

CEO POWER AND RISK-TAKING: THE MODERATING ROLE OF INDEPENDENT BOARDS, CEO COMPENSATION AND INSTITUTIONAL OWNERSHIP

Diniesha Devarajan¹

Chai Aun Ooi²

Sze Ying Loo³

Say Keat Ooi^{4*}

¹School of Economics, Finance and Banking, Universiti Utara Malaysia (UUM), Malaysia.

²School of Economics, Finance and Banking, Universiti Utara Malaysia (UUM), Malaysia.

³School of Economics, Finance and Banking, Universiti Utara Malaysia (UUM), Malaysia.

⁴Graduate School of Business, Universiti Sains Malaysia (USM), Malaysia, (E-mail: ooisaykeat@usm.my)

Article history

Received date : 16-11-2020

Revised date : 9-5-2022

Accepted date : 3-6-2022

Published date : 1-9-2022

To cite this document:

Devarajan, D., Ooi, C.A., Loo, S.Y. & Ooi, S.K. (2022). CEO Power and Risk-Taking: The Moderating Role of Independent Boards, CEO Compensation and Institutional Ownership. *International Journal of Accounting, Finance and Business (IJAFB)*, 7(43), 179 - 193.

Abstract: *This study investigates the impact of CEO power on managerial risk-taking based on a sample of 362 publicly traded companies in Malaysia. The sample period starts from 2013 to 2019. Findings indicated that CEO power negatively related to risk-taking, which can be justified through the agency theory. Further analysis revealed that CEO compensation and institutional ownership positively moderate the relationship between CEO power and managerial risk-taking. Meanwhile, no significant moderating effect of board independence observed. The results suggest that agency element is found in CEO power where the CEO in power tends to make decision to protect themselves in the safest situation by avoiding risky investment. Confronting with the pro and con of assigning additional CEO power, corporate governance plays an important role to assure the CEO in power does move in parallel with the goal of the shareholders.*

Keywords: *CEO power, risk-taking, independent boards, CEO compensation, institutional ownership.*

Introduction

Many publications in the business concentrate on prominent CEOs and their bold commercial decisions. Apparently, the success of a CEO is explained in the upper echelon research regime. The CEO in the high echelons shows a great influence over the firm's strategic settings, and they are usually given more power in decision making. On one hand, a great CEO power enables the CEO to maximize its human capital for the benefit of the firm. On the other hand, CEO power is likely linked to unethical and misbehaviour issues that oppose the goal of financial management. In reality, a powerful CEO who is given high level of trust by the shareholders should perform better, yet, many prominent CEOs have taken actions which appear to be a catastrophe to their firms

Agency theory claims that if a board has many non-executive members, it increases the chances of the board to work for the benefit of shareholders and oversee for a better risk management practice. The ratio of non-executive directors to the overall number of executives on board is indicative of the board members. According to the agency theory, shareholders have little influence on the daily operations of the company whereas executives are believed to have the expertise and managerial abilities that make the business successful. A possible conflict of interest mandates shareholder ownership protection procedures. More independent managers sitting on the board helps the board to have a greater control, which increases overall operational efficiency (Cheikh, 2014).

Extant studies evidenced CEO power on firm performance. Powerful CEOs tend to interrupt various decisions of the firms. For example, founder who is also a CEO tends to exert power in financial decision making. Also, a powerful CEO who has lengthy engagement in a firm tends to interrupt the board decisions. Yet, there is insufficient evidence to explain how CEO power relates to risk-taking decision. On one hand, according to resource-based view, CEO power enables the CEO to maximally utilize the available firm resources in making the best decisions for the firms. On the other hand, according to agency theory, CEO power increases the CEO's incentive of expropriating firm resources for their self-interests at the expense of shareholder value.

The CEO's risk-taking decision is one of the important managerial outcomes that can shed light on the impact of CEO power. Risk-taking, on one hand, is vital to maximize shareholders' profits, one the other hand, is reflecting agency behaviour of the CEO from avoiding failure of taking risky investment. This study focuses on CEO duality as the CEO who is also the chairman of the board of directors must have a great power in decision making. Structural and information authority is provided to the CEO by the joint leadership structure, thereby increasing the management discretion in corporate strategy management. This structure of merging the CEO and the Chairman further reduces the efficacy of the board in its monitoring and management. Literature agrees that CEO duality is associated with greater productivity and performance, yet, CEO duality resulting in a compromise of the board of directors control.

As such, the independent external directors play an essential role in defining the company's strategic behaviour. However, the role of external directors in monitoring and offering strategic advice was not well supported by empirical study as it demonstrates minimal impact on the running and performance of the organisation. Indeed, the preponderance of external directors might negatively affect the risk taking as financial result controls are emphasized, compared to a balance between strategic controls that share the risk of the CEO (Hoskisson et al., 2016).

Agency theory raises the issues of the conflict of interest between principal and agents (who are the top managers in a firm) in an organisation. The theory points to the misbehave of the agents in a firm that creates additional internal problem. Hence, agency theory emphasises on the essentiality of strengthening corporate governance of the firm.

