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CEO educational level and financial risk-taking behaviour of family listed companies in Malaysia

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Abstract
Purpose: The principal aim of this research is to examine the relationship between CEO characteristics with regards to Financial risk-taking behaviours within publicly traded family firms. Additionally, it aims to examine how CEO gender and level of education relate to their financial risk-taking behaviour among publicly listed family companies.
Design/methodology/approach: The purpose of the Breusch-Pagan Lagrange Multiplier (LM) test is to identify whether random effects exist. While determining whether fixed or random effects are more appropriate is done using the Hausman test. Heteroscedasticity is tested for existence of heteroscedasticity issue. For the analysis of debt-to-equity (D/E), both the Feasible Generalized Least Squares (FGLS) and Fixed Effect Panel Regression models are used. For the analysis of debt-to-asset (D/A), random effect panel regression and feasible generalised least squares (FGLS) are utilised. By analysing a sample of 65 Malaysian family companies traded on the Bursa Malaysia from 2014 to 2020.
Findings: The results show that CEO undergraduate degree and CEO postgraduate degree are significantly related to Financial risk-taking behaviour, as determined by D/E, or the debt-to-equity ratio, whereas CEO gender and CEO professional qualification are insignificant. While the CEO's undergraduate degree, professional qualification, and gender are closely linked to Financial risk-taking behaviour as determined by the debt-to-asset ratio (D/A), the CEO's postgraduate degree is insignificant.
Research limitations/implications: Future research is encouraged to expand the sample size in order to obtain more accurate outcomes. Other CEO characteristics included in the upper echelons theory (UET), such as CEO tenure, CEO experiences, CEO network, and CEO financial position, are missing from this study. this research only examines the level of risk that a company takes with regard to its debt (both debt-to-equity and debt-to-asset ratios) proxies such as internationalisation is missing from this study.
Practical implications: The present research offers empirical evidence to academicians, policymakers in Malaysia in particular, and all parties involved in emerging economies. these findings are useful for the procedures that are utilised in selecting the CEO since they emphasise specific characteristics that ought to be taken into account when appointing or elevating someone to the CEO role. It offers empirical proof of the traits of CEOs that have a

major impact on the degree of financial risk-taking by family businesses, this study's findings may prove beneficial to businesses in terms of their potential practical implications. This study can be helpful to internal and external stakeholders who are curious about a company's financial risk-taking. They can investigate the variables affecting this important component of a risk management system and use the findings to bolster their assessments of the financial risk-taking of the business.
Originality/value: The study examines how CEO characteristics influence financial risk-taking behavior in Malaysian listed family companies. It offers evidence supporting the assertion that the educational background of CEOs significantly contributes to explaining the variations in financial risk-taking behavior among family-owned businesses.

Keywords: CEO Education, CEO characteristics, CEO risk Taking Behavior, Upper Echelon Theory (UET), Family CEO, CEO Gender.

Introduction

The level of success a business achieves is directly proportional to the degree of risk it is prepared to incur, making the study of risk behaviours essential. Numerous researchers have emphasised the significance of strategic risk management for the survival and growth of a company (Hiebl, 2012). Risk taking capabilities and interest are influenced by multiple factors associated with a firm's decision maker who reports to the CEO; as a result, his personal characteristics can influence his Financial risk-taking behaviour, which can influence the firm's performance. Therefore, it is essential to comprehend the structure and function of family businesses. A family business is a commercial organization or enterprise where decision-making inside the firm is influenced by numerous generations of the same family. They are related through marriage, blood, and adoption. They usually have a tight relationship with the business and set its direction.

The most traditional and widespread type of company organization is the family business. It is possible to differentiate family businesses from the vast majority of global enterprises, which can range from small stores to publicly traded multinational corporations (Anderson & Reeb, 2003). The family businesses are also controlled by the company's founder and his family, who also serve as the company's chief executive officers (CEO). As CEO, a family member of the company oversees the administration of the organisation, especially if it is an autonomous legal entity such as a corporation, non-profit, or government agency. They are responsible for the functioning of the organisation and increasing its value (Zanani, Abdullah, Ismail, and Jamaluddin, 2008). The Financial risk-taking behaviour of a company's chief executive officer is crucial because it affects an organization's economic performance, growth, and ability to endure, and the selection of managerial risk is a crucial aspect of decision-making (Bromiley, 2017).

Family businesses have been diligently nurtured by their founders (could be mothers or fathers) for decades and have grown from a small business to a multi-corporation. Family enterprises are distinguished by their strong sense of family attachment and majority ownership by family members. Family businesses account for over half of Malaysia's total gross domestic product (GDP) (Ngui, 2002). According to Claessens, lang & djankov (1999) approximately 70% of Malaysian businesses are family-owned. Berjaya Corporation Berhad, Genting Malaysia Berhad, Latitude Tree Holdings Berhad, Oriental Holdings Berhad, and YTL Corporation Berhad are well-known publicly traded family businesses in Malaysia (Amran & Ahmad, 2011). This research attempts to investigate the connection between the characteristics of the Chief Executive Officer (CEO) and the Financial risk-taking behaviour of family-owned public companies. Several studies (Harwood, ward & chapman, 2009; Sitkin & Pablo, 1992; Wiseman

& Gomez-Mejia, 1998) have analysed the factors that affect corporations' strategic risk management practises. According to findings from these studies (Harwood, ward & chapman, 2009; Sitkin & Pablo, 1992; Wiseman & Gomez-Mejia, 1998), Many factors influence a company's inclination toward strategic financial risk-taking or risk-aversion. A company's ownership structure, and in particular the identity of its largest controlling shareholder, can have an impact on its strategic financial risk-taking (Boubaker, Nguyen & Rouatbi, 2016). Faccio, Marchica, and Mura (2011), for instance, contend that companies controlled by a single significant shareholder without diversity typically employ more conservative investment strategies than companies with a diverse shareholder base. Particularly, due to certain traits that set family businesses apart in terms of ownership, governance, and goals, a company's risk behavior may differ from other businesses when the dominant shareholder is a family. (Chua, Steier (2003), & Chan, 2017). In the realm of family businesses, the CEO, who serves as the primary decision-maker, holds a significant responsibility for choices that have consequences for the wealth of all owners (Feltham, feltham & barnett, 2005).

The firm's decisions, including investments towards research and development (R&D), capital structure, and market expansion, demonstrate its Financial risk-taking behaviour. This study analyses Financial risk-taking behaviour using the debt levels of family-owned public companies. According to (Horne, 1980), debt has been regarded as a risky strategy, and increasing debt levels may increase the firm's bankruptcy risk. However, greater risk increases the likelihood of a greater return. Fombrun and Ginsberg, (1990) claim that debt is an indicator of corporate aggression, which can also be interpreted as the firm's willingness to assume a risky position in the capital markets. In the majority of studies examining the CEO and risk, demographic characteristics have been used to determine the CEO's Financial risk-taking propensity (Barker & Mueller, 2002; Rajagopalan & Datta, 1996). Peni (2014) suggests that various executive characteristics may have different effects on their behaviours. For example, the CEO's age, education, gender, and generation have been shown to impact his or her decision-making and Financial risk-taking behaviour (Busija, 2006; Elsaid & Ursel, 2011; Faccio et al., 2016; Farag & Mallin, 2016; Martino et al., 2020; Ting, azizan & kweh., 2015).

Scholars are yet to reach a consensus regarding the positive or negative effect of family businesses on their financial risk-taking. According to agency theory-based studies (Huybrechts et al., 2012; Naldi et al., 2007; Su & Lee, 2012), however, when a family's wealth is highly concentrated, the level of Financial risk-taking decreases. Similar to (Gomez-Mejia et al. (2011) and Martino et al. (2020) argue that family businesses are risk-averse because aggressive investment and acquisitions will lead to the loss of the family's socioemotional wealth. Other empirical research (Astrachan, 2003; Zahra, 2005) indicate that family ownership in business management encourages Financial risk-taking behaviours. However, contradictory findings in the literature have refocused the discussion and prompted a review of other factors that could influence the strategic financial risk-taking of family businesses. Furthermore, as the degree of financial risk-taking varies among family businesses, the search for new and unique variables helps to identify factors that may explain these differences. This study aims to contribute to this field by empirically analysing the impact of CEO characteristics on Financial risk-taking within Malaysian family businesses.

