

Characteristics Of Ceo's Overconfidence And Managerial Compensation: Evidence From Vietnam

Quang Thong TRUONG

School of Banking
University of Economics Ho Chi Minh City,
Vietnam

Linh TT Nguyen

School of Banking
University of Economics Ho Chi Minh City,
Vietnam
Department of Banking and Finance,
Monash Business School, Monash University,
Australia

Minh Lam TRAN

School of Banking
University of Economics Ho Chi Minh City,
Vietnam

Abstract

The study was conducted to determine the characteristics of CEO's Overconfidence influencing managerial compensation. The study was conducted on 143 companies listed on the Ho Chi Minh City Stock Exchange, Vietnam, with 858 observations for 6 years from 2012-2017. By 2SLS method, with variable tools to deal with endogenous problems, research results show that with CEO's overconfidence, female CEOs have a positive impact on their compensation. With CEOs not overconfident, their age, their education has positively impact on managerial compensation. However, we find no evidence of the linkage between CEO's experience and managerial compensation.

Keywords: Characteristics, CEO Compensation, Overconfidence

Introduction

Principal agent theory plays an important role in managerial compensation studies. Due to the existence of different interests between owners and representatives (Jensen & Meckling, 1976) and moral hazard related issues due to imperfect information in the relationship between representatives and owners (Holmstrom, 1979) may lead to the agent not always acting in the best interest of the owner (Jensen & Meckling, 1976). Therefore, according to Principal agent theory, compensation plans need to be designed in accordance with the manager 's interests to reduce conflicts of interest between them. In order to establish the optimal level of compensation, the company must understand the characteristics of CEO (Chief Executive Officer). And a behavioral trait of CEO is the interest to many researchers today, which is overconfidence. The overconfident executives tend to overestimate the return on investment and underestimate the risk (Dittrich et al, 2005). On the positive side, overconfident CEOs are more creative and willing to take risks (Galasso and Simcoe, 2011; Hirshleifer et al., 2012). On the other hand, overconfident managers tend to choose high incomes and affect shareholders' profits (Kolasinski and Li, 2013; Malmendier and Tate, 2005 and 2008). This raises an important question: is there a mechanism such as compensation contracts that companies can use to motivate CEOs' efforts to be overconfident rather than negatively impacting the value of shareholders? Therefore, the owner should choose a suitable compensation contract to encourage managers' efforts. Compared to a normal manager, an overconfident manager may only need weaker compensation motives. Because of the overly optimistic view of

company values ?? in the future, a lower level of compensation than executives who are not overconfident may be enough to make managers consider the effort to make appropriate decisions. A strong compensation incentive may also hinder, because such incentives may exacerbate the risk of the manager being overconfident. Therefore, the purpose of a compensation contract is to take advantage of the CEO's behavioral characteristics. This may reduce the total amount of compensation paid to overconfident managers. In addition, according to the Upper Echelon Theory of Hambrick and Mason (1984), the authors argue that the characteristics of strategic planners in an enterprise such as experience, education, age ... affects the value and awareness base of the operator and makes them different choices, which has a strong impact on the business. They emphasized that the higher the education and experience, the more powerful the leaders are, with the knowledge and prestige power, the leaders will easily create influence and receive support from colleagues and lower levels. In addition, the gender diversity of management can limit information asymmetry, more representative costs. So, how to make a compensation plan to match and attract talented people, especially take advantage of executives' overconfidence and personal characteristics of these directors, in order to improve the work motivation of CEOs, improving the operational efficiency of enterprises is essential. The issue of executive compensation is very much concerned and researched in the world however, partly due to data limitations, the number of studies on this topic in Vietnam is very limited. So, it is really necessary to do a research topic on this issue. The objective of this study is to determine how the personal characteristics of overconfident CEOs influence executive compensation. The study was conducted on 143 companies listed on the Ho Chi Minh City Stock Exchange, with 858 observations for 6 years from 2012-2017 (excluding financial firms due to difference in capital structure or insufficient data collection). The paper uses data in this period for the reason that only in this period is the data of managerial compensation for each year.

Literature review

According to Ackert and Deaves (2010), overconfidence manifests itself in these facets: miscalibration—a tendency to overestimate the accuracy of one's knowledge; better-than-average effect—people's unrealistic tendency to believe that their own capabilities are better than average; illusion of control—the tendency for people to assume that they might have certain control over events while in reality they have no; excessive optimism—an inclination to overestimate the probability of positive outcomes and underestimate the probability of negative ones. Patty Bick (2015) argued that as often, overconfident CEOs

underestimate the actual risks of their projects, yet overestimate the expected results, and so they overinvest in the hope that more profits will be gained. In the same vein, Kidd and Morgan (1969) noted that CEOs tend to predict their work outcomes to be better than they actually are. In general, David and Graham (2007) reasoning, overconfident CEOs invest more, apply more leverage, pay less dividends, prefer long-term debt to short-term debt, and pursue more mergers and acquisitions. This study utilizes estimation techniques as proposed by Malmendier (2005) and Glaser et al. (2007), and to fit the real current context of Vietnam, we employ 'net buyer' as another estimator. As such, CEOs are classified as overconfident based on their stock acquisitions within the first five years in the sample as they are specifically optimistic about their firms' performance. Overconfidence is a dummy equaling 1 if CEOs bought more stocks than they sold in a year, and 0 otherwise. The second measure of overconfidence suggested by Lucas and Silveira (2008) also treats it as a dummy, equaling 1 if one of the CEOs on the board of directors own more than 50% of the company's shares, and 0 otherwise. In addition to persistent optimism for their firms' future prospects, a great number of overconfident CEOs desire to acquire far more stocks than they genuinely need to gain control or take a hold for increased benefits that can be enjoyed from this authority (Lucas & Silveira, 2008). In addition, quite a few studies indicated that overconfident CEOs have a tendency to better perform in firms demanding higher degrees of creativity as well as risk (Galasso and Simcoe, 2011; Hirshleifer, Low, and Teoh, 2012). Gervais (2011) argued that highly respected CEOs are captivated by businesses whose projects involve underlying risk and call for more initiatives or by firms that capitalize on the exploitation hypothesis. Hence, CEO overconfidence makes them less conservative in undertaking risky projects and saves certain cost for firm owners apropos well-devised compensation contracts (Gervais, 2011). Similarly, Humphery (2016) found evidence to indicate that overconfident CEOs obtain better compensation when enrolling in more creative, riskier, and higher growth firms.