The agency theory built from an economic perspective of shared risks between two parties, i.e. the directors and officers, although each one of the two or more parties may have various methods in solving the problem. The hunger of the principal for risk sharing is worrisome when the principal confers the trust to the agent in handling some tasks to attain maximum returns. The cooperative conduct should deliver the results indicated by the principal. However, the core issue of the agency is the rent-seeking behaviour of the agents who do not work at the best interests of the principal. This discrepancy in the perspective of the principal creates additional financial burden on the agency costs. The agency costs are needed to monitor and prevent the agent acting against the contractual deals, which can lead to the additional risks borne by the principal as the consequence.

Agency theory is backed by the potential divergent interest when ownership and operation of the company are separate. It states that managers are more aversive to risks than shareholders to protect their undiversifiable human capital and that corporate governance challenges need to be set up. Therefore, management measures to promote risk taking and monitor management to reduce managing opportunism, due to the integration of asymmetric information and variations in risk preferences, are anticipated to be implemented by the board of directors of a company. CEOs with authority are projected, in an agency theoretical model, to pursue activities and take decisions that were in their personal best interest and, as such, are not expected to undertake judgments judged hazardous by assuming risk aversion. However, as numerous academics have noted, the theoretical premise of the agency that managers will either risk adverse or risk neutral fails to recognize that they may really be risk seekers.

Power inhibition theory lets people focus on the possible reward elements of hazardous conduct while disregarding possible risks, which is a basic feature of human interaction. The behavioural approach is the result. In the framework of the idea of inhibition, powerful people have more capabilities and less limitations. Those with higher power are much less likely to notice or be influenced by threats in their environments. Scholars have uncovered empirical evidence in a set of six experimental investigations with human subjects indicating a positive link between power and individual risks. Their findings show that strong individuals concentrate more on the possible benefits implicit in taking risk, while concentrating less on the inherent hazards. In addition, they discover greater confidence in the appraisal of hazards, which in turn resulted in higher risk-taking propensity. The increased sense of hope came with good, negative, manageable, and uncontrollable results. Essentially, when a powerful feeling activates the behavioural approach of the CEO, a cognitive bias emerges in relation to how certain actions are framed and seen as risky. The cognitive impediment that this psychological process activates enables the CEO to disregard the negative effects of hazardous decisions and only to take into account the upside possibilities (Lewellyn & Muller-Kahle, 2012).

Several research streams argue that the risk-taking propensity of managers might influence how the company's propensity to innovate is defined. For instance, the literature on entrepreneurship has designed risk-taking as one of the aspects that embody the strategic position of the company, namely the amount to which senior managers are eager to engage in business. Anchored in strategic governance research, academics from the upper echelons have researched the risk-

taking qualities, such as tenure, age, or diversity, for managers and senior managers' teams and their impact on innovation performance. Moreover, research based on leadership literature have evaluated in a more direct way how the risk-taking inclination of senior management teams influences performance and in particular creative processes and outcomes. In general, the data show that managers that are more likely to gain superior innovation results in terms of risk-taking behaviours (Llopis et al., 2013).

Literature Review

The CEO is indeed a crucial company partner. When he is stronger, his standing is more essential. The CEO is viewed as a person who makes strategic financial and investment decisions having substantial consequences for business operations. The CEO's supremacy is mirrored in his strength. There are two kinds of management powers which are official when the President of the Board of Directors is also the CEO, and informal powers relate to prestige, social standing and networks that are established between both the CEO and other stakeholders. Dominance of the management over the company's outcomes. They argue that the autocratic and strong CEO is more flexible and influences the company's strategic decisions. They also show that managers' personal traits are the idea of innovation and progress in the company. The agency thesis supports the assumption that managers are better placed than shareholders to handle risks. In this situation, the knowledge has an impact on dangerous management decisions. On the theoretical front, the concept as well as the theory of resource dependency support the dual function. According to these ideas, a concentration of the CEO's authority creates opportunism and management discretion in the dual structure. In this situation, the management has enough power on the board. The CEO can thus make hazardous investments as he is not regulated (Cheikh, 2014).

Powerful actors like the World Bank and different national governments focus on social capital to alleviate market deficiencies. But social capital research has only garnered little interest in academic finance. Based on the expectations of social capital theories and previous empirical data, CEO social capital has repercussions for company risks. For various reasons, social capital does have a beneficial impact on business risk-taking. First, social capital affects the risk tolerance of people who are socially linked because it provides a means of combining individual risks. Social capital, for example, offers an informal insurance mechanism that might boost risk-taking. Secondly, social capital strengthens the perception of power of an individual and hence contributes to riskier preferences. Enhanced relationships and access to the authority of an individual together within social network are reinforced. The idea of approach-inhibition says that power experiences lead people to take greater risks. Third, agency theory states that executives' career concerns are one of the main causes for low management risk. Social capital lowers labor market knowledge asymmetry and so lessens the effects of a failure by giving job loss insurance to the CEO. Even after forced exits, for instance, socially connected CEOs are more likely to secure new jobs. Unemployment length decreases with the worker's personal network quality (Ferris et al., 2017).