A decision maker's characteristics may assist to explain the reason they choose to take on initiatives with unpredictable results. In personality science literature, individual differences in Financial risk-taking behaviours have been identified (Ghosh & Ray, 1992; Highhouse & Yüce, 1996; Sitkin & Weingart, 1995). Age, gender, and personality all influence a person's risk propensity, resulting in various Financial risk-taking behaviours (Das & Teng, 2001; Hambrick & Mason, 1984). While there has been considerable research on how CEO traits influence organizational results, there is a limited body of work that examines the relationship between

the Financial risk-taking behaviour of family businesses and the personal characteristics of CEOs. As a result, there is a demand for further research in this area. (Gomez-Mejia et al., 2010; Huybrechts et al., 2012; Kraiczy et al., 2015). Several contradictory studies Researchers have looked into the relationship that currently exists between CEO tenure and entrepreneurial financial risk-taking (Y. Wang & Poutziouris, 2010; Zahra, 2005). A recent study by Huybrechts et al. (2012) provides empirical evidence to support of the positive effect of a non-family CEO on a family business's level of entrepreneurial Financial risk-taking.

Although the aforementioned studies acknowledge the significant influence of personal characteristics of CEOs on the financial risk-taking of family businesses, their primary focus has been on a restricted range of CEO attributes, such as tenure, age, and familial ties as noted by Hiebl (2012). However, it is essential to highlight that these factors, although important, are insufficient for a comprehensive analysis of the connection between CEO characteristics and Financial risk-taking behavior. Other crucial characteristics of the CEO that must be considered are omitted from the current discussion. In Malaysia, the study on the gender and generation of family and non-family CEOs is inadequate. In addition, contrasting the educational levels of family CEOs and non-family CEOs is crucial for determining Financial risk-taking behaviour. Consequently, the aim of this study is to investigate the impact of the CEO's education and gender on corporate Financial risk-taking.

This paper will have the following structure: Section 2 discusses the theoretical and empirical findings regarding variables, including the development of hypotheses; Section 3 discusses the methodology employed and the variables' measurements. Section 4 presents the findings and discussion, while section 5 concludes the study

Literature Review and Hypothesis Development

Family and Non-Family Companies towards Financial risk-taking

There has been an increasing amount of study in recent years that has investigated the correlation between the characteristic of family businesses and their Financial risk-taking behaviors. (Farag & Mallin, 2016; Hiebl, 2012; Huybrechts et al., 2012). According to Hiebl (2012), The contention that family businesses are less willing to take risks than non-family enterprises is the most often discussed one in the literature. This theory is supported by numerous investigations. In Addition, Gedajlovic et al. (2004) disclose that, compared to non-family businesses, family businesses prefer to avoid uncertainty and delay risky financial decisions. This conclusion is supported by lower levels of long-term investments (for instance R&D expenditure) and debt-to-equity ratios, as well as a lower propensity for innovation and internationalisation.

According to Huybrechts et al. (2012), Naldi et al. (2007), Su & Lee. (2012), the Financial risk-taking in family businesses is predominantly based on agency theory. They believe that one or more families shoulder the financial burden, lowering the company's financial risk-taking, because family-owned enterprises tend to have a high concentration of ownership. Building on the stewardship approach presented by Donaldson and Davis (2016), Zahra (2005) argues that family firms' ownership structures guarantee that the interests of the company and the family are aligned. This alignment, in turn, fosters the growth of innovative ventures, technology adoption, and entrepreneurial Financial risk-taking. As a result, they presented conflicting results, suggesting that family businesses can indeed encourage Financial risk-taking. Based on the preceding discussion, it remains unclear whether family businesses lean towards being more or less risk-averse. Gomez-Mejia et al.'s 2010 study produced inconsistent results, which could be explained by the possibility of both financial risk-taking and risk-averse conduct in family enterprises.

Prior research (Chua et al., 2012) presumed that the family businesses are homogenous when comparing them to non-family businesses. Decision-making tends to be more conservative due to the dominating coalition's homogeneity (Janis, 1972). The chief executive officer's (CEO) connection with the top management team (TMT) homogeneity limits the firm's opportunities for growth and diversity, which discourages financial risk-taking and hinders the creation and assessment of alternatives. Therefore, the dominant group in family-owned businesses with greater homogeneity could be detrimental to the company's ability to tolerate risk. CEO is the family owner and can be interpreted as an indication that the dominant coalition belongs to the CEO, who, in family businesses, is represented by the family that owns the business and shares a same belief system and cognitive framework. According to Martino et al. (2020), a family business's financial risk-taking is strongly and negatively correlated with the CEO's family relationships. They claim that because family CEOs typically avoid of high-risk investments and business ventures in an effort to protect the family's socioemotional capital, family businesses led by family CEOs tend to take less risks. According to Gomez-Mejia et al. (2011), Huybrechts et al. (2012), and Miller & Le Breton-Miller (2014), family CEOs are less risk-taking than non-family CEOs, which is consistent with this conclusion. They are driven by non-financial socioemotional wealth objectives like preserving family control, the family's identity, and reputation.

Upper Echelons Theory (UET)

The Upper Echelons Theory (UET) was developed in 1984 by Mason and Hambrick, is a management theory that is integrated into the field of behavioral finance. According to UET, a manager's personal traits can have a big impact on the productivity and financial leverage of the organization. Research conducted in 1984 by Hambrick and Mason indicates that, the background characteristics of managers can offer partial predictive insights into organizational outcomes, strategic choices, and performance levels. Specifically, they argue that the results an organization achieves and the strategies it pursues can be seen as reflections of the values held by influential groups within the organization, primarily its top managers (as suggested by March and Simon in 1958 and further elaborated by Hambrick and Mason in 1984). From this perspective, the personal experiences, values, beliefs, and attributes of CEOs shape their viewpoints on both the internal and external environments, influencing their strategic decision-making. Nevertheless, because quantifying values and cognitive foundations is a challenging task, In 1984, Hambrick and Mason proposed that the cognitive, values, social, and psychological attributes of these CEOs could be proxied by measurable demographic characteristics like age, educational attainment, career history, professional experiences, tenure, gender, and socioeconomic background and financial status.

In numerous prior studies, organizational outcomes have been determined using the CEO's demographic traits. By using UET as a starting point, studies have shown that CEO characteristics are linked to Financial risk-taking behaviour (Busija, 2006; Farag & Mallin, 2016; Kish-Gephart & Campbell, 2014; Martino et al., 2020; Ting et al., 2015), Research and Development (R&D), spending (Barker & Mueller, 2002), cash holdings (Orens & Reheul, 2013), and internationalisation (Busija, 2006; Ramón-Llorens et al., 2017). Numerous international studies examine UET and family businesses. However, such research is understudied for Malaysian family-owned public companies. Thus, this research uses UET to investigate the relationships between the personal traits of CEOs and their financial risk-taking behaviour of Malaysian family-owned listed companies.

Socioeconomics Wealth (SEW)

Gómez-Mejía et al. (2016) present socioeconomic wealth (SEW) by describing how family company owners' utility comes from its non-economic aspects. They propose that the family owner's decision regarding SEW will influence Financial risk-taking behaviour. According to Gomez-Mejia et al. (2011), the SEW is the primary indicator of potential profits or losses in family-owned businesses. The SEW approach has been widely accepted in the research of family business decisions in recent years. It helps to explain why some prosperous family businesses become increasingly conservative over time. It suggests that as the wealth of family businesses becomes more concentrated, they endeavour to maintain their identity, legacy, and inherited wealth. Consequently, CEOs are less likely to engage in entrepreneurial activities and are more risk-averse than founders, because the likelihood of losing social wealth increases when employing riskier tactics and investments (Gómez-Mejía et al., 2016). This is an exciting proposition that deserves careful consideration and analysis, especially given that research scrutinising entrepreneurial Financial risk-taking frequently ignores accumulated wealth as a predictor of this risk. Moreover, it would be fascinating to investigate the empirical accuracy of this assertion, especially in context with the increasing attention on the significance of corporate heterogeneity for strategic decisions (Zahra, 2018).