The contract based on compensation incentive mechanism can cause managers to make decisions better and spend more effort to maximize company value. Therefore, it is essential to understand the individual characteristics of executives to design an appropriate compensation mechanism, especially to take advantage of the CEO's overconfidence. Because managers who do not like risk can demand higher compensation for greater uncertainty regarding incentive wages. However, if some managers are overconfident, with too high confidence in company values ?? in the future or confident in their ability, "optimal"

compensation contracts for confident managers will be different from the contract granted to normal managers. However, there is little research on how the compensation contracts should be adjusted to fit the individual's personality of the managers. As Malmendier et al. (2011) suggested, it is important for owners to correct incentives for behavioral characteristics.

According to the theory of Hambrick and Mason (1984) the characteristics of strategic decision makers in an enterprise such as experience, age, education ... affects the value and awareness base of the managers which has a strong impact on business operations. Some studies have shown that differences in manager behavior are related to their personal characteristics and context. The Upper Echelon Theory of Hambrick and Mason (1984) affirmed that an organization is a reflection of senior executives. A study supported by Finkelstein and Hambrick (1996), the authors distinguish two groups of individual characteristics that constitute senior executives: observable psychological and experiential factors. The first group is difficult to measure, group 2 is easier to observe but there may be psychological characteristics behind the observed factor. In the process of globalization, businesses need to have managers with experience, professional qualifications and knowledge, to help businesses easily adapt and integrate with the internationalized business environment. Finkelstein (1992) added, he identifies four types of executive power: hierarchical power, ownership power, expert power and prestige power. He emphasized that the higher the level and experience, the more powerful the leaders are, with the knowledge and prestige power, the leaders will easily create influence and receive support from colleagues and lower levels. In addition, the gender diversity of management can limit information asymmetry, more representative costs. Thus, whether the compensation plan is different based on the personal characteristics of CEOs in Vietnam, we will study each issue in turn:

Gender

Gender is one of the important management attributes that can determine compensation for executives. According to statistics of CBDC (Canadian Diversity Council) in 2013, women accounted for only 15% of the positions in the board of management of Canadian companies. Among Canadian companies listed on the Toronto Stock Exchange, up to 42% of companies do not have female leaders, 28% have only one female member of the Board of Directors. However, in this era women have gradually asserted themselves, they have their own advantages. Many researchers investigated whether the presence of women in the executive committee has the benefit to the enterprise or not. The presence of female members contributes to the diversification of the executive board,

more ways of thinking, avoiding the repercussion in the viewpoint of problems. Carter, Simkins and Simpson (2003) studied 500 companies in the US to demonstrate a positive relationship between management board diversity and performance. In Vietnam we also have proudly talented female leaders. The famous business magazine Forbes recently announced the list of "The most powerful businesswomen in Asia in 2014", in the list of 48 people voted and honored, Vietnam has 3 entrepreneurs, Chairman and CEO of Vinamilk - Ms. Mai Kieu Lien, ranked 23rd; Chairman and CEO of Refrigeration Electrical Engineering Corporation (REE) - Ms. Nguyen Thi Mai Thanh, ranked 28th and CEO of SeABank Bank and BRG Group - Ms. Nguyen Thi Nga, ranked 29th. Becoming one of 50 Asia's most powerful businesswoman, 3 of our businesswomen have the right to be proud of the female leaders of famous corporations in the world. In particular, according to the announcement of Vinamilk's Board of Directors, the compensation level for 2016 of Ms. Le Thi Bang Tam is up to 3.44 billion VietNam dong / year. However, Ms. Mai Kieu Lien - CEO of Vinamilk received a modest salary compared to the members of the Board of Directors of 761 million Vietnam dong/year.

In previous studies, experimental results on differences in compensation between men and women were mixed. Nowadays, women have gradually asserted themselves, they have their own advantages. Gilligan (1982) believed that men are often interested in economic benefits and a successful career, so they are more likely to break the principles to achieve their goals. In contrast, women tend to harmonize relationships, less likely to conduct unethical behaviors. Moreover, because of the barriers to gender discrimination and family pressure, women have to try and strive hard (Eagly and Carli, 2003), so they appreciate their values and achievements. Therefore, they do not easily exchange moral values for their own personal gain. More and more studies support this view as leading women are more transparent (Upadhyay and Zeng, 2014), female leaders help save more operating costs (Chakrabarty & Bass, 2014) or female leaders have a positive impact on the quality of financial reporting (Srinidhi et al, 2010). Therefore, the proportion of women in the executive board is increasing in the world. Some countries still require the percentage of women in the executive board such as Denmark, Finland, Norway, Sweden... However, with such advantages, female executives were found to receive less compensation than men (Elkinawy & Stater, 2011), the author argued that income differences between women and men may be due now men still dominate. Some other studies suggested that there is no relationship between executive compensation and gender, such as Bowlin, Renner, and Rives (2003) and Bugeja, Matolcsy, and

Spiropoulos (2012). In Vietnam, although female leaders have achieved some success, female CEOs are still quite limited. According to the research sample, the percentage of executive boards with at least one female is 29.61%, the rest of the executive board has no women accounting for 70.39%. Perhaps the situation in Vietnam leading men is even more dominant and perhaps there is no policy to encourage compensation exclusively for female leaders.