The relationship between power and danger and risk seen has ramifications for our knowledge of how power is maintained once it has been achieved. The positive link involving power and risk-taking might lead to loss of power. Increased risk-proneness might often lead to a loss of authority. On the other side, though, hazardous conduct might alternatively help people retain or even enhance existing power in a few ways. First, the powerful can use the high-upside possibilities which others shun by encouraging hazardous behaviour. For example, the quantity of CEO stock options for oil and gas firms forecasts future exploration risks. The stock option-

driven investments in hazardous initiatives have been demonstrated to significantly pay off, resulting to higher corporate performance and maximized total firm value and eventually leading to more CEO wealth and influence. The powerful frequently strengthen their influence by engaging in hazardous behaviour. Second, hazardous behaviour, because of the signal that it implicitly transmits to others, might boost power that they can take such risks via their authority. Involving possible partners in such activities shows that the individuals are powerful, resilient and able to tolerate potential unfavourable risk implications (Anderson & Galinsky, 2006).

It may be claimed that most preceding research utilize CEO power metrics that only represent one or two factors. Some recent studies have begun to utilize a power index that incorporates the wide aspects of power. With these considerations in mind, several scholars try to contribute to current literature by adding structure, expertise, ownership and reputation to the usage of four main forms of power. The objective of this method is to develop a CEO power index by using a major components analysis to integrate the original CEO power variables on a one index and to allow loads of each of the variables in accordance with the varying data contribution. This avoids the problem of measuring inaccuracies caused by manually assigned factor weights. It also helps to prevent issues arising from the possible interdependency across CEO power and control factors. The scope of power has to be extended to better comprehend the impact of management power on company performance, based on past and corresponding research. The results were in line with the management ability perspective, according to which businesses whose CEOs are stronger can show higher company success. Past studies also shows that there is no significant influence on the connection between CEO Management Power and corporate performance of the representation of the different ownership concentration (Abdalkrim & Zheri, 2019).

Previous study has revealed conflicting results that CEO dualism can adversely or favourably effect company performance or does not significantly influence business success. The mixed outcomes are based on either the theory of the agency that the separation of CEO roles and the CEO reduces the chance for the CEO to demonstrate self-serving behaviours which are expensive for business owners and can "ensuring consistent controls for the shareholder of the firm, in organisation and management theories, which make the argument that joint leadership is a joint management committee.

As earlier study on duality-performance associations reveals inconsistent results, meta-analyses have been performed and results show that the CEO duality should have a weak, while the company's performance should be negatively affected. This corresponds to further meta-analyses on the leadership structure and company performance that indicate that duality is not linked to firm performance and that duality doesn't influence firm performance favourably. Some study has shown that the merger of senior management and chairman roles will impair management control and adversely influence business performance. CEOs also acting as chairmen are free to self - interests without active management supervision. The board of directors should really be considered to be a major corporate governing body, based on agency theory, and greater independent monitoring should enhance corporate performance. Therefore, CEO duality which might decrease independent board scrutiny should adversely affect the performance of the business. It revealed that CEO is in a very powerful position to influence the Board of Directors' composition and the power of the CEO is increased when the CEO is highly appreciated by the Chairman. Therefore, a CEO can be empowered if the same individual has board authority. As the duality of CEO is when the CEO and Chair of the Board are

possessed by same person, the duality of CEO strengthens the authority of the CEO which would favourably impact its remuneration (Tien et al., 2013).

Hypotheses Development

If personal wealth of managers is responsive to company risk, managers can be motivated to choose investing strategies that increase financial volatility and firm profitability, therefore increasing the eventual risk of default. As a negative bond price response, bondholders anticipate managerial risk-taking incentives arising from repayments and rational risk pricing of stock compensation awards, greater risk assessments, and more restrictive loan arrangements. Rating agencies acknowledge the relevance of CEO pay in promoting managerial risk management. Theory suggested that one method to compensate for the concavity of a risk-inverse manager's functions is to provide managerial pay with a convex pay structure to increase the sensitivity of management wealth to business performance. Managers can share business profit and income if the firm prospers but are protected from loss due to limited liability.

Therefore, agency theory strongly believes that CEOs are risk averse. CEOs do not wish to spread their load bearing structural through taking high risk investment. However, the goal of financial management set by the majority shareholders pushes the CEOs to take higher risk investment in order to maximize the returns (Zhu, 2019). Conflict of interest is arisen between the CEOs who wish not to involve in high-risk investment that can endanger their job security and the expectation of shareholders on the CEO to handle risky investment well for maximizing their profits.

The risk averse of the CEO may be changed given the CEO possesses major control over exercising firm resources for their preferences at the cost of their shareholders. Powerful CEO who has more control in the firm can better protect themselves from job security threatening because they can control the information flow in the firm. This is particularly true for the CEO who is chairing the board of directors, or so-called CEO duality. CEO duality gives additional authority to the CEOs to control the firm resources and information flow, which could increase their defense against shareholders' dissatisfaction of their risk-taking outcomes.

Besides that, CEO power can also be related to CEO hubris which is typically characterized as an excessive trust or pride of a CEO. Prior studies investigate the influence of CEO hubris and CEO overconfidence on multiple outputs including acquisition premiums, distortion of investment and risk failure. The results typically indicate that companies with over-assured CEOs pay higher rates, rely on internal instead of external funding, fail their own revenue projections, and conduct more fusions that destroy value. The results show the moderating effects of the management discretion, derived from elements that enhance or degrade the link between CEO hubris and business risk-taking in the company environment, organisation, internal governance and the unique socio-position. The literature results also shows that market municipality and complexity make CEOs more discreet and therefore increase the favorable link across CEO hubris and corporate risk management. When companies have more strategic advantages, increased management discretion improves the link with CEO hubris and company risk management (Li & Tang, 2010). With that, this study postulates that CEO power is associated with higher risk-taking that misuse firm resource in lower optimal level.

