* 80(2): 385–417. <https://doi.org/10.1016/j.jfineco.2004.12.005>
- Walls JL, Berrone P (2017) The power of one to make a difference: how informal and formal CEO power affect environmental sustainability. *J Bus Ethics* 145(2):293–308. <https://doi.org/10.1007/s10551-015-2902-z>
- Westphal JD, Zajac EJ (1995) Who shall govern? CEO/board power, demographic similarity, and new director selection. *Adm Sci Q* 40(1):60–83. <https://doi.org/10.2307/2393700>
- Wei Q (2021) CEO power and nonprofit financial performance: Evidence from Chinese philanthropic foundations. *Voluntas* 32:460–476. <https://doi.org/10.1007/s11266-019-00187-4>
- Wheelen TL, Hunger JD (1990) *Cases in strategic management*, vol 1. Addison Wesley Publishing Company, Boston
- Zagonov M, Salganik-Shoshan G (2018) CEO Pay Slice as a measure of CEO dominance. *Res Int Bus Financ* 45:571–576. <https://doi.org/10.1016/j.ribaf.2017.07.092>

- Zajac EJ, Westphal JD (1996b) Director reputation, ceo/board power, and the dynamics of board interlocks. In: Academy of management proceedings, vol 1996, No 1, pp 254–258. Briarcliff Manor, NY 10510: Academy of Management
- Zajac EJ, Westphal JD (1996a) Who shall succeed? How CEO/board preferences and power affect the choice of new CEOs. *Acad Manag J* 39(1):64–90. <https://doi.org/10.5465/256631>
- Zhang Y, Rajagopalan N (2010) Once an outsider, always an outsider? CEO origin, strategic change, and firm performance. *Strateg Manag J* 31(3):334–346. <https://doi.org/10.1002/smj.812>
- Zhang L, Ji W, Tao J, Wang Q (2011) Who shall leave? How CEO preference and power affect executive turnover in Chinese listed companies. *Corp Gov Int Rev* 19(6):547–561. <https://doi.org/10.1111/j.1467-8683.2011.00855.x>
- Zhang Y, Li J, Deng Y, Zheng Y (2022) Avoid or approach: How CEO power affects corporate environmental innovation. *J Innov Knowl* 7(4):100250. <https://doi.org/10.1016/j.jik.2022.100250>
- Zhao Y, Elahi E, Khalid Z, Sun X, Sun F (2023) Environmental, social and governance performance: analysis of CEO power and corporate risk. *Sustainability* 15(2):1471. <https://doi.org/10.3390/su15021471>
- Zhou Y, Zhu H, Yang J, Zou Y (2021) Does CEO power backfire? The impact of CEO power on corporate strategic change. *Sustainability* 13(16):8847. <https://doi.org/10.3390/su13168847>
- Zhu J, Gao J, Tan H (2021) How the CEO power and age dissimilarity shape the chair-CEO pay gap: empirical evidence from China. *North Am J Econ and Financ* 55:101221. <https://doi.org/10.1016/j.najef.2020.101221>
- Zou H, Qi G, Xie X, Ma H (2021) The effects of formal and informal CEO power on firm risk in China: the mediating role of corporate social responsibility. *Asia Pac Bus Rev* 27(5):749–775. <https://doi.org/10.1080/13602381.2020.1843243>

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