In addition, according to Prospect Theory (Kahneman and Tversky, 1979) in behavioral finance, there is a difference in the attitudes of individuals to risks related to profits and losses. When investments tend to be profitable, they prefer to grasp the current profit rather than trying to continue investing to get more profits in the future. An investor who bought the stock because the information is promising will quickly sell that stock when the stock price rises because they believe in their information and believe that the stock price has now fully reflected the information. When you feel you have achieved the desired profit, you will sell the stock to make a profit without analyzing the potential for additional profits. Thus, those who are willing to earn low income to avoid damage are those who do not like risk. And there have been many studies that women are often such people, female CEOs are expected to have lower risk priorities and often choose strategies, investment decisions that are likely to lose less, thus they often choose debt and invest less. Powell and Ansic (1997) investigated undergraduate and graduate students to test gender differences in financial decisions. In strategies, especially in financial decision making, men tend to underestimate risks and women tend to overestimate the current situation of risk. Men often prefer higher risks than women. Byrnes et al. (1999) analyzed 150 studies on gender differences in risky decisions. The studies are coded according to job type, task content and age. The results show that men often prefer risk than women. Faccio et al. (2012) studied female CEOs in both private and state companies in 18 countries from 1999-2009. Using leverage as a measure of risk assessment, they found that female executives did not like much of the risk in financial strategies. According to Huang et al. (2013), they examined corporate financial and investment decisions made by female executives compared to male executives. Male executives undertake more acquisitions and issue debt more often than female executives. Further, acquisitions made by firms with male executives have announcement returns approximately 2% lower than those made by female executive firms, and debt issues also have lower announcement returns for firms with male executives. Female executives place wider bounds on earnings estimates and are more likely to exercise stock options early. This evidence suggests men exhibit relative overconfidence in significant corporate decision-making

compared to women. So, from previous studies, women are often the ones who don't like taking risks so it is likely that male overconfident CEOs have a negative impact on compensation. In contrast, female overconfident CEOs will be able to have positive impact on compensation. Because according to the analysis of male overconfident leaders often prefer risks more than women, it is likely that the compensation for them will be lower enough to motivate them to implement risk projects. The following is proposed:

Hypothesis H1: The female overconfident CEO's has a positive impact on compensation.

Age

Age is often used to measure the experience and potential capabilities of executives. Gibbons and Murphy (1992) argue that older CEOs require more compensation because of their shorter working time. This view is supported by Garen (1994), the author argued that age has a positive effect on compensation sensitivity. Conyon and Murphy (2000) argued that cash compensation and total compensation will decrease when the CEO is over 55 years old. It is possible that when older CEOs do not need to make a competitive salary policy because they are about to retire, they are less motivated to work at full capacity for the company. In addition, Barker and Mueller (2002) studied a series of listed companies to investigate CEO characteristics related to investment decision making using research and development costs (R and D) as a measure. They founded younger executives willing to invest in R and D. Bertrand and Schoar (2003) based on data from 600 companies and 500 managers to investigate the impact of CEOs on decisions of the company. The results were found that older CEOs tend to be more conservative. So older CEOs don't like risk and have maintained lower financial leverage than younger CEOs. Thus, when young executives are willing to invest and pursue profits, they will have a tendency to accept higher challenges and risks to gain more profits. Therefore, the age of overconfident CEOs is likely to have a positive impact on their compensation. Because with overconfident managers, the young age may be offered by the company. It is likely that the compensation for them will be lower enough to motivate them to implement risk projects. The following is proposed:

Hypothesis H2: The age of overconfident CEO's has a positive impact on compensation.

Education

Executive qualifications are also considered to be available resources of management. They are important factors that create the authority of every human being. With a high level of education, leaders will have enough knowledge and

qualifications to take over and run businesses more conveniently than leaders with lower education levels. So, the level of education can be a strong indicator reflects the social status and prestige level of the CEO. Some studies suggested that the education level of CEO can be an advantage in the process of leading the company more effectively as Belliveau et al. (1996). Therefore, companies often offer a high level of compensation to recruit high-educated executives. Therefore, the CEO's education level positively impacts compensation (Gottesman and Morey, 2006). Similarly, Jalbert et al. (2011) tested CEO qualifications from US companies and found a correlation between university rankings and compensation rankings. In addition, there are many studies showed that managers with different levels of education will have different decision-making styles and risk preferences. Those who invest in education will be more cautious about risk financing strategies to ensure real profits. If the balance of expected returns and risks is not satisfactory, they will tend to keep the stability of the business. Therefore, these CEOs often maintain less risky financial activities and thus lessen the risk of default (Bertrand and Schoar, 2003). Karagiannidis (2012) based on data of 1,678 managers; they found that managers with a business background have better business and less risky portfolios. Therefore, the education of overconfident CEOs is likely to have a positive impact on their compensation. Because with a high level of education, companies will have higher incentive policies than other leaders to recruit talents, and let them increase motivation to accept higher risks when investing in projects, even for leaders who are overconfident, so I hypothesize:

Hypothesis H3: The education of overconfident CEO's has a positive impact on compensation

Experience

Experience is also considered a variable that represents the potential of CEOs (Core & Guay, 1999). Experience is seen as a human resource (Williamson, 1985; Singh & Harianto, 1989). From a social influence perspective, when executives with longer working periods have a greater social impact, they are more likely to affect the board (Wade, O'Reilly, & Chandratat, 1990). Singh and Harianto (1989) argued that compensation should be higher if executives have more experience. Core and Guay (1999) showed that a CEO's sensitivity to compensation will be positively affected by experience. CEO experience is also an important determinant of management power. With the CEO has experience working longer may have more influence on the members of the board and their decision because they have more status and more experience with the company. Hill and Phan (1991) argued that the CEO's influence on the board increases with the number of work

experience and they found evidence that the link between CEO compensation and business performance becomes weaker with working time of CEO and board. The cooperation will be stronger between board members and CEOs with longer terms, because with longer terms, they will have more time to influence the board (Bebchuk & Fried, 2004; Macey, 2008). In Vietnam, expertise and experience are often the leading factors that employers consider in the recruitment process. At state-owned enterprises in Vietnam, experience is sometimes more important than professional qualifications. Finally, Finkelstein and Hambrick (1990) found that the CEO's experience is inversely related to managers' risk preferences.

Therefore, overconfident CEOs with more experience are expected to have higher compensation, and so I hypothesize:

Hypothesis H4: Experience of overconfident CEO's has a positive impact on compensation.

Research methods

This study utilizes quantitative approach typified by regression models. The data were collated from financial statements, prospectuses, annual and management reports, etc. available for companies listed on HoSE. The models are computed using Stata 12.0.