Hypothesis 1: CEO power is positively related to managerial risk-taking

Prior studies have revealed how CEO power is exerted to control the decision of the board of directors. A mighty CEO prefers to choose demographically similar members of the board who can easily create consensus with the CEO. The CEOs preserve their influence through recruiting and retaining members of the board with passive board experience. The CEO power explained by CEO duality where the CEO is chairing the board of director, they can report unfavourable firm performance to the shareholders based on the external excuses as the under-controlled board has lost its function to monitor the CEO performance. Even, the powerful CEO through his duality function might restrict the boards' impact in strategic transformation which may not in parallel with their interest.

However, the independent board of directors are not intriguing with the firm's internal directors. Recruiting independent board of directors promotes board diversity to ensure an independent board, since an independent board can exert a more thorough oversight over the managerial decisions. With that, an effective monitoring of the independent board of directors is able to improve the information asymmetry in the firm. Because CEO duality is associated with high information asymmetry when the powerful CEO is able to control the information releasing to the shareholders, the role of independent board of directors in pressuring the CEO is vital. It is said that the independent board of directors reduces the cost of information of a firm. In the addition, reducing asymmetry of information creates better monitoring and improves decision making. With that, this study postulates that the independent board of directors exercises a robust management oversight mechanism over powerful CEO may then influence the managerial risk-taking decisions.

Hypothesis 2: Independent board of directors negatively moderate the relationship between CEO power and managerial risk-taking

Managerial risk aversion imposes agency costs on the shareholders. However, the factors that affect management risk choices outside of the scope of wealth creation are less apparent (Cain & McKeon, 2016). In literature, there are substantial studies analyzing contractual effect on minimising the expenses of various risk-related agencies. If a manager receives compensation through convex payment systems, his projected wealth is an important determinant of his risk-taking. The wealth impact should lead to a choice of increased risk-taking, ceteris paribus, which reduces the selection of sub-optimal projects.

Economic literature presents conceptual and empirical evidence of the potential risk enhancement of a management's appetite by introducing convexity to the management reward structure, for example through equity compensation for equity options. If managerial personal wealth is responsive to corporate risks, managers may be encouraged to select investment practices that raise financial volatility and corporate performance, therefore raising the future risk of default. Bondholders expect managerial risk-taking incentives resulting from reimbursement and the risk rational pricing of equity-compensation awards, higher risk assessments and more restrictive loan agreements as an unfavorable bond price reaction. Rating agencies recognize the importance of executive remuneration in encouraging managerial risk taking. Agency theory suggests that one approach to compensate the concavity of the function of a risk-inverse manager is to give managerial remuneration a convex reward structure, i.e., to link sensitize managerial wealth to corporate success. Managers can share corporate profits and earnings if the company thrives but are shielded against losses owing to restricted responsibility. One effect of such a pay-off structure is that management are able to find risk more desirable

and therefore encouraged to pursue riskier investments (Kuang & Qin, 2013). With that, this study postulates that CEO compensation increase the incentive of powerful CEO risk-taking.

Hypothesis 3: CEO compensation positively moderates the relationship between CEO power and managerial risk-taking

Due to the effects of rising CEO or risk exposure to top managers, monitoring can improve risks taken by top managers. Monitoring by owners of a company has been typically implemented by taking big block ownership proprietors, concentrated ownership or committed institutional investors into consideration. Studies on the influence of ownership structures on managerial risk-taking usually find that the ownership structure is positively related to managerial risk-taking incentive. Businesses that are less diversified than respective business partners, because of the higher risk that top managers take because of ownership structure pressure through their monitoring.

In comparison with transitory owners, devoted institutional investors also have a larger effect on company internal innovation. Similarly, devoted institutional investors are prepared to back competitive, risky long-term moves versus tactical actions more than transitory institutional investors. Internal innovation and aggressive movements are both more risky than short-term innovation acquisitions and tactical maneuvers. This implies that ownership structure and supervision by certain block ownership types might have a beneficial impact on the risk-taking behaviour of key strategy leaders.

In line with earlier findings, it gives evidence that a limited fraction of institutional investors has a considerable effect on corporate strategy and management behaviour. The results demonstrate that the existence of blockholder and institutional investors can alter managerial styles. The previous findings suggest that duality of the CEO take considerable account of the voting power of big institutional block holders, which might have a major influence on their employment safety and leadership. With that, we postulate that institutional ownership brings more human capital to support the CEO risk-taking. Hence, we expect institutional ownership positively moderates the relationship between CEO power and managerial risk-taking.

Hypothesis 4: Institutional ownership positively moderates the relationship between CEO power and managerial risk-taking

Methodology

Data

A sample comprising of 362 public listed firms in the main board of KLSE was collected. The sample does not include the firms from financial and banking sector. All financial data of the 362 firms are downloaded from Datastream powered by Thomson Reuters. Corporate governance data are hand collected from the firms' annual reports. The sample period starts from 2013 to 2019. The financial data of 2020 and 2021 were excluded due to firm performance has been challenged by the worldwide COVID-19 pandemic and economic lockdown.