Resource Dependence Theory and Human Capital Theory

The Resource Dependency hypothesis established the foundations and provided the theoretical argument for board diversity. (Carter et al., 2010) Board directors connect their businesses with external organisations, allowing them to acquire credibility and access to communication, experience, and data resources. Human Capital Theory is a theory of earnings that was devised in 1964 by Becker and Mincer, This hypothesis describes the pattern of a person's lifetime earnings as well as their choice to invest in human capital, such as education and training. Additionally, it states that people's varying degrees of investment in education and training are justified by their projected returns.

Using Becker's (1964) Human Capital Theory, Terjesen et al. (2009) contend that investing in education will boost a person's productivity, experience, and abilities, leading to economic development that will benefit the company. Consequently, directors with diverse origins can contribute additional resources to their companies. In addition, diverse board members will contribute unique intangible assets to their organisations (Hillman et al., 2000). According to Carter et al. (2010), different CEO characteristics, such as gender, education, and professional qualifications, add different perspectives, skills, and experiences to the board; therefore, appointing female CEOs to the board, for example, brings additional benefits and opportunities to the business. Farag and Mallin, (2016) argue that boards with greater diversity may have superior knowledge and management skills, allowing the organisation to overcome various environmental dependencies and increase management effectiveness.

CEO Characteristics and Financial risk-taking Behaviour

CEO Gender and Financial risk-taking Behaviour

Female leadership positions in family enterprises are on the rise, but they only account for a small percentage of CEOs (Watson, 2002). Based on the findings of Ting et al. (2015), In Malaysia, 98.1% of CEOs are men who have worked for the same company for an average of 11 to 12 years. On the other hand, according to Ho et al. (2015), only one in ten board members in Hong Kong are female, and In 2011, there were only about 40% of listed corporations with no female board members. According to Campbell and Mínguez-Vera (2008) and Carter et al. (2010), the difference in financial performance between organizations managed by female and

male CEOs can be explained by gender diversity. Previous studies have shown that enterprises owned by women perform worse than those controlled by men (A. et al., 1998; Cooper et al., 1994; Kalleberg & Leicht, 2017). According to De Cabo et al. (2012), The promotion system of the organization has been greatly impacted by the concept of a risk-averse woman. On the other hand, Khan & Vieito (2013) claim that businesses led by women outperform those led by men. This is because the risk level of the company is lesser when a female CEO is in charge. This result is consistent with Elsaid and Ursel's (2011) conclusions.

According to Sharif and Yeoh (2014), males take the initiative in Financial risk-taking behaviour worldwide. According to Faccio et al. (2016), due to discrimination and increased risk aversion, debt is used by female CEOs less frequently. Graham et al. (2013) and Abor and Biekpe (2007) share the same conclusion. They come to the conclusion that businesses with female CEOs are more likely to survive, have less debt, and have lower levels of profitability. In a similar vein, Huang & Kisgen (2013) discover that the use of long-term debt and acquisitions by female CEOs is substantially lower. Female CEOs tend to exercise their stock options earlier than their male counterparts, suggesting that the overconfidence of male CEOs in their business judgments is higher. According to Berger et al. (2014), Higher percentages of female board members are linked to higher levels of financial risk-taking. Female CEOs take higher risks than their male counterparts, claim Adams and Funk (2011). According to Farag & Mallin (2016), Chinese women CEOs are less risk adverse than their male counterparts. This outcome is in line with the theories of human capital and resource dependence because female CEOs may offer unique insight, perspectives, and professional experiences to the board and, consequently, tend to make more hazardous decisions. Therefore, Decisions made by the board do not become more risk-averse when a woman is on it. According to Ting et al. (2015), female CEOs in Malaysia typically take on more risk than their male counterparts. Busija (2006), however, asserts that there is no meaningful correlation between debt and CEO gender. Considering the argument, it is hypothesised that:

H1a: The firms led by male CEOs have higher debt-to-equity ratio than firms led by female CEOs.

H1b: The firms led by male CEOs have higher debt-to-asset ratio than firms led by female CEOs.

CEO Educational Level and Financial risk-taking Behaviour

There are three potential consequences of education on CEO competency, none of which are mutually exclusive. First, a CEO's level of education may affect the breadth and depth of his or her knowledge, as well as the capacity to understand both abstract and concrete concepts. Next, a CEO's level of education may be indicative of their intelligence and perseverance when pursuing difficult intellectual pursuits. Lastly, the social networks developed during undergraduate and graduate study can be extremely beneficial professionally in the future. However, as previously mentioned, education level is only one factor that determines the overall competence of a CEO. Therefore, it is unknown in advance how much of an impact CEO education has on a company's performance.

After all these years, education level has become a standard variable associated with reduced risk aversion in personal finance and personal decision-making (Knight et al., 2010), Education may facilitate the complex information processing required when considering potentially risky ventures. In a business setting, the education level of the CEOs or managers will affect their ability to analyse data and make decisions, resulting in differing outcomes (Anderson & Reeb, 2003; Ibrahim et al., 2020). Human Capital Theory (Becker & Mincer, 1964), UET (Hambrick & Mason, 1984), and Resource Dependence Theory (Barney, 1991) all emphasise the similar

perspective wherein the performance of the company and CEO education are favorably associated. According to the UET's empirical tests, CEOs with higher educational backgrounds are more likely to understand and adopt new ideas. (Dragoni et al., 2011; Kimberly & Evanisko, 2017; G. Wang et al., 2016).

According to Rakhmayil and Yuce, (2008), there is a significant and positive correlation between the level of education and the firm's financial leverage decision. Furthermore, Busija (2006) claims that there is a positive association between debt and the CEO's level of education. Ting et al. (2015) discloses that CEOs with a bachelor's degree prefer greater debt loads. According to Orens and Reheul (2013), the education, psychological, and social characteristics of CEOs influence their decisions. MBA-educated CEOs who are overconfident tend to take more risks (Beber & Fabbri, 2012). According to Farag and Mallin (2016), business financial risk-taking has a positive relationship with the CEO's level of education. CEOs who hold postgraduate degrees such an MBA, PhD, or MSc are more likely to take on more risk.

According to Lin et al. (2011), there is a favorable correlation between innovation and the CEO's educational background. According to Tyler and Steensma (1998), CEOs who hold advanced degrees in science and engineering are more adept at taking financial risks and are also more risk-takers. According to Barker and Mueller (2002), CEOs with advanced degrees in science tend to be more risk-tolerant and willing to make R&D investments. Nonetheless, they find no correlation between higher levels of education and company decisions such as Financial risk-taking and R&D expenditure (Orens & Reheul, 2013; Y. Wang & Poutziouris, 2010).

These results imply that the degree of higher education held by the CEO may be a more accurate predictor of firm outcomes than the quantity of higher education. These authors (Barker & Mueller, 2002; Busija, 2006; Orens & Reheul, 2013) contend that professional management education, such as that of a CEO with a postgraduate specialisation, is associated with risk aversion because it is designed to prevent significant losses and mistakes. According to Martino et al. (2020), CEOs with advanced degrees tend to be risk adverse. The relationship between education and financial risk-taking is negatively observed by CEOs, both with and without post-degree specialization, according to their additional research. Ting et al. (2015) contend that although the relationship between educational level and leverage level is significant and positive, Postgraduate-educated CEOs are less likely to choose for debt. This result is in line with Orens & Reheul's (2013) theory that managers with more education tend to favor long-term growth and avoid high-variance ventures, resulting in substantial losses. although the findings are mixed, this research proposes:

H2a: The CEO with an undergraduate has a significant and negative relationship to debt-to-equity ratio.

H2b: The CEO with an undergraduate has a significant and negative relationship to debt-to-asset ratio.

H3a: The CEO with a postgraduate has a significant and positive relationship to debt-to-equity ratio.

H3b: The CEO with a postgraduate has a significant and positive relationship to debt-to-asset ratio.

H4a: The CEO with a professional qualification has a significant and positive relationship to debt-to-equity ratio.

H4b: The CEO with a professional qualification has a significant and positive relationship to debt-to-asset ratio.

Methodology

Sample and Data Collection

The 65 companies listed on the Main Board of Bursa Malaysia (the Malaysian Stock Exchange) comprise the study's population that operate in the construction, consumer goods, property, trading, and services industries.