Regression models

To build a regression model to consider factors affecting compensation, I base on previous studies to build control variables such as: Murphy (1985), Elkinski and Stater (2011), Gibbons and Murphy (1992), Core and Guay (1999), Jalbert et al. (2011), Cordeiro, He, Conyon, and Shaw (2013), Conyon & Peck, 1998, Yermack (1995), Conyon & He (2011), Chen et al. (2010).

To capture the impact of overconfidence on CEO compensation, we run the following regression:

$$\text{LOGCASH}_i = \beta_0 + \beta_1 \text{OVER}_i + \beta_2 \text{LOGTOBINQ}_i + \beta_3 \text{CEO CHAR}_i + \beta_4 \text{ADMIN}_i + \beta_5 \text{FIRM CHAR}_i + \varepsilon_i \quad (1)$$

β : estimation coefficient; i : i th observation; t : year t ; ε : residuals

We regress Eq. (1) using the techniques of pooled OLS, fixed effects model (FEM), random effects model (REM), and generalized least squares (GLS). Then, we regress Eq. (1) with the selected approach, and tackle endogeneity by employing 2SLS with the instrument variable.

To capture the impact of CEO's characteristics on compensation, we split the data into two parts: part 1 of the data includes overconfident CEOs, part 2 of the data includes other CEOs, then we run the following regression similar to equation (1):

$\text{LOGCASH} = \beta_0 + \beta_1 \text{LOGTOBINQ}_{it} + \beta_2 \text{CEO CHAR}_{it} + \beta_3 \text{ADMIN}_{it} + \beta_4 \text{FIRM CHAR}_{it} + \varepsilon_{it}$ (2) with data including CEOs not overconfident

$\text{LOGCASH} = \beta_0 + \beta_1 \text{LOGTOBINQ}_{it} + \beta_2 \text{CEO CHAR}_{it} + \beta_3 \text{ADMIN}_{it} + \beta_4 \text{FIRM CHAR}_{it} + \varepsilon_{it}$ (3) with data including overconfident CEOs

β : estimation coefficient; i : i th observation; t : year t ; ε : residuals

We regress Eq. (1) using the techniques of pooled OLS, fixed effects model (FEM), random effects model (REM), and generalized least squares (GLS). Then, we regress Eq. (2), Eq. (3) with the selected approach, and tackle endogeneity by employing 2SLS with the instrument variable.

Variable description

Dependent variables:

Cash-based CEO compensation (LOGCASH): log of total amount of salary and rewards received by the CEO in a fiscal year.

Independent variable:

+ CEO characteristics (CEO CHAR):

Gender (GENDER): Dummy variable = 1 if CEO is male; = 0 if the CEO is female.

Age (AGE): Age of the CEO.

Education level (EDUCATION): Dummy = 1 if CEO earns an MBA degree or higher, and = 0 otherwise.

Experience (EXPERIENCE): The number of years for which the CEO holds a particular position in a given fiscal year

Overconfidence (OVER):

Overconfidence 1 (OVER1): = 1 if the number of stocks purchased by CEO is larger than they sold in a year, and = 0 otherwise.

Overconfidence 2 (OVER2): = 1 if the proportion of shares possessed by CEO is larger than 50%, and = 0 otherwise.

Control variables:

Firm performance (Return on Asset) is measured by Tobin's q (LOGTOBINQ) (log of the firm's market value as a ratio to total assets)

Firm characteristics (FIRM CHAR):

Firm size (FSIZE): log of firm's total annual assets

Leverage (LEVERAGE): liabilities/total assets

Duration of firm operation (FAGE): total years of operation since its foundation

Executive Ownership (OWNERSHIP): Number of CEO's shares/Total number of shares of the company

Business administration characteristics (ADMIN):

Level of independent board members (INDEPENDENT):

Independent members (INDEPENDENT): Number of independent members of Board/ Total members of Board
Number of independent board members

Size of board of directors (BSIZE): Total members of board of directors

State ownership (STATE): Dummy = 1 if the state is the firm's largest shareholder, and = 0 otherwise.

Foreign ownership (FOWNER): Foreign shares/total shares

Ownership of the largest shareholder (CONCENTRATION): Level of firm's largest shareholder ownership/total shares

Dummies for different sectors: 1 (real estate and construction), 2 (technology), 3 (industry), 4 (service), 5 (consumer goods), 6 (energy), 7 (materials), 8 (agriculture), 9 (healthcare)

To solve the problem of endogeneity in two-stage least squares (2SLS) regression, we construct an instrument of market share (M SHARE), the ratio of firm sales to total market revenues.

Results

Regression results of Equation (1)

Statistical description

Descriptive statistics results show that the lowest cash-based CEO compensation of the firms in our sample is 0, thus implying that there are firms that offer no CEO compensation. CEO age ranges between 24 and 72 along with the longest tenure of 23 years. The highest number of directors on the board is 11, in addition to the maximum level of independence of 5. Correlation coefficients among the variables are all lower than 0.5, which is not considered significant.

Descriptive statistics show that the percentage of the executive board with at least one female is 29.61%, the rest of the executive board has no women accounting for 70.39%. Thus, female leaders are still limited. The proportion of executives with MBA or above accounts for 25.8%, the rest without MBA or higher accounts for 74.2%, so the rate of high-level executives is still quite modest. The CEO's lowest experience is none and the highest is 23 years, on average CEO has 4.5 years of experience. The CEO's age is the lowest at 24, the highest is 72, the average is 49 years old, this is considered a high age, but this age can be said to have achieved a stable level of life. Correlation coefficients among the variables are all lower than 0.5, which is not considered significant.

The results of multicollinearity check using variance inflation factor (VIF) suggest its value smaller than 10 and thus no existing multicollinearity

For panel data, pooled OLS estimation may produce biased

results or those which are not robust since it disregards unobserved factors; therefore, we consider using FEM and REM as alternatives. To decide between OLS and REM, we run Breusch-Pagan test. With the results showing $\text{Prob} > \chi^2 = 0.000 < 1\%$, the null hypothesis (H_0) is rejected; thus, REM outweighs OLS given this respect. Next, to test REM against FEM, we perform Hausman test, whose results favor FEM over REM due to $\text{Prob} > \chi^2 = 0.0074 < 5\%$ as well as rejection of the null hypothesis (H_0). Accordingly, FEM is the optimum among the three estimators.