Dependent Variable: Risk Taking

Definition that explains the significance of risk is the possibility of differences from expectations that may cause harm. Risk is the potential of an occurrence that differs from what is expected, but only when it takes the form of a loss is this deviation noticed. Risk is insecurity

that might lead to loss. Some definitions given so suggest that the risk is unclear but that if not effectively managed it will hurt the enterprise. In the last two decades, CEOs have more and more been encouraged to execute riskier investment decisions to enhance the short-term value, duality and ownership of shareholders. The danger of companies and the global economic system has grown overall (Meiryani, 2018). In this study, risk-taking is measured by taking natural logarithm of the ratio between return of assets (ROA) and the standard deviation of ROA (Lepetit et al., 2008; Barry et al., 2011) multiplied by (-1). The higher the value indicates more risk-taking.

Independent Variables:

Firm Size

Firm or company size factor is a highly significant element in affecting company activity, and most research utilize it as an invariable factor or control. Most research have demonstrated a positive link between the size of the company and the amount of risk disclosure (Gengatharan et al., 2020).

Market-To-Book

Investors often use the market to book ratio to indicate the market's opinion of the value of a certain stock. It is used to appraise insurance and financial firms, real estate, and investment trusts. It is not good for firms with predominantly intangible assets. This ratio shows how much equity investors pay in net assets for each dollar. The market-to-book ratio is determined by dividing the stock's present closing price by its book value per share in the current quarter.

Return on Asset (ROA)

Return on Assets (ROA) indicates the extent to which a firm is profitable in relation to its total assets. ROA provides a manager, investor or analyst with an understanding of how efficient management of a business is to use its assets to produce income.

Board Size

In the ability of the board to supervise the accounting and financial process is influenced by its size. The efficacy of the supervision by the board is increased by its size since the workload may be distributed to more observers. Furthermore, bigger boards provide improved monitoring and control efficiency by giving more inputs during the board meeting (Younas, et al., 2019).

Ratio of Independent Directors

The Board Independence has been a fundamental part of corporate governance. The Board of Directors has the duty of providing independent and effective managerial control. The efficiency of this oversight depends heavily on the ratio of independent board directors. Greater participation of the independent board directors increases the degree of control and enables the board to fulfil its strategic tasks more effectively (Gouiaa, 2018).

Models

Four models have been developed to examine the four hypotheses in this study. The dependent variable is managerial risk-taking variable as shown by $RiskTaking_{it}$. The control variables include firm size ($FirmSize_{it}$), leverage ($Leverage_{it}$), market-to-book (Market-to-Book), board size ($BoardSize_{it}$), independent boards ($IndependentBoard_{it}$) and the CEO compensation ($CEOPower_{it}$). The model highlights the effect of CEO power ($CEOPower_{it}$) on managerial risk taking.

$RiskTaking_{it}$ is measured by the standard deviation of 2-year ROA of firm i at year t . $FirmSize_{it}$ is measured by natural logarithm of total assets of firm i at year t . Leverage is the ratio of total debts to total assets of firm i at year t . $Market-to-Book_{it}$ is the ratio of total market value to total book value of assets of firm i at year t . $BoardSize_{it}$ is the natural logarithm of the total number of board members of firm i at year t . $IndependentBoard_{it}$ is the ratio of the number of independent board of directors to total number of board members of firm i at year t . $CEOCompensation_{it}$ is the natural logarithm of total CEO pay of firm i at year t .

$$RiskTaking_{it} = \alpha_{it} + \beta_1 FirmSize_{it} + \beta_2 Leverage_{it} + \beta_3 Market-to-Book_{it} + \beta_4 BoardSize_{it} + \beta_5 IndependentBoard_{it} + \beta_6 CEOCompensation_{it} + \beta_7 InstitutionalOwnership_{it} + \beta_8 CEOPower_{it} + \varepsilon_{it} \quad (1)$$

Model 2 examines hypothesis 2 concerning the moderating effect of independent board on the relationship between CEO power and managerial risk-taking. The $CEOPower_{it}$ is a dummy variable that is given value of one when the CEO of firm i at year t is also a chairman of the board of directors. The other control variables are remained in the model. It is expected that the coefficient of β_9 is significantly negative as mentioned in the hypothesis 2.

$$RiskTaking_{it} = \alpha_{it} + \beta_1 FirmSize_{it} + \beta_2 Leverage_{it} + \beta_3 Market-to-Book_{it} + \beta_4 BoardSize_{it} + \beta_5 IndependentBoard_{it} + \beta_6 CEOCompensation_{it} + \beta_7 InstitutionalOwnership_{it} + \beta_8 CEOPower_{it} + \beta_9 CEOPower_{it} \times IndependentBoard_{it} + \varepsilon_{it} \quad (2)$$

Model 3 examines hypothesis 3 concerning the moderating effect of CEO compensation on the relationship between CEO power and managerial risk-taking. The other control variables are remained in the model. It is expected that the coefficient of β_9 is significantly positive as mentioned in the hypothesis 3.