After filtering the listed companies that have remained publicly traded for 15 years, from 1999 to 2015, the study identified only 90 family businesses. Therefore, the study further filters the companies until 2020 and identifies 65 companies that have been listed throughout the period and have not been delisted by the specified date. The data used in the time series and cross-sectional studies came from the 65 family-run businesses that were listed between 2014 and 2020 on the Bursa Malaysia stock exchange. The majority of the secondary data used in this research was gathered from the Bursa Malaysia website and the companies' annual reports. The use of secondary data is suggested for this investigation because, compared to primary data, secondary data can be obtained rapidly, at a lower cost and with fewer resources. First, the list of 65 listed companies is obtained from the official website of Bursa Malaysia after filtering for those that have remained listed from 1999 to 2020.

By using these reports, it is feasible to determine details about the CEO's gender and educational background. Furthermore, the total assets are examined in the annual report to determine the company's size. The history section of the company's official website lists its age. The debt level is used to evaluate the CEO's financial risk-taking behavior. It is expressed as the debt-to-equity (D/E) and debt-to-asset (D/A) ratios. The annual reports of the corresponding companies also contain these details.

Measurement of Variables

The dependent variable is Financial risk-taking behaviour. This study used the Debt-to-Equity (D/E) and Debt-to-Asset (D/A) leverage ratios as proxy for Financial risk-taking behaviour. These measurements align with the findings of Busija, (2006) and Ting et al. (2015). Hantono (2018) The ratio of total liabilities, or the total of current and long-term liabilities, to total shareholders' equity is known as the debt-to-equity ratio (D/E). D/E gives an overview of the capital structure of the company, indicating the degree of risk related to investors' uncollectible liabilities and assessing the firm's capacity to pay all of its debts in the case of bankruptcy or insolvency. The D/E ratio is determined as follows:

$$\text{Debt/ Equity} = \frac{Total\ Liabilities}{Total\ Shareholders'\ Equity}$$

On the other hand, according to Hameed et al. (2012), the debt-to-asset ratio, or D/A, is a financial ratio that shows the amount of a company's assets are financed by debt. The total of one's short- and long-term debts is their total debt. Debt enables businesses to accomplish things they could not otherwise, but it also increases the company's total risk (Habib et al., 2016). If the debt to asset ratio (D/A) equals 1, it indicates that a company's liabilities are equal to its assets; the company is highly leveraged. If D/A is greater than 1, the firm's liabilities exceed its assets. Therefore, the company's Financial risk-taking is extremely high due to its extreme leverage. Alternatively, if D/A is less than 1, The business can, if necessary, sell its assets to pay off its debt because it has more assets than liabilities. As a result, the business takes very little financial risk. The total liabilities of a business are compared to its total assets to determine the D/A ratio.

$$\text{Debt/ Asset} = \frac{Total\ Liabilities}{Total\ Assets}$$

Independent variables include CEO characteristics like CEO educational level (CEODeg, CEOPG, and CEOPro) and CEO gender (CEOG). This investigation utilises a dummy variable for CEO education level. CEO with a bachelor's degree (CEODeg (1,0), CEO with a master's or higher (CEOPG (1,0), and CEO with a professional qualification (CEOPro (1,0). The CEO gender variable, also known as CEOG, is a dummy variable that is set to 1 if the CEO of the company is a male and 0 otherwise (the company is led by a female CEO) (Abor & Biekpe, 2007). A control variable can also be called a constant variable. This variable is the experimental component used in scientific research that remains unchanged during the course of the inquiry in order to determine how the independent and dependent variables relate to one another. Several past studies employ log of total assets (LnFSize) as a control variable. In this study, LnFSize is calculated using the log of the company's total assets (Ibrahim and samad, 2011; 2020). The number of years since the company was founded is known as firm age (Fage), one of the control variables. (Lin et al., 2011).

Regression

Panel data analysis is used in this study because it reduces collinearity between variables, removes unobservable heterogeneity between firms in the sample data, and provides a more accurate measurement than pure cross-sectional or time series data (Baltagi, 2001). Because this methodology uses a collection of cross-sectional observations across multiple time series, it permits the study to take into account both cross-sectional and time series effects. The following research models are created to look at how CEO traits affect financial risk-taking behavior:

$$D/E = \alpha + \beta 5CEOGit + \beta 2CEODegit + \beta 3CEOPGit + \beta 4CEOProit + \beta 6LnFSizeit + \beta 7FAgeit + \varepsilon it$$

$$D/A = \alpha + \beta 5CEOGit + \beta 2CEODegit + \beta 3CEOPGit + \beta 4CEOProit + \beta 6LnFSizeit + \beta 7FAgeit + \varepsilon it$$

Where,
DE = Total debts to total equity (D/E ratio)
DA = Total debts to total assets (D/A ratio)
CEOG = CEO gender
CEODeg = CEO with undergraduate degree
CEOPG = CEO with postgraduate degree
CEOPro = CEO earns professional qualification
LnFSize = Firm size
FAge = Firm age

Where subscripts i and t stand for the cross-section dimension and the time series component, respectively, and α and β represent the coefficients of the independent and control variables for the model. The term for error or disturbance is ε.

Findings

Descriptive Analysis

Table 1 displays the descriptive statistics of the independent, control, and dependent variables from 2014 to 2020 that were used in the analysis. Regarding their level of education, the research shows that 82.64% of CEOs have completed at least an undergraduate degree, 36.04% of them hold a postgraduate, and 16.92% have at least a professional qualification like a CPA.

Additionally, the data reveals that 96.70% of CEOs of family businesses in Malaysia are men. and 3.30% of Malaysian family companies are females.

The outcome of the control variables shows that the companies' average age is 38 years old, and RM 9.138 billion is the average firm size. In terms of the leverage ratio, the result shows that the average debt-to-equity ratio is 0.638, whereas the average debt-to-asset ratio is 0.317.

Table 1 Descriptive Statistics of Overall Period (2014-2020)

	Full Sample (N = 65)				
Variables		**Mean**	**Std Dev**	**Min**	**Max**
A: Financial risk-taking Behaviour	455	.6380787	.6520557	.0003	3.6901
DE	455	.3168114	.2339317	.0003	1.2773
DA					
B: Constant Variables					
LnFSize	455	9.138416	.7237711	7.103649	11.18559
FAge	455	1.650348	.181277	1.230449	2.056905
Percentage of Frequency in Sample:					
C: CEO Characteristics					
CEO Gender	455	96.70% *(Male)*		3.30% *(Female)*	
CEO Educational Level					
- CEODeg	455			17.36% *(Without Deg)*	
	455	82.64% *(With Deg)*		63.96% *(Without PG)*	
- CEOPG	455	36.04% *(With PG)*		83.08% *(Without Pro)*	
		16.92% *(With Pro)*			
- CEOPro					

Note: CEO Gender (CEOG); CEO with Undergraduate Degree (CEODeg); CEO with Postgraduate Degree (CEOPG); CEO with Professional Qualification (CEOPro); Firm Size (LnFSize); Firm Age (FAge); Debt-to-Equity ratio (DE) and Debt-to-Asset ratio (DA)

Correlation Analysis

The correlation is used to determine the inter-correlation between all the study variables which include Debt-to-Equity ratio (DE), Debt-to-Asset ratio (DA), CEO gender (CEOG), CEO undergraduate degree (CEODeg), CEO postgraduate degree (CEOPG), CEO professional qualification (CEOPro), firm size (LnFsize) and firm age (FAge). Table 2 shows the correlation of pairwise among all the independent variable. Independent variable may cause multicollinearity issue because it can strongly correlate among themselves. We have performed this in order to examine the multicollinearity of the independent variables. The findings indicate that the correlation between the independent variables was relatively low and remained within the 0.80 maximum limit (Kennedy, 2012). As a result, the data demonstrate that multicollinearity is not an issue for the research.