Testing heteroskedasticity

We apply modified Wald test with the null hypothesis (H_0) that no heteroskedasticity exists. The results suggest $\text{Prob} > \chi^2 = 0.000 (< 1\%)$; therefore, H_0 is rejected at 1% level, and the model reflects the problem of heteroskedasticity.

Testing autocorrelation:

Wooldridge test for autocorrelation reveals $\text{Prob} > F = 0.2213 (> 5\%)$, so no autocorrelation problem is found. Still, due to the existence of heteroskedasticity, we employ generalized least squares (GLS) technique to address the issue.

Handling endogeneity:

Buck, Liu and Skovoroda (2008) found that the company's

operating and efficiency compensation interacted with each other so there was the possibility of an endogenous phenomenon. As can be observed in Eq. (1), executive compensation (LOGCASH) may have effects on firm performance (LOGTOBINQ) and vice versa; thus, the perceivable existence of endogeneity could result in biased, unrobust results when it comes to such estimators as OLS, FEM, REM, and GLS, which requires that this very problem be appropriately solved. To address this, we employ the 2SLS method with market share (M SHARE) as an instrument, taking account of the theoretical view that large market shares should create competitive advantages and market power would enable firms to gain profits via a raise in product prices or offers at lower prices where their competitors do not have advantage (Jacobson, 1988). This instrument is thus correlated with firm performance (i.e. higher sales are contributory to better performance) yet is not related to the model residuals. Afterwards, we run Hausman test with the null hypothesis H_0 that all the variables are exogenous. The results exhibit p-value = 1; therefore, the null hypothesis is accepted, and the endogeneity is handled properly by using the selected instrument which generates robust estimation for the overall regression coefficient.

Table 1. Regression results of Equation (1)

Variables	POOL LOGTOBINQ	FEM LOGTOBINQ	REM LOGTOBINQ	GLS	2SLS
QTT1	0.0676 (1.23)	0.00448 (0.12)	0.0212 (0.59)	0.0179 (1.18)	0.0419 (0.68)
QTT2	0.733*** (2.99)	0.00692 (0.03)	0.0290 (0.14)	0.292* (1.80)	0.509* (1.87)
cons	1.629*** (6.54)	0.755 (1.39)	1.661*** (4.45)	1.504*** (14.41)	0 (.)
Obs	847	847	847	847	
Adj -squared	0.1045				
Modifed Waled Prob>chi2	0.000				
Wooldridge Prob>F	0.2213				
Hausman Prob>chi2		0.0074	0.0074		
Durbin Wu Hausman P value					1

Source: Authors' compilation

Notes: t statistics in parentheses * p<0.1, ** p<0.05, *** p<0.01

The regression result of overconfidence 1 (OVER1) is not statistically significant, whereas that of overconfident 2 (OVER2) suggests the positive impact in all the three models of Pool, GLS, and 2SLS. Accordingly, the more overconfident the CEO, the larger the compensation packages he receives. This result is in line with that of Gervais (2011) apropos the exploitation hypothesis, which theorizes that given that a CEO is extremely overconfident,

higher compensation levels ought to be considered by firms to capitalize on the explicit advantages of this very characteristic, which is intended for subsequent increased investment and optimum profits that firms are going to genuinely enjoy. It also agrees with the current landscape of Vietnam enterprises' advancement processes where such an immature market demanding exponential growth is absolutely opportune for CEO overconfidence

Regression results of Equation (2)

Table 2. Regression results of Equation (2)

Variables	POOL LOGCASH	FEM LOGCASH	REM LOGCASH	GLS LOGCASH	2SLS LOGCASH
LOGTONBINQ	0.0337 (0.32)	0.0678 (0.97)	0.0341 (0.58)	0.0743* (1.85)	-0.558 (-1.13)
GENDER	-0.534** (-2.18)	0.0280 (0.10)	-0.232 (-1.11)	0.0247 (0.12)	-0.463* (-1.68)
AGE	-0.00263 (-0.39)	-0.0128 (-1.19)	0.000736 (0.14)	-0.00105 (-0.35)	-0.000822 (-0.10)
EXPERIENCE	-0.00671 (-0.48)	-0.0109 (-0.40)	0.00102 (0.08)	-0.0104* (-1.86)	0.00666 (0.34)
EDUCATION	-0.00594 (-0.05)	0.527 (1.52)	-0.0301 (-0.24)	-0.00342 (-0.07)	-0.0756 (-0.48)
OWNERSHIP	0.00997* (1.87)	-0.00138 (-0.44)	0.00208 (0.75)	0.00429* (1.88)	0.0101* (1.77)
STATE	0.0295 (0.25)	0.161* (1.97)	0.102 (1.32)	0.0533 (1.28)	0.0290 (0.21)
FOWNER	0.00595 (1.35)	-0.0118* (-1.74)	-0.00228 (-0.51)	0.00303* (1.72)	0.0101* (1.77)
CONCENTRATION	0.00401 (1.34)	-0.00849** (-2.57)	-0.00346 (-1.34)	0.00289*** (2.60)	0.00544* (1.70)
BSIZE	0.0657 (1.39)	-0.0319 (-0.66)	-0.0102 (-0.27)	0.0670*** (4.31)	0.0308 (0.60)
INDEPENDENT	-0.0173 (-0.39)	0.00853 (0.20)	-0.0130 (-0.36)	-0.0393** (-1.98)	-0.0732 (-1.16)
FSIZE	0.243* (1.68)	0.425** (2.31)	0.371*** (3.07)	0.243*** (4.98)	0.237 (1.53)
LEVERAGE	0.0151 (0.05)	-0.0384 (-0.14)	-0.224 (-1.02)	0.0149 (0.17)	-0.616 (-1.20)
FAGE	0.000148 (0.04)	0.0345 (1.21)	-0.0000741 (-0.01)	0.000671 (0.44)	-0.00331 (-0.75)