$$RiskTaking_{it} = \alpha_{it} + \beta_1 FirmSize_{it} + \beta_2 Leverage_{it} + \beta_3 Market-to-Book_{it} + \beta_4 BoardSize_{it} + \beta_5 IndependentBoard_{it} + \beta_6 CEOCompensation_{it} + \beta_7 InstitutionalOwnership_{it} + \beta_8 CEOPower_{it} + \beta_9 CEOPower_{it} \times CEOCompensation_{it} + \varepsilon_{it} \quad (3)$$

Model 4 concerning the moderating effect of institutional ownership on the relationship between CEO power and managerial risk-taking. $InstitutionalOwnership_{it}$ is the percentage of shareholdings owned by institutional investors of their shareholdings larger than 5%. The institutional investors include the corporation holdings, investment company holdings and pension fund holdings. The other control variables are remained in the model. It is expected that the the coefficient of β_9 is significantly positive as mentioned in the hypothesis 4.

$$RiskTaking_{it} = \alpha_{it} + \beta_1 FirmSize_{it} + \beta_2 Leverage_{it} + \beta_3 Market-to-Book_{it} + \beta_4 BoardSize_{it} + \beta_5 IndependentBoard_{it} + \beta_6 CEOCompensation_{it} + \beta_7 CEOPower_{it} + \beta_8 InstitutionalOwnership_{it} + \beta_9 CEOPower_{it} \times InstitutionalOwnership_{it} + \varepsilon_{it} \quad (4)$$

Descriptive Analysis

Table 1 shows the results of descriptive analysis of the variables. The mean of $RiskTaking_{it}$ for the total sample is 3.70 with the range from 0.29 to 17.09. $FirmSize_{it}$ has the mean of 12.74, and the maximum value of $FirmSize_{it}$ in the sample is 18.08. Standard deviation of $FirmSize_{it}$ is 1.23. Besides that, the mean of the $Leverage_{it}$ is low, which is 0.08 only, and there is a slight different with its median recorded at 0.05 only. In the addition, the mean of the $Market-to-Book_{it}$ is 0.89, with a standard deviation of 0.86.

For corporate governance variables, the mean and median of $BoardSize_{it}$ are 1.95 and 1.96 respectively, and the maximum value of $BoardSize_{it}$ is 2.83. The mean of $IndependentBoard_{it}$ is 0.45, which is closer to the median of 0.43. The mean of the $CEOCompensation_{it}$ is 13.57, with a standard deviation of 0.96. The mean of $InstitutionalOwnership_{it}$ is low, which is 0.23, as compared to the maximum value of 1.47. Lastly, the mean of $CEOPower_{it}$ is 0.16 only, with a standard deviation of 0.36.

Table 1: Descriptive Statistics

Variables	Obs	Mean	Std Dev.	Min	Mdn	Max
$RiskTaking_{it}$	2534	3.70	3.15	0.29	2.69	17.09
$FirmSize_{it}$	2534	12.74	1.23	10.15	12.60	18.08
$Leverage_{it}$	2534	0.08	0.09	0.00	0.05	0.58
$Market-to-Book_{it}$	2534	0.89	0.86	0.11	0.67	12.25
$BoardSize_{it}$	2534	1.96	0.23	1.39	1.95	2.83
$IndependentBoard_{it}$	2534	0.45	0.12	0.09	0.43	0.88
$CEOCompensation_{it}$	2534	13.57	0.96	9.85	13.53	18.92
$InstitutionalOwnership_{it}$	2534	0.23	0.26	0.00	0.10	1.47
$CEOPower_{it}$	2534	0.16	0.36	0.00	0.00	1.00

Table 2 presents the correlations of the variables. $FirmSize_{it}$, $Leverage_{it}$, $BoardSize_{it}$, $CEOCompensation_{it}$, $InstitutionalOwnership_{it}$ and $CEOPower_{it}$ are negatively correlated to $RiskTaking_{it}$, and the $Market-to-Book_{it}$, $IndependentBoard_{it}$ are positively correlated to $RiskTaking_{it}$.

Table 2: Correlations

	1	2	3	4	5	6	7	8	9	VIF
1. $RiskTaking_{it}$	1.0000									1.07
2. $FirmSize_{it}$	-0.1510	1.0000								1.95
3. $Leverage_{it}$	-0.0188	0.4021	1.0000							1.22
4. $Market-to-Book_{it}$	0.0954	0.1201	0.0751	1.0000						1.09
5. $BoardSize_{it}$	-0.1134	0.2844	0.0815	0.1128	1.0000					1.30
6. $IndependentBoard_{it}$	0.0959	-0.0519	-0.0045	-0.0143	-0.3662	1.0000				1.17
7. $CEOCompensation_{it}$	-0.1777	0.592	0.1815	0.1937	0.2284	-0.0415	1.0000			1.65
8. $InstitutionalOwnership_{it}$	-0.038	0.2636	0.0190	0.1637	0.1196	-0.0505	0.1955	1.0000		1.11
9. $CEOPower_{it}$	-0.0436	-0.0359	-0.0166	-0.0105	-0.1065	-0.0085	0.0876	-0.0105	1.0000	1.04

The results of variance inflation factor (VIF) in Table 2 show that there is no concern of multicollinearity amongst the independent variables.