Table 2 Correlation Matrix

	DE	DA	CEOG	CEODEG	CEOPG	CEOPRO	LNFSIZE	FAGE
DE	1							
DA	0.920***	1						
CEOG	-0.123***	-0.122***	1					
CEODeg	-0.0160	0.0250	0.0130	1				
CEOPG	0.0260	0.0220	-0.092**	0.344***	1			
CEOPro	0.200***	0.228***	0.083*	0.207***	-0.168***	1		
LnFSize	0.248***	0.255***	0.00100	0.322***	0.0720	0.301***	1	
FAge	-0.0530	-0.0670	0.0130	0.180***	0.113**	-0.085*	0.284***	1

Significant level: *** p<0.01, ** p<0.05, * p<0.1
Note: CEO Gender (CEOG); CEO with Undergraduate Degree (CEODeg); CEO with Postgraduate Degree (CEOPG); CEO with Professional Qualification (CEOPro); Firm Size (LnFSize); Firm Age (FAge); Debt-to-Equity ratio (DE) and Debt-to-Asset ratio (DA).

Regression Analysis
The findings of the regression models created in previous phases are shown in this section. in order to accomplish the aims of the present study. As previously stated, the analyses in this section use panel regression methods on both the entire sample and sub-samples, employing a random effects model for Debt-to-Asset (DA) ratios and a fixed effects model for Debt-to-Equity (DE) ratios, depending on the results of the Hausman test.

In this model, the effects of CEO characteristics are examined using fixed effects and feasible generalized least squares (FGLS) models for debt to equity (D/E) and random effects and FGLS models for debt to asset (D/A).

Table 3 Regression Results debt to equity (DE) and debt to asset (DA)

VARIABLES	(DE) FEM	(DE) FGLS	(DA) REM	(DA) FGLS
CEOG	-0.192*	-0.072	-0.022	-0.060***
	(-1.70)	(-1.41)	(-0.67)	(-3.52)
CEODeg	0.253**	-0.093***	0.027	-0.041***
	(2.36)	(-2.99)	(0.93)	(-2.77)
CEOPG	0.185*	0.033*	0.023	0.009
	(1.71)	(1.65)	(0.82)	(0.91)
CEOPRO	-0.117	0.008	0.026	0.076***
	(-0.76)	(0.16)	(0.66)	(5.39)
LnFSize	0.538***	0.274***	0.112***	0.106***
	(5.58)	(9.93)	(4.85)	(11.60)
FAge	-0.158	-0.340***	-0.085	-0.160***
	(-0.30)	(-3.47)	(-0.78)	(-4.87)
Constant	-4.090***	-1.155***	-0.580**	-0.325***
	(-3.54)	(-4.66)	(-2.30)	(-4.35)
Observations	455	455	455	455

Year dummy	YES	YES	YES	YES
R-squared	0.0469		0.0817	
Number of firms	65	65	65	65

Significant level: *** p<0.01, ** p<0.05, * p<0.1
Note: CEO Gender (CEOG); CEO with Undergraduate Degree (CEODeg); CEO with Postgraduate Degree (CEOPG); CEO with Professional Qualification (CEOPro); Firm Size (LnFSize); Firm Age (FAge); Debt-to-Equity ratio (DE) and Debt-to-Asset ratio (DA).

According to Table 3, with regards to CEO Gender (CEOG), statistics demonstrate that there is no correlation between CEO Gender (CEOG) and debt to equity (D/E). These findings suggest that male CEOs have a negligible effect on the financial risk-taking behaviour of publicly traded family businesses. According to this finding, gender does not play a significant influence in the financial risk-taking behaviour of CEOs. Moreover, the results are consistent with Busija (2006). While there is a negative significance level for CEO Gender (CEOG), the correlation between CEO Gender (CEOG) and debt to asset (D/A) is significant. These findings suggest that male CEOs have a negative effect on the Financial risk-taking conduct of publicly traded family businesses. This finding indicates that gender significantly influences the Financial risk-taking behaviour of CEOs. In addition, these findings are consistent with (Abor & Biekpe, 2007; Faccio et al., 2016; Graham et al., 2013; Sharif & Yeoh, 2014).

The results show that financial risk-taking behavior is significantly impacted by CEO education. At a 1% level of significance, a negative coefficient is found between CEOs with an undergraduate degree (CEODeg) and debt-to-equity (D/E) ratio, indicating that CEOs with an undergraduate degree (CEODeg) are risk-averse and prefer internal financing over external financing. This finding is in line with what Martino et al. (2020) found.

Nonetheless, at a 1% significance level, the data shows that CEOs with postgraduate degrees (CEOPG) are positively and significantly correlated with the debt-to-equity ratio (D/E), indicating that CEOs with postgraduate degrees (CEOPG) and specialised knowledge are more inclined to take greater risks. It can be explained by the fact that they obtained a higher level of comprehension, are more open to novel ideas, and are more risk-tolerant. The professional qualification of the chief executive officer (CEOPro) did not play a significant role in their Financial risk-taking conduct when taking on debt against equity. The outcome is consistent with the UET and a few previous studies (Beber & Fabbri, 2012; Busija, 2006; Dragoni et al., 2011; Martino et al., 2020; Orens & Reheul, 2013).

While CEO Education has a substantial effect on risk taking behaviour. At a 1% level of significance, a negative coefficient is found between CEOs with an undergraduate degree (CEODeg) and debt-to-asset (D/A) ratio, indicating that CEOs with an undergraduate degree (CEODeg) are more risk-averse. This outcome is according to what Martino et al. (2020) found. The result, however, indicates that CEOs with a postgraduate degree (CEOPG) are not significantly related to the debt-to-asset ratio (D/A), indicating that CEOs with a postgraduate degree (CEOPG). These findings align with those of (Martino et al., 2020; Orens & Reheul, 2013; Ting et al., 2015). The relationship between CEO with professional qualification (CEOPro) and debt-to-asset ratio (D/A) exhibits positive significance at the 1% significance level. CEOs with professional qualifications (CEOPro) and specialised knowledge are more inclined to take risks. It indicates that their financial risk-taking behaviour in taking on debt against asset plays a significant influence. The result is consistent with the UET and a limited

number of prior studies (Barker & Mueller, 2002; Beber & Fabbri, 2012; Tyler & Steensma, 1998).

Discussion and Conclusions

The present study contributes to the extant body of literature by assessing the debt levels of CEOs, both family and non-family, regarding their financial risk-taking behaviour. This research focuses on the Malaysian family business context and it expands on the prospective factors such as CEO education and CEO gender that were used as explanatory variables for financial risk-taking behaviour in previous research. Given the many conflicting findings surrounding this topic, it is thought that the study of the relationship between CEO characteristics and financial risk-taking behaviour will offer valuable insights into the theoretical and practical implications of this topic. In addition, the results of the research supported the theory that managerial background characteristics can forecast business outcomes with empirical evidence. In line with the theory of upper echelons (UET). This study indicates that the CEO's educational background has the greatest bearing on how financially risky the CEO is willing to take, which in turn affects how financially risky the company is willing to take. Furthermore, this study demonstrates that varying levels of education produce distinct business outcomes. Higher education boosts confidence, allows one to take on riskier investments, and promotes innovation.

This study provides empirical evidence of characteristics of the CEO that significantly influence family-owned businesses' financial risk-taking, potentially having business-related implications. Internal and external stakeholders who are willing to explore more about a company's financial risk-taking may find this study useful, for example, by examining the factors influencing this crucial component of a risk management system and applying the results to bolster their conclusions. In addition, these findings are useful for CEO selection procedures because they emphasise specific characteristics that should be considered when recruiting or promoting someone to the position of CEO.

Theoretical Implications

It is believed that studying the connection between CEO characteristics and financial risk-taking behaviour can provide important insights into theoretical implications. This is because there are a lot of results that are contradictory regarding this subject. Also, the results of this research offered empirical support for the proposition which the qualities of managerial backgrounds can be used to predict the outcomes of an organisation. In light of the findings of this specific investigation, the main factor that influences of the CEO's Financial risk-taking behaviour is their level of education, which in turn influences the financial risk-taking behaviour of the organisation. This result aligns with the theory of upper echelons (UET). Furthermore, the study's findings indicate that the results for companies vary depending on the levels of education of the employees. Higher education also increases self-assurance and one's capacity for taking on riskier investments, all of which promote innovation.