_cons	1.347	0.343	0.949	0.657*	3.246*
(1.44)	(0.36)	(1.35)	(1.83)	(1.65)	
N	117	117	117	117	114
Adj -squared	0.1530				
Breusch and Pagan Lagrangian Prob>chi2		0.0000			
Wooldridge Prob>F		0.0230			
Hausman Prob>chi2		0.9997	0.9997		
Durbin Wu Hausman P value					0.2099

Source: Authors' compilation

Notes: t statistics in parentheses * p<0.1, ** p<0.05, *** p<0.01

Analogously, we employ the GLS technique to tackle the heteroskedasticity as reflected by FEM (far better than REM and OLS as there exist no problems of multicollinearity and autocorrelation). We employ the 2SLS method with market share (M SHARE) as an instrument to handle endogeneity. The results of regression equation (2), with sample data include CEOs are overconfident, we see that gender has the negative impact on compensation, with the Pool model and 2SLS. The

results are consistent with the hypothesis H1. The female overconfident CEO's have a positive impact on compensation. The research results create incentives strongly for female executives in VietNam. However, we have not found evidence of the impact of the age, education, experience of overconfident CEOs with compensation.

Regression results equation (3)

Table 3. Regression results of Equation (3)

Variables	POOL	FEM	REM	GLS	2SLS
LOGCASHLOGCASHLOGCASHLOGCASHLOGCASH					
LOGTONBINQ	0.0963*** (3.03)	-0.0170 (-0.52)	0.0336 (1.16)	0.101*** (9.38)	0.549*** (6.24)
GENDER	-0.181* (-1.95)	0.116 (0.82)	-0.0540 (-0.45)	-0.0983*** (-2.77)	-0.0931 (-0.91)
AGE (2.19)	0.00678** (-0.77)	-0.00343 (0.56)	0.00211 (5.48)	0.00580*** (2.14)	0.00795**
EXPERIENCE	0.00286 (0.55)	0.00557 (0.72)	0.00933 (1.53)	0.00224 (1.21)	0.00465 (0.78)
EDUCATION	0.145*** (2.98)	0.132* (1.81)	0.173*** (2.81)	0.129*** (9.16)	0.163*** (2.96)
OWNERSHIP	0.00665** (2.38)	-0.00136 (-0.33)	0.00341 (1.01)	0.00639*** (9.94)	0.00811** (2.56)
STATE	-0.0589 (-1.27)	0.0876 (1.18)	-0.0393 (-0.67)	-0.0215 (-1.36)	-0.0203 (-0.38)
FOWNER	0.00379*** (2.93)	0.00330 (1.47)	0.00397** (2.22)	0.00343*** (8.68)	0.0000409 (0.03)

CONCENTRATION	0.00114 (1.05)	0.00158 (0.88)	0.000959 (0.65)	0.000931*** (2.60)	0.00169 (1.37)
BSIZE	0.0436** (2.35)	0.0709*** (2.88)	0.0701*** (3.21)	0.0357*** (5.16)	0.0539* * (2.54)
INDEPENDENT	0.00701 (0.45)	-0.00412 (-0.23)	0.0117 (0.71)	0.0109** (1.98)	0.0166 (0.93)
FSIZE	0.0428 (1.33)	0.285** (2.58)	0.0827 (1.36)	0.0736*** (5.38)	0.110*** (3.45)
LEVERAGE	-1.91e-08 (-0.53)	9.68e-09 (0.35)	-2.16e-08 (-0.83)	-3.86e-09 (-0.11)	-0.000000234*** (-3.58)
FAGE	-0.00558*** (-3.84)	0.00380 (0.45)	-0.00741** (-2.54)	-0.00426*** (-12.33)	-0.00415** (-2.47)
_cons	1.837*** (6.60)	0.476 (0.75)	1.706*** (4.18)	1.598*** (13.44)	0 (.)
N	730	730	730	730	709
Adj -squared	0.1136				
Modified Wald Prob>chi2		0.0000			
Wooldridge Prob>F		0.0602			
Hausman Prob>chi2		0.0068	0.0068		
Durbin Wu Hausman P value					1

Source: Authors' compilation

Notes: t statistics in parentheses * p<0.1, ** p<0.05, *** p<0.01

The results of regression equation (3), with sample data include CEOs are not overconfident, we see that education of overconfident CEO's has a positive impact on compensation in all 5 models at 99% confidence interval. The results are consistent with the hypothesis H3, and also consistent with the study of Gottesman and Morey (2006). The higher the education level, the greater the incentive policy to attract talent CEOs to achieve business efficiency. The research results encourage CEOs to improve their qualifications for more rewarding compensation. With other variables such as gender, experience, we have not found evidence that there is a relationship with compensation.

The variable of age has a positive impact on compensation in three models: Pool, GLS, 2SLS. The older CEOs are the more experience they will have to lead the company. The results are consistent with the study of McKnight et al. (2000). In addition, according to Conyon and Murphy (2000), they found that CEO's age positively affects compensation, but the total compensation will be reduced when the CEO is over 55 years old. So, to learn more about the age of executives impacting compensation, we continue to regress with 2 data: part 1 consists of executives aged 50 and under, and part 2 is data include executives aged 50 and over, continuing to perform regression as equation (1), the results show the following:

Table 4. Regression results of AGE

Variables	Regression results with CEOs less than 50 years old	Regression results with CEOs older than 50 years old
	2SLS LOGCASH	2SLS LOGCASH
AGE	0.0191 * (1.95)	-0.00906 (-0.69)
Obs	360	349
Durbin Wu Hausman P value	1	0.0277

Source: Authors' compilation

Notes: t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The results in table 4 shows that for executives who are not overconfident, with age less than 50, they will have the positive impact on their compensation, however we find no evidence for the relationship between compensation and age when their age is older 50.

Conclusion

The research topic contributes a new research direction in Vietnam about the managerial compensation. In order to build a suitable compensation mechanism, administrators also need to pay attention to the personal characteristics of executives, especially to take advantage of their overconfidence. Because the managers who do not like risk may require higher compensation for greater uncertainty regarding incentive wages. However, if some managers are overconfident, with too high confidence in company values ?? in the future or confident in their ability, "optimal" compensation contracts for overconfident managers will be different from the contract granted to normal managers. However, there is little research on how the contracts for overconfident managers should be adjusted to fit their characteristics. Research results show that for executives who are overconfident, their gender has a negative impact on compensation. Thus, with female overconfident CEOs, they have a positive impact on their compensation. Meanwhile, with a higher age (CEOs less than 50 years old), CEOs are not overconfident will receive greater compensation. Finally, the higher the education level, the more compensation CEOs receive. The research results create a great motivation for executives to pay more attention to improving their qualifications so that the compensation level is more deserved.