Results and Discussion

Table 3 presents the regression results of the relationship between CEO power and managerial risk-taking. The Baseline model shows the baseline regression results that demonstrate the coefficients of all independent variables. According to the baseline results, only the firm size and market-to-book are significantly related to managerial risk-taking. The coefficient of $FirmSize_{it}$ is negative and statistically significant at 1% significance (coeff = -0.828; p-value = 0.0001). This means that increasing firm size reduces the managerial risk-taking. Instead, the coefficient of the $Market-to-Book_{it}$ is positive and statistically significant at 5% level of significance. The firms with high market-to-book indicates better future prospect, which must be supported by higher risk-taking for maximizing its profits. The signs of both variables are

consistent with our expectation. Despite of it, the coefficients of the other control variables are not statistically significant. In sum, the baseline result reveals that firm size and market-to-book are the keys for explaining risk-taking.

Model 1 highlights the relationship between CEO power and managerial risk-taking while the other control variables are remained. Contradicting hypothesis 1, the sign of the coefficient of $CEOPower_{it}$ is negative and it is statistically significant at the 1% level (coeff = -0.9036; p-value = 0.0014). The result indicates that a powerful CEO is associated with low risk-taking. This suggests that CEO in power choose to take safer path rather than taking risky investment. The signs of the coefficients of the control variables remain unchanged in the regression.

Table 3: Regression Results of CEO Power and Risk-Taking

	Baseline	Model 1
$FirmSize_{it}$	-0.8280*** (0.0001)	-0.8194*** (0.0001)
$Leverage_{it}$	0.2859 (0.7577)	0.2653 (-0.7742)
$Market-to-Book_{it}$	0.2841** (0.0157)	0.2880** (0.0141)
$BoardSize_{it}$	-0.6372 (0.1540)	-0.7046 (0.1146)
$IndependentBoard_{it}$	0.0931 (0.8997)	0.0136 (0.9853)
$CEOCompensation_{it}$	-0.0397 (0.7573)	-0.0278 (0.8283)
$InstitutionalOwnership_{it}$	-0.0783 (0.7847)	-0.0619 (0.8286)
$CEOPower_{it}$		-0.9036*** (0.0014)
Constant	15.7615*** (0.0000)	15.8021*** (0.0000)
Obs	2394	2394
Adjusted R ²	0.1527	0.1475

Note: ***, ** and * indicate the level of significance at 1%, 5% and 10%.

Table 4 presents the regression results of the moderating effect of independent boards, CEO compensation and institutional ownership toward the relationship between CEO power and risk taking. Referring to Model 2, the coefficient of $IndependentBoard_{it}$ remains insignificant (coeff = 0.0690; p-value = 0.6682). The interaction term of $CEOPower_{it} \times IndependentBoard_{it}$ is not statistically significant, although the sign of the coefficient is positive. According to the result, hypothesis 2 has to be rejected.

Referring to Model 3, the coefficient of $CEOCompensation_{it}$ is negative and it is significant at 10% level (coeff = -0.1287; p-value = 0.0764). The sign of the coefficient of the interaction term $CEOPower_{it} \times CEOCompensation_{it}$ is positive and it is statistically significant at 5% level (coeff = 0.2615; p-value = 0.0380). The results suggest that CEO compensation is able to create more incentive for the CEO in power to take more risk in the firm. The result is consistent with hypothesis 3.

Referring to Model 4, the coefficient of *InstitutionalOwnership_{it}* is negative but it is not statistically significant (coeff = -0.0169; p-value = 0.9224). Instead, the sign of the coefficient of the interaction term *CEOPower_{it} x InstitutionalOwnership_{it}* is positive and it is statistically significant at 10% level (coeff = 0.5619; p-value = 0.0569). The results suggest that institutional ownership does not directly affect the managerial risk-taking, but it affects the CEO who is in power in decision making in risk-taking. The finding is consistent with hypothesis 4.

Table 4: Regression Results of the Moderating Effects

	(1) Model 2	(2) Model 3	(3) Model 4
<i>FirmSize_{it}</i>	-0.2333 (0.1158)	-0.2133 (0.1495)	-0.2255 (0.1268)
<i>Leverage_{it}</i>	0.9832** (0.0492)	0.9347* (0.0605)	0.9632* (0.0524)
<i>Market-to-Book_{it}</i>	-0.2312*** (0.0002)	-0.2272*** (0.0002)	-0.2259*** (0.0003)
<i>BoardSize_{it}</i>	0.2053 (0.4595)	0.1894 (0.4966)	0.2 (0.4715)
<i>IndependentBoard_{it}</i>	-0.2044 (0.6560)	-0.0697 (0.8696)	-0.0778 (0.8540)
<i>CEOCompensation_{it}</i>	-0.0907 (0.2071)	-0.1287* (0.0764)	-0.0905 (0.2067)
<i>InstitutionalOwnership_{it}</i>	0.0690 (0.6682)	0.0681 (0.6736)	-0.0169 (0.9224)
<i>CEOPower_{it}</i>	-0.6697 (0.1302)	-3.8109** (0.0288)	-0.3729** (0.0219)
<i>CEOPower_{it} x IndependentBoard_{it}</i>	0.9189 (0.3182)		
<i>CEOPower_{it} x CEOCompensation_{it}</i>		0.2615** (0.0380)	
<i>CEOPower_{it} x InstitutionalOwnership_{it}</i>			0.5619* (0.0569)
Constant	3.6043** (0.0472)	3.8362** (0.0308)	3.4763* (0.0541)
Obs	2048	2048	2048
Adjusted R ²	0.0281	0.0313	0.03

Note: ***, ** and * indicate the level of significance at 1%, 5% and 10%.