Practical and Social Implications

It provides empirical evidence of the CEO characteristics that significantly impact family businesses' level of financial risk-taking, this study's findings may prove beneficial to businesses in terms of their potential practical implications. Both internal and external stakeholders with a vested interest in finding out more information about a company's financial risk-taking. For example, can profit from this study by looking at the variables affecting this essential risk management system component can assist stakeholders in enhancing their assessments of the company's financial risk-taking. In addition, these findings are useful for the procedures that are

utilised in selecting the CEO since they emphasise specific characteristics that ought to be taken into account when considering recruiting or introducing someone to the role, imagine the family business is keen on pursuing high-risk strategies and investments, such as internationalisation and innovation. If this is the case, the corporation ought to think about making a member of the family who holds a postgraduate degree or other professional qualification the CEO of the company.

Limitations and Suggestions for Future Research

Limitations

It is important to note that there are certain limitations to this study. The small sample size that was used in this study is its primary drawback. The second reason that the influence of CEO gender is showing an insignificant effect is that the return on assets (ROA) and CEO tenure are not included in this study. Not only the individual differences between men and women but also the business situation determine the gender differences in Financial risk-taking behaviour. Other CEO characteristics included in the upper echelons theory (UET), such as CEO tenure, CEO experiences, CEO network, and CEO financial position, are missing from this study. For instance, Orens and Reheul (2013) suggest that new CEOs typically prioritize external business and are more risk-averse regarding financing decisions, preferring to incur less debt. CEOs show a greater willingness to take financial risks and an increase in confidence as their tenure grows. Well-connected CEOs are more likely choose debt as the external network that allows them to pursue new business opportunities, according to the UET (Ting et al., 2015). These intriguing aspects cannot be highlighted in this study due to a lack of data accessibility and the complexity of its compilation. Finally, this research solely investigates the extent of risk a company assumes concerning its debt (both debt-to-equity and debt-to-asset ratios). Previous research included a variety of proxies for financial risk-taking, such as internationalisation (Busija, 2006; Ramón-Llorens et al., 2017), variability in stock returns (Farag & Mallin, 2016), R&D spending (Barker & Mueller, 2002), innovation (Kraiczy et al., 2015), and volatility of the firm's operating return on assets (Faccio et al., 2016).

Suggestions for Future Research

Here are a few recommendations for further research, bearing in mind the constraints imposed by the previous work. In subsequent research, it may be possible to achieve a reliable and consistent database system that has a data collection that is both more comprehensive and more reliable. The significance of this effort lies in the fact that it will result in an increase in the research quality, a reduction in the amount of time spent collecting data, and an improvement in the accuracy of the study. Aside from that, the samples for this study are restricted to 65 companies that are listed on Bursa Malaysia; after removing samples that are irrelevant and data that is inaccessible, there were only 65 companies left. As a result, it is recommended that a more extensive study sample size be employed, such as one that includes one hundred of the most prestigious firms, in order to cut down on as many inaccuracies as is feasible. Next, future studies are urged to investigate the influence of additional independent variables on financial risk-taking behaviour, such as the tenure of the CEO and the CEO's network. Moreover, by grouping these traits, future researchers may be able to investigate the connection between leverage and the personal qualities of CEOs, thus ensuring the validity of the findings. (Ting et al., 2015).

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References

A., M., Fasci, & Valdez, J. (1998). A performance contrast of male- and female-owned small accounting practices. *Journal of Small Business Management*. https://www.proquest.com/openview/deb1e9b154a31f99093daac8b48581f8/1?pq-origsite=gscholar&cbl=49244

Abor, J., & Biekpe, N. (2007). *Corporate governance, ownership structure and performance of SMEs in Ghana: implications for financing opportunities*. https://www.emerald.com/insight/content/doi/10.1108/14720700710756562/full/html

Adams, R. B., & Funk, P. (2011). Beyond the Glass Ceiling: Does Gender Matter? *Http://Dx.Doi.Org/10.1287/Mnsc.1110.1452*, *58*(2), 219–235. https://doi.org/10.1287/MNSC.1110.1452

Amran, N. A., & Ahmad, A. C. (2011). Board Mechanisms and Malaysian Family Companies' Performance. *Asian Journal of Accounting and Governance*. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fejournal.ukm.my%2Fajac%2Farticle%2FviewFile%2F6538%2F2811&clen=380288

Anderson, R. C., & Reeb, D. M. (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P 500. *The Journal of Finance*, *58*(3), 1301–1328. https://doi.org/10.1111/1540-6261.00567

Astivia, O. L. O., & Zumbo, B. D. (2019). Heteroskedasticity in Multiple Regression Analysis: What it is, How to Detect it and How to Solve it with Applications in R and SPSS. *Practical Assessment, Research, and Evaluation*, *24*(1), 1. https://doi.org/https://doi.org/10.7275/q5xr-fr95

Astrachan, J. H. (2003). Commentary on the special issue: the emergence of a field. *Journal of Business Venturing*. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.474.6272&rep=rep1&type=pdf

Baltagi, B. H. (2001). *Econometric Analysis of Panel Data* (2nd editio). John Wiley & Sons, Ltd.

Barker, V. L., & Mueller, G. C. (2002). CEO Characteristics and Firm R&D Spending. *Http://Dx.Doi.Org/10.1287/Mnsc.48.6.782.187*, *48*(6), 782–801. https://doi.org/10.1287/MNSC.48.6.782.187

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage: *Https://Doi.Org/10.1177/014920639101700108*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Beber, A., & Fabbri, D. (2012). Who times the foreign exchange market? Corporate speculation and CEO characteristics. *Journal of Corporate Finance*, *18*(5), 1065–1087. https://doi.org/10.1016/J.JCORPFIN.2012.07.004

Becker, G., & Mincer, J. (1964). *Human Capital Investment for Central City Revitalization - Google Books*. https://books.google.com.my/books?hl=en&lr=&id=Emq4nCGu9UQC&oi=fnd&pg=PA1&dq=gary+becker+1964+human+capital&ots=wm6M1noNnY&sig=VFY3ITX8MnamVXAJnoesXyR0sOE&redir_esc=y#v=onepage&q&f=false

Berger, A. N., Kick, T., & Schaeck, K. (2014). Executive board composition and bank risk taking. *Journal of Corporate Finance*, *28*, 48–65. https://doi.org/10.1016/J.JCORPFIN.2013.11.006

Boubaker, S., Nguyen, P., & Rouatbi, W. (2016). Multiple Large Shareholders and Corporate Financial risk-taking: Evidence from French Family Firms. *European Financial Management*, *22*(4), 697–745. https://doi.org/10.1111/EUFM.12086

Bromiley, P. (2017). Testing a Causal Model of Corporate Risk Taking and Performance.

Https://Doi.Org/10.5465/256301, *34*(1), 37–59. https://doi.org/10.5465/256301

Busija, E. C. (2006). *Agency in family business: The CEO, the board of directors, and the moderating effects of ownership structure and ownership form*.

Campbell, K., & Mínguez-Vera, A. (2008). Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics*. https://link.springer.com/article/10.1007/s10551-007-9630-y

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. *Corporate Governance: An International Review*, *18*(5), 396–414. https://doi.org/10.1111/J.1467-8683.2010.00809.X

Chua, J. H., Chrisman, J. J., & Sharma, P. (2017). Defining the Family Business by Behavior: *Https://Doi.Org/10.1177/104225879902300402*, *23*(4), 19–39. https://doi.org/10.1177/104225879902300402

Chua, J. H., Chrisman, J. J., Steier, L. P., & Rau, S. B. (2012). Sources of Heterogeneity in Family Firms: An Introduction: *Https://Doi.Org/10.1111/j.1540-6520.2012.00540.X*, *36*(6), 1103–1113. https://doi.org/10.1111/J.1540-6520.2012.00540.X

Claessens, S., Lang, P. H. L., & Djankov, S. (1999). *Who Controls East Asian Corporations?* https://doi.org/10.1596/1813-9450-2054

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, *9*(5), 371–395. https://doi.org/10.1016/0883-9026(94)90013-2

Das, T. K., & Teng, B. S. (2001). Strategic risk behaviour and its temporalities: between risk propensity and decision context. *Journal of Management Studies*, *38*(4), 515–534. https://doi.org/10.1111/1467-6486.00247

de Cabo, R. M., Gimeno, R., & Nieto, M. J. (2012). Gender Diversity on European Banks' Boards of Directors. *Journal of Business Ethics*, *109*(2), 145–162. https://doi.org/10.1007/S10551-011-1112-6/TABLES/6