References

- Ackert & Deaves, 2010. "Behavioral Finance: Psychology, Decision-Making, and Markets". Cengage Learning; International ed edition (1 Jan. 1980)
- Barker, V. L. and Mueller, G. C., 2002. "CEO Characteristics and Firm R&D Spending". Management Science.
- Barros Lucas & Silveira Da. Alexandre, 2008. « Overconfidence, managerial optimism and the determinants of capital structure". Brazilian Review of Finance, vol.6, no. 3.
- Bebchuk, L. A., & Fried, J. M., 2004. "Pay without performance: The unfulfilled promise of executive compensation". USA: Harvard University Press.
- Belliveau, M.A. & O'Reilly, Charles & Wade, James, 1996. "Social capital at the top: Effects of social similarity and status on CEO compensation". Academy of Management Journal. 39. 1568-1593. 10.2307/257069.
- Ben David ,I. & Graham, J.R & Harvey, C.R, 2007. "Managerial Overconfidence and corporate policies". NBER working papers: 13711.
- Bertrand, M. and A. Schoar, 2003. "Managing with style: The effect of managers on firm policies".
- Bowlin, W., Renner, C., & Rives, J., 2003. "A DEA study of gender equity in executive compensation". Journal of the Operational Research Society, 54(7), 751-757. doi: 10.1057/palgrave.jors.2601555
- Buck, T., Liu, X., & Skovoroda, R., 2008. "Top executive pay and firm performance in China". Journal of International Business Studies, 39(5), 833-850. doi: 10.1057/palgrave.jibs.8400386
- Bugeja, M., Matolcsy, Z. P., & Spiropoulos, H., 2012. "Is there a gender gap in CEO compensation?". Journal of Corporate Finance, 18(4), 849-859. doi: 10.1016/j.jcorpfin.2012.06.008
- Byrnes, J.P., D.C. Miller and W.D. Schafer, 1999. "Gender differences in risk taking: A meta-analysis".
- Carter, D. A., Simkins, B. J., & Simpson, W. G., 2003. "Corporate Governance, Board Diversity, and Firm Value". Financial Review, 38(1), 33-53. doi: 10.1111/1540-6288.00034
- Chakrabarty, S., Bass, A.E., 2014. "Corporate governance in micro finance institution: board composition and the ability to face institutional voids". Corporate Governance International Review, 22: 367-386
- Chen, J. J., Liu, X., & Li, W., 2010. "The effect of insider

- control and global benchmarks on Chinese executive compensation". *Corporate Governance: An International Review*, 18(2), 107-123. doi: 10.1111/j.1467-8683.2010.00788.x
- Circular 121/2012 regulates corporate governance for public companies on July 26, 2012
- Canyon, M. J., & He, L., 2011. "Executive compensation and corporate governance in China". *Journal of Corporate Finance*, 17(4), 1158-1175. doi: 10.1016/j.jcorpfin.2011.04.006
- Canyon, M. J., & Murphy, K. J., 2000. "The prince and the pauper? CEO pay in the United States and United Kingdom". *Economic Journal*, F640-F671. doi: 10.1111/1468-0297.00577
- Canyon, Martin J. and Simon I. Peck, 1998. "Board Control, Remuneration Committees, and Top Management Compensation". *Academy of Management Journal* 41: 146-157
- Cordeiro, J., He, L., Canyon, M., & Shaw, T., 2013. "Informativeness of performance measures and Chinese executive compensation". *Asia Pacific Journal of Management*, 30(4), 1031-1058. doi: 10.1007/s10490-013-9353-9
- Core, J. E., Holthausen, R. W., & Larcker, D. F., 1999. "Corporate governance, chief executive officer compensation, and firm performance". *Journal of Financial Economics*, 51(3), 371-406. doi: 10.1016/S0304-405X(98)00058-0
- Core, J., & Guay, W., 1999. "The use of equity grants to manage optimal equity incentive levels". *Journal of accounting and economics*, 28(2), 151-184
- Decree 71/2017 / ND-CP Guidance on corporate governance applicable to public companies on 06/06/2017
- Dittrich, Guth, và Maciejovsky, 2005. "Overconfidence in investment decisions: an experimental approach". *European Journal of Finance* 11, 471-491.
- Eagly, A.H., Carli, L.L., 2003. "The female leadership advantage: an evaluation of the evidence". *The leadership Quarterly*, 14:807-834
- Elkinawy, S., & Stater, M., 2011. "Gender differences in executive compensation: Variation with board gender composition and time". *Journal of Economics and Business*, 63(1), 23-45.
- Faccio, M., M.T. Marchica and R. Mura, 2012. "CEO gender, corporate risk-taking and the efficiency of capital allocation". Working Paper No. 2021136, Purdue University, West Lafayette
- Fama, E. F., & Jensen, M. C., 1983. "Separation of Ownership and Control". *Journal of law and economics*, 26(2), 301-325. doi: 10.2307/725104
- Finkelstein, Hambrick, D.C., 1996. "Strategic leadership: top executives and their effects on organization". Minneapolis/St.Paul: West Publishing Company
- Finkelstein, S., 1992. "Power in Top Management Teams: Dimensions, Measurement, and Validation". *The Academy of Management Journal*, 35(3), 505-538. doi: 10.2307/256485
- Finkelstein, S. and Hambrick, D. C., 1990. "Top management team tenure and organizational outcomes: the moderating role of managerial discretion". *Administrative Science Quarterly*
- Galasso, A., Simcoe, T.S., 2011. "CEO overconfidence and innovation". *Management Science*, 57(8), 1469-1484.
- Garen, John E., 1994. "Executive Compensation and Principal-Agent Theory". *Journal of Political Economy* 102: 1175-1199
- Gervais, S., Heaton, J.B., Odean, T., 2011. "Overconfidence, Compensation Contracts, and Capital Budgeting". *Journal of Finance*, 66(5), 1735-1777.
- Gibbons, R., & Murphy, K., 1992. "Optimal Incentive Contracts in the Presence of Career Concerns: Theory and Evidence". *Journal of political economy*, 100(3), 468-505. doi: 10.1086/261826
- Gilligan, C., 1982. "In a different voice: Psychological theory and woman's development". Cambridge, MA: Harvard University Press.
- Glaser, Markus and Weber, 2007. "Overconfidence and Trading". Volume (April 14, 2003). AFA 2004 San Diego Meetings.
- Gottesman, A. A. and Morey, M. R., 2006. "Does a better education make for better managers? An empirical examination of CEO educational quality and firm performance". Working Paper, Pace University
- Hambrick, D.C. and P.A. Mason, 1984. "Upper echelons: The organization as a reflection of its top managers".
- Hill, C. W. L., & Phan, P., 1991. "CEO tenure as a determinant of CEO pay". *Academy of Management Journal*, 34: 707-717.
- Hirshleifer, D., Low, A., Teoh, S.H., 2012. "Are Overconfident CEOs Better Innovators?". *Journal of Finance*, 67(4), 1457-1498.
- Holmstrom, B., 1979. "Moral hazard and observability". *The Bell journal of economics* (10.2307/3003320), 74-