Conclusion

The overall findings of this study reveal several practical implications. First, this study indicates that the power of the top executive is significant in affecting his or her decision making on risk-taking. Increasing controlling power of the CEO is associated with lower risk-taking. The finding cannot tell whether that the negative relationship between CEO power and risk-taking is driven by agency behaviour or stewardship behaviour of the CEO. Taking lesser risk on one hand is to protect their risk of job losing, which is in parallel with the agency behaviour. On the

other hand, taking lesser risk implies that the CEO in power is more cautious in making risky decisions depending on the market conditions. Further analysis in this study reveals that higher CEO compensation increases the incentive of the CEO in power on risk-taking, implying that CEO in power is willing to take risk only when they are compensated with higher returns. In addition, increasing institutional ownership pushes the CEO in power who chair the board of directors to answer on the financial performance of the firms. This forces the CEO in power to take risk for maximum profits due to the institutional shareholders' pressures, and this is also consistent with agency behaviour of the CEO rather than the stewardship behaviour. Overall, this study infers that agency element is found in CEO power where the CEO in power tends to make decision to protect themselves in the safest situation by avoiding taking risky investment. Confronting with the pro and con of assigning additional CEO power as discussed in the literature, corporate governance plays an important role to assure the CEO in power does move in parallel with the goal of the shareholders.

References

- Abdalkrim, G.M. & Zheri, C. (2019). CEO power, ownership structure and firms' performance: Evidence from GCC listed firms. *Journal Xi'an University of Architecture and Technology*, 11(12), 504-512.
- Anderson, C. & Galinsky, A.D (2006). Power, optimism and risk-taking. *European Journal of Social Psychology*, 36(4), 511-536.
- Barry, T., Lepetit, L., & Tarazi, A. (2011). Ownership structure and risk in publicly held and privately-owned banks. *Journal of Banking & Finance*, 35(5), 1327-1340.
- Cain, M.D. & McKeon, S.B. (2016). CEO personal risk-taking and corporate policies. *Journal of Financial and Quantitative Analysis*, 51(1), 139-164.
- Cheikh, S.B. (2014). Determinants of CEO power and characteristics of managerial profile: Implications for risk-taking in listed Tunisian Firms. *International Journal of Economics and Finance*, 6(6), 140-151.
- Ferris, S.P., Javakhadze, D., & Rajkovic, T. (2017). CEO social capital, risk-taking and corporate policies. *Journal of Corporate Finance*, 47, 46-71.
- Gengatharan, R., Hatthi, A., & Malki, A. (2020). Effect of firm size on risk and return: Evidences from sultanate of Oman. *European Journal of Business and Management*, 12(9), 62-71.
- Gouiaa, R. (2018). Analysis of the effect of corporate governance attributed. *Risk Governance and Control: Financial Market and Institutions*, 8(1), 14-23.
- Hoskisson, R.E., Chirico, F., Zyung, J.D., & Gambeta, E. (2016). Managerial Risk Taking: A Multitheoretical Review and Future Research Agenda. *Journal of Management*, 43(1), 137-169.
- Jung, K.B., Kang, S.-W., & Choi, S.B. (2020). Empowering leadership, Risk-taking behavior and employees's commitment to organizational change: The Mediated moderating role of task complexity. *Sustainability*, 12(6), 2340.
- Kuang, Y.F. & Qin, B. (2013). Credit ratings and CEO risk-taking incentives. *Contemporary Accounting Research*, 30(4), 1524-1559.
- Lepetit, L., Nys, E., Rous, P., & Tarazi, A. (2008). Bank income structure and risk: An empirical analysis of European banks. *Journal of Banking & Finance*, 32(8), 1452-1467.
- Lewellyn, K.B. & Muller-Kahle, M.I. (2012). CEO power and risk taking: Evidence from the Subprime Lending Industry. *Corporate Governance: An International Review*, 20(3), 289-307.
- Li, J. & Tang, Y. (2010). CEO Hubris and firm risk taking in China: The moderating role of the managerial discretion. *The Academy of Management Journal*, 53(1), 45-68.

- Llopis, O., Garcia-Granero, A., Fernández-Mesa, A., & Alegre, J. (2013). *Manager's risk taking propensity and innovation in organizations: the mediating influence of employee's perceived risk-taking climate*. Presented at 35th DRUID Celebration Conference 2013.
- Meiryani, A.S. (2018). The importance of risk management in an organization. *International Journal of Scientific and Technology Research*, 7(11), 103-107.
- Tien, C., Chen, C-N, & Chuan, C-M (2013). A study of CEO power, pay structure and firm performance. *Journal of Management and Organization*, 19(04), 424-453.
- Younas, Z.I., Klein, C., & Trabert, T. (2019). Board composition and corporate risk-taking: A review of listed firms from Germany and the USA. *Journal of Applied Accounting Research*, 20(4), 526-542.
- Zhu, Q. (2019). *CEO power over the board, nontransient investor ownership and risk taking* [Doctoral dissertation, Arizona State University].