Donaldson, L., & Davis, J. H. (2016). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns: *Http://Dx.Doi.Org/10.1177/031289629101600103*, *16*(1), 49–64. https://doi.org/10.1177/031289629101600103

Dragoni, L., Oh, I. S., Vankatwyk, P., & Tesluk, P. E. (2011). Developing Executive Leaders: The Relative Contribution Of Cognitive Ability, Personality, And The Accumulation Of Work Experience In Predicting Strategic Thinking Competency. *Personnel Psychology*, *64*(4), 829–864. https://doi.org/10.1111/J.1744-6570.2011.01229.X

Elsaid, E., & Ursel, N. D. (2011). CEO succession, gender and risk taking. *Gender in Management*, *26*(7), 499–512. https://doi.org/10.1108/17542411111175478/FULL/PDF

Faccio, M., Marchica, M. T., & Mura, R. (2011). Large Shareholder Diversification and Corporate Financial risk-taking. *The Review of Financial Studies*, *24*(11), 3601–3641. https://doi.org/10.1093/RFS/HHR065

Faccio, M., Marchica, M. T., & Mura, R. (2016). CEO gender, corporate financial risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance*, *39*, 193–209. https://doi.org/10.1016/J.JCORPFIN.2016.02.008

Farag, H., & Mallin, C. (2016). The influence of CEO demographic characteristics on corporate Financial risk-taking: evidence from Chinese IPOs. *Https://Doi.Org/10.1080/1351847X.2016.1151454*, *24*(16), 1528–1551. https://doi.org/10.1080/1351847X.2016.1151454

Feltham, T. S., Feltham, G., & Barnett, J. J. (2005). The Dependence of Family Businesses on a Single Decision-Maker*. *Journal of Small Business Management*, *43*(1), 1–15. https://doi.org/10.1111/J.1540-627X.2004.00122.X

Fombrun, C. J., & Ginsberg, A. (1990). Shifting gears: Enabling change in corporate aggressiveness. *Strategic Management Journal*, *11*(4), 297–308. https://doi.org/10.1002/SMJ.4250110405

Gedajlovic, E., Lubatkin, M. H., & Schulze, W. S. (2004). Crossing the Threshold from Founder Management to Professional Management: A Governance Perspective. *Journal of Management Studies*, *41*(5), 899–912. https://doi.org/10.1111/J.1467-6486.2004.00459.X

Ghosh, D., & Ray, M. R. (1992). Risk Attitude, Ambiguity Intolerance and Decision Making: An Exploratory Investigation*. *Decision Sciences*, *23*(2), 431–444. https://doi.org/10.1111/J.1540-5915.1992.TB00398.X

Gomez-Mejia, L. R., Cruz, C., Berrone, P., & Castro, J. De. (2011). The Bind that Ties: Socioemotional Wealth Preservation in Family Firms. *Https://Doi.Org/10.5465/19416520.2011.593320*, *5*(1), 653–707. https://doi.org/10.5465/19416520.2011.593320

Gómez-Mejía, L. R., Haynes, K. T., Núñez-Nickel, M., Jacobson, K. J. L., & Moyano-Fuentes, J. (2016). Socioemotional Wealth and Business Risks in Family-controlled Firms: Evidence from Spanish Olive Oil Mills: *Https://Doi.Org/10.2189/Asqu.52.1.106*, *52*(1), 106–137. https://doi.org/10.2189/ASQU.52.1.106

Gomez-Mejia, L. R., Makri, M., & Kintana, M. L. (2010). Diversification Decisions in Family-Controlled Firms. *Journal of Management Studies*, *47*(2), 223–252. https://doi.org/10.1111/J.1467-6486.2009.00889.X

Graham, J. R., Harvey, C. R., & Puri, M. (2013). Managerial attitudes and corporate actions. *Journal of Financial Economics*, *109*(1), 103–121. https://doi.org/10.1016/J.JFINECO.2013.01.010

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics 5th Ed.* (5th editio). McGraw-Hill Professional.

Habib, H., Khan, F., & Wazir, M. (2016). Impact of Debt on Profitability of Firms: Evidence from Non-Financial Sector of Pakistan. *City University Research Journal*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2714461

Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons: The Organization as a Reflection of Its Top Managers1. *Https://Doi.Org/10.5465/Amr.1984.4277628*, *9*(2), 193–206. https://doi.org/10.5465/AMR.1984.4277628

Hameed, I., Iqbal, A., & Ramzan, N. (2012). The Impact of Debt Capacity on Firm's Growth. *American Journal of Scientific Research*. https://www.researchgate.net/publication/255726629_The_Impact_of_Debt_Capacity_on_Firm%27s_Growth

Hantono, H. (2018). The effect of current ratio, debt to equity ratio, toward return on assets (case study on consumer goods company). *Accountability*, *7*(02), 64–73. https://doi.org/10.32400/JA.24804.7.02.2018.64-73

Harwood, I. A., Ward, S. C., & Chapman, C. B. (2009). A grounded exploration of organisational risk propensity. *Http://Dx.Doi.Org/10.1080/13669870802497751*, *12*(5), 563–579. https://doi.org/10.1080/13669870802497751

Hiebl, M. R. W. (2012). Risk aversion in family firms: what do we really know? *Journal of Risk Finance*, *14*(1), 49–70. https://doi.org/10.1108/15265941311288103/FULL/PDF

Highhouse, S., & Yüce, P. (1996). Perspectives, Perceptions, and Financial risk-taking Behavior. *Organizational Behavior and Human Decision Processes*, *65*(2), 159–167. https://doi.org/10.1006/OBHD.1996.0014

Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The Resource Dependence Role of Corporate Directors: Strategic Adaptation of Board Composition in Response to

Environmental Change. *Journal of Management Studies*, *37*(2), 235–256. https://doi.org/10.1111/1467-6486.00179

Ho, S. S. M., Li, A. Y., Tam, K., & Zhang, F. (2015). CEO Gender, Ethical Leadership, and Accounting Conservatism. *Journal of Business Ethics*, *127*(2), 351–370. https://doi.org/10.1007/S10551-013-2044-0/TABLES/7

Horne, J. C. Van. (1980). An Application of the Capital Asset Pricing Model to Divisional Required Returns. *Financial Management*, *9*(1), 14. https://doi.org/10.2307/3665306

Huang, J., & Kisgen, D. J. (2013). Gender and corporate finance: Are male executives overconfident relative to female executives? *Journal of Financial Economics*, *108*(3), 822–839. https://doi.org/10.1016/J.JFINECO.2012.12.005

Huybrechts, J., Voordeckers, W., & Lybaert, N. (2012). Entrepreneurial Risk Taking of Private Family Firms: The Influence of a Nonfamily CEO and the Moderating Effect of CEO Tenure. *Http://Dx.Doi.Org/10.1177/0894486512469252*, *26*(2), 161–179. https://doi.org/10.1177/0894486512469252

Ibrahim, H., & Samad, F. A. (2011). Corporate Governance Mechanisms and Performance of Public-Listed Family-Ownership in Malaysia. *International Journal of Economics and Finance*.