91.

- Humphery-Jenner, Mark and Lisic, Ling Lei and Nanda, Vikram K. and Silveri, Sabatino, Executive Overconfidence and Compensation Structure, 2016. "Journal of Financial Economics (JFE)". Vol. 119, Issue 3, pp.533-558; Institute of Global Finance Working Paper No. 4. Available at SSRN: <https://ssrn.com/abstract=2416431> or <http://dx.doi.org/10.2139/ssrn.2416431>
- Jacobson, R., 1988. "Distinguishing among competing theories of the market share effect". The Journal of Marketing, 68-80. doi: 10.2307/1251634
- Jalbert, T., 2002. "Does School Matter? An Empirical Analysis Of CEO Education, Compensation, And Firm Performance". International Business & Economics Research Journal, 1(1), 83-98.
- Jalbert, T., Furumo, K. and Jalbert, M., 2011. "Does Educational Background Affect CEO Compensation And Firm Performance?". Journal of Applied Business Research, 27(1): 15-39.
- Jalbert, T., Furumo, K. and Jalbert, M., 2011. "Does Educational Background Affect CEO Compensation And Firm Performance?". Journal of Applied Business Research, 27(1): 15-39.
- Jensen, M. C., & Meckling, W. H., 1976. "Theory of the firm: Managerial behavior, agency costs and ownership structure". Journal of Financial Economics, 3(4), 305-360.
- Kahneman, D. and A. Tversky, 1979. "Prospect theory: An analysis of decision under risk. Econometrica"
- Karagiannidis, I., 2012. "The effect of management team characteristics on risk-taking and style extremity of mutual fund portfolios". Financial Economy.
- Malmendier, U. and G. Tate, 2005. "CEO overconfidence and corporate investment". J. Finance.
- Kidd J.B & Morgan J.R., 1969. "A Predictive Information System for Management. Operational research society". Vol.20, No.2, pp.149-170.
- Kolasinski, A.C. and Li, X., 2013. "Can Strong Boards and Trading Their Own Firm's Stock Help CEOs Make Better Decisions? Evidence from Acquisitions by Overconfident CEOs". Journal of Financial and Quantitative Analysis, 48, 1173-1206
- Macey, J. R., 2008. "Corporate governance: Promises kept, promises broken". Princeton, NJ: Princeton University Press
- Malmendier, U., Tate, G., 2005. "CEO Overconfidence and Corporate Investment". Journal of Financial Economics, 60(6), 2661-2700.
- Malmendier, U., Tate, G., 2008. "Who makes acquisitions? CEO overconfidence and the market's reaction". Journal of Financial Economics, 89, 20-43.
- Malmendier, U., Tate, G., Yan, J., 2011. "Overconfidence and Early-Life Experiences: The Effect of Managerial Traits on Corporate Financial Policies". Journal of Finance, 66(5), 1687-1733.
- Murphy, K. J., 1985. "Corporate performance and managerial remuneration: An empirical analysis". Journal of accounting and economics, 7(1), 11-42. doi: 10.1016/0165-4101(85)90026-6
- Patty Bick, 2015. "Does the Overconfidence of the CEO Affect His Pay Structure?". Journal of Finance and Economics. Vol. 3, No. 5, pp 86-96. <http://pubs.sciepub.com/jfe/3/5/2>.
- Powell, M. and D. Ansic, 1997. "Gender differences in risk behaviour in financial decision-making: An experimental analysis". J. Economy.
- Singh, H., & Harianto, F., 1989. "Top management tenure, corporate ownership structure and the magnitude of golden parachutes". Strategic Management Journal, 10(S1), 143-156. doi: 10.1002/smj.4250100711
- Srinidhi, 2010. "Female directors and Earnings Quality". Contemporary Accounting Research, Vol.28, N0.5, pp. 1610-1644
- Upadhyay, A., Zeng, H., 2014. "Gender and ethic diversity on board and corporate information environment". Journal of Business Research, 67:2456-2463
- Vietnamese Enterprise Law No. 68/2014 / QH13 dated November 26, 2014
- Wade, James, Charles A. O'Reilly III and Ike Chandratat, 1990. "Golden Parachutes: CEOs and the Exercise of Social Influence". Administrative Science Quarterly 35: 587-603
- Williamson, O. E., 1985. "The Economic Institutions of Capitalism". New York: The Free Press, A Division of Macmillan Inc.
- Yermack, D., 1995. "Do corporations award CEO stock options effectively?". Journal of Financial Economics, 39(2-3), 237-269.
- Huang, Jiekun and Kisgen, Darren J., 2013. "Gender and Corporate Finance: Are Male Executives Overconfident Relative to Female Executives?". Journal of Financial Economics 108, 822-839.. Available at SSRN: <https://ssrn.com/abstract=1263990> or <http://dx.doi.org/10.2139/ssrn.1263990>