Ibrahim, H., Zulkafli, A. H., & Jabeen, G. (2020). Board Education, Growth and Performance of Family CEO Listed Firms in Malaysia. *International Journal of Banking and Finance*, *15*(2), 25–46. https://doi.org/10.32890/IJBF2020.15.2.2

Janis, I. L. (1972). Victims of groupthink: A psychological study of foreign-policy decisions and fiascoes. *American Psychological Association.* https://psycnet.apa.org/record/1975-29417-000

Kalleberg, A. L., & Leicht, K. T. (2017). Gender and Organizational Performance: Determinants of Small Business Survival and Success. *Https://Doi.Org/10.5465/256305*, *34*(1), 136–161. https://doi.org/10.5465/256305

Kennedy, P. (2012). A Guide to Econometrics. *American Journal of Political Science*, 0–13. https://books.google.com/books/about/A_Guide_to_Econometrics.html?id=69MDEAAAQBAJ

Khan, W. A., & Vieito, J. P. (2013). CEO gender and firm performance. *Journal of Economics and Business*, *67*, 55–66. https://doi.org/10.1016/J.JECONBUS.2013.01.003

Kimberly, J. R., & Evanisko, M. J. (2017). Organizational Innovation: The Influence of Individual, Organizational, and Contextual Factors on Hospital Adoption of Technological and Administrative Innovations1. *Https://Doi.Org/10.5465/256170*, *24*(4), 689–713. https://doi.org/10.5465/256170

Kish-Gephart, J. J., & Campbell, J. T. (2014). You Don't Forget Your Roots: The Influence of CEO Social Class Background on Strategic Risk Taking. *Https://Doi.Org/10.5465/Amj.2013.1204*, *58*(6), 1614–1636. https://doi.org/10.5465/AMJ.2013.1204

Knight, J., Weir, S., & Woldehanna, T. (2010). The role of education in facilitating Financial risk-taking and innovation in agriculture. *Http://Dx.Doi.Org/10.1080/00220380312331293567*, *39*(6), 1–22. https://doi.org/10.1080/00220380312331293567

Kraiczy, N. D., Hack, A., & Kellermanns, F. W. (2015). What Makes a Family Firm Innovative? CEO Financial risk-taking Propensity and the Organizational Context of Family Firms. *Journal of Product Innovation Management*, *32*(3), 334–348. https://doi.org/10.1111/JPIM.12203

Lin, C., Lin, P., Song, F. M., & Li, C. (2011). Managerial incentives, CEO characteristics and corporate innovation in China's private sector. *Journal of Comparative Economics*, *39*(2),

176–190. https://doi.org/10.1016/J.JCE.2009.12.001
March, J. G., & Simon, H. A. (1958). *Organizations*. John Wiley & Sons.
Martino, P., Rigolini, A., & D'Onza, G. (2020). The relationships between CEO characteristics and strategic Financial risk-taking in family firms. *Journal of Risk Research*, *23*(1), 95–116. https://doi.org/10.1080/13669877.2018.1517380
Miller, D., & Le Breton-Miller, I. (2014). Deconstructing Socioemotional Wealth. *Https://Doi.Org/10.1111/Etap.12111*, *38*(4), 713–720. https://doi.org/10.1111/ETAP.12111
Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. (2007). Entrepreneurial Orientation, Risk Taking, and Performance in Family Firms: *Http://Dx.Doi.Org/10.1111/j.1741-6248.2007.00082.X*, *20*(1), 33–47. https://doi.org/10.1111/J.1741-6248.2007.00082.X
Ngui, C. Y. K. (2002). Asian family businesses: From riches to rags? *Malaysian Business*.
Orens, R., & Reheul, A. M. (2013). Do CEO demographics explain cash holdings in SMEs? *European Management Journal*, *31*(6), 549–563. https://doi.org/10.1016/J.EMJ.2013.01.003
Peni, E. (2014). CEO and Chairperson characteristics and firm performance. *Journal of Management & Governance 2012 18:1*, *18*(1), 185–205. https://doi.org/10.1007/S10997-012-9224-7
Rajagopalan, N., & Datta, D. K. (1996). CEO Characteristics: Does Industry Matter? *Https://Doi.Org/10.5465/256636*, *39*(1), 197–215. https://doi.org/10.5465/256636
Rakhmayil, S., & Yuce, A. (2008). Effects Of Manager Qualification On Firm Value. *Journal of Business & Economics Research (JBER)*, *6*(7). https://doi.org/10.19030/JBER.V6I7.2452
Ramón-Llorens, M. C., García-Meca, E., & Duréndez, A. (2017). Influence of CEO characteristics in family firms internationalization. *International Business Review*, *26*(4), 786–799. https://doi.org/10.1016/J.IBUSREV.2017.01.007
Sharif, S. P., & Yeoh, K. K. (2014). Independent Directors' Resource Provision Capability in Publicly-Listed Companies in Malaysia. *International Journal of Management Reviews*, *13*(2), 134–152. https://doi.org/10.1111/J.1468-2370.2010.00289.X
Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the Determinants of Risk Behavior. *Academy of Management Review*, *17*(1), 9–38. https://doi.org/https://doi.org/10.5465/amr.1992.4279564
Sitkin, S. B., & Weingart, L. R. (1995). Determinants of Risky Decision-Making Behavior: A Test of the Mediating Role of Risk Perceptions and Propensity. *Academy of Management Journal*, *38*(6), 1573–1592. https://doi.org/https://doi.org/10.5465/256844
Steier, L. (2003). Variants of agency contracts in family-financed ventures as a continuum of familial altruistic and market rationalities. *Journal of Business Venturing*, *18*(5), 597–618. https://doi.org/10.1016/S0883-9026(03)00012-0
Su, W., & Lee, C. Y. (2012). Effects of corporate governance on risk taking in Taiwanese family firms during institutional reform. *Asia Pacific Journal of Management 2012 30:3*, *30*(3), 809–828. https://doi.org/10.1007/S10490-012-9292-X
Terjesen, S., Sealy, R., & Singh, V. (2009). Women Directors on Corporate Boards: A Review and Research Agenda. *Corporate Governance: An International Review*, *17*(3), 320–337. https://doi.org/10.1111/J.1467-8683.2009.00742.X
Ting, I. W. K., Azizan, N. A. B., & Kweh, Q. L. (2015). Upper Echelon Theory Revisited: The Relationship between CEO Personal Characteristics and Financial Leverage Decision. *Procedia - Social and Behavioral Sciences*, *195*, 686–694. https://doi.org/10.1016/J.SBSPRO.2015.06.276
Tyler, B. B., & Steensma, H. K. (1998). The effects of executives' experiences and perceptions

on their assessment of potential technological alliances. *Strategic Management Journal Strat. Mgmt. J*, *19*, 939–965. https://doi.org/10.1002/(SICI)1097-0266(199810)19:10

Wang, G., Holmes, R. M., Oh, I. S., & Zhu, W. (2016). Do CEOs Matter to Firm Strategic Actions and Firm Performance? A Meta-Analytic Investigation Based on Upper Echelons Theory. *Personnel Psychology*, *69*(4), 775–862. https://doi.org/10.1111/PEPS.12140

Wang, Y., & Poutziouris, P. (2010). Entrepreneurial risk taking: Empirical evidence from UK family firms. *International Journal of Entrepreneurial Behaviour and Research*, *16*(5), 370–388. https://doi.org/10.1108/13552551011071841/FULL/XML

Watson, J. (2002). Comparing the Performance of Male-and Female-Controlled Businesses: Relating Outputs to Inputs: *Entrepreneurship Theory and Practice*, *26*(3), 91–100. https://doi.org/https://doi.org/10.1177/104225870202600306

Wiseman, R. M., & Gomez-Mejia, L. R. (1998). A Behavioral Agency Model of Managerial Risk Taking. *Academy of Management Review*, *23*(1), 133–153. https://doi.org/10.5465/AMR.1998.192967

Wooldridge, A. (2015). Special Report: Family companies–To have and to hold. In *Economist* (Vol. 18).

Wu, J.Z., Zhang, J., Ge, Z.M., Xing, L.W., Han, S.Q., Shen, C., & Kong, F.T. (2021). Impact of climate change on maize yield in China from 1979 to 2016. *Journal of Integrative Agriculture*, *20*(1), 289–299. https://doi.org/10.1016/S2095-3119(20)63244-0

Zahra, S. A. (2005). Entrepreneurial Risk Taking in Family Firms. *Family Business Review*, *18*(1), 23–40. https://doi.org/10.1111/J.1741-6248.2005.00028.X

Zahra, S. A. (2018). Entrepreneurial Risk Taking in Family Firms: The Wellspring of the Regenerative Capability: *Family Business Review*, *31*(2), 216–226. https://doi.org/10.1177/0894486518776871

Zanani, W., Abdullah, W., Ismail, S., & Jamaluddin, N. (2008). The Impact Of Board Composition, Ownership and CEO Duality On Audit Quality: The Malaysian Evidence. *Management & Accounting Review (MAR)*, *7*(2), 17–28. https://doi.org/10.24191/MAR.V7I2.266