The executive-employee pay gap and the risk of stock price crash: Evidence from China A-share market

Mingyu Zou*

School of Economics and Management, Nanjing University of Science and Technology, Nanjing, China

*Corresponding author: 103569346@qq.com

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Abstract: At a time when a large amount of capital is focusing on corporate social responsibility, examining the relationship between the executive-employee pay gap and the risk of stock price crash risk can help us clarify the link between the distribution of compensation within the company and the performance of the stock market. This paper uses the data of all A-share listed companies from 2011 to 2022, and uses regression analysis to study the impact of internal pay gap on stock price crash risk. Research shows that large executive-employee pay gaps significantly increase the risk of stock price crashes. Moreover, the positive impact of the pay gap on the risk of stock price crash is exacerbated by the inequality aversion of market investors. Heterogeneity analysis found that in state-owned enterprises, the pay gap between executives and employees was more strongly correlated with the risk of stock price crash.

1. Introduction

The problem of global income inequality has become one of the super problems facing the world today, and the problem of income distribution in China is also severe, and the Gini coefficient has been above the international warning line of 0.4 for a long time, and has continued to rise in recent years. Against this backdrop, countries have adopted fiscal, tax and social security policies to try to address the problem of income inequality. Deepening income inequality within companies has attracted the attention of not only media and policy circles, but also financial regulators and stock market investors, and under Section 953 (b) of the Dodd-Frank Act, the United States Securities and Exchange Commission passed a new rule in August 2015 requiring companies to disclose the ratio of median employee pay to median CEO compensation, and China has introduced a series of salary caps for different industries from 2009 to 2022. Regulators at home and abroad have shown that they attach great importance to the reasonableness of internal remuneration.

From the perspective of impact and consequences, on the one hand, the inequality of pay within enterprises is not conducive to the ideal distribution or just distribution of resources, which will lead to conflicts between executives and employees, resulting in problems such as investment efficiency, low production efficiency, and lack of innovation in enterprises. On the other hand, with the development of the economy and society, the improvement of the quality of education, more and more people speak out for social issues, and the issue of corporate remuneration level and salary structure as an important embodiment of corporate social responsibility has gradually attracted the attention of investors.

In particular, the collapse brought about by the sharp drop in stock prices has not only caused a large amount of assets to shrink among individual and institutional investors, but also seriously hit the enthusiasm of investment, adversely affected the stable development of the securities market, and even endangered the healthy development of the real economy. Exploring whether and how the pay gap affects the risk of stock price crash is helpful to clarify the relationship between pay distribution and stock performance, and help policymakers adjust the pay structure and optimize redistribution policies[1-6].

2. Literature Review and Research Hypothesis

2.1 Literature Review

2.1.1 Research on pay gaps within firms

The research of domestic and foreign scholars on the salary gap within enterprises mainly focuses on its relationship with corporate performance, and the relationship between the two can be roughly classified as follows: First, there is a positive correlation between the two under the influence of the championship theory, and employees will work harder when they learn that executives earn more than they think (Cullen et al, 2018). Second, there is a negative correlation between the two under the influence of behavioral theory, because the pay gap will have a negative impact on the internal collaboration of the enterprise, and then the satisfaction of employees will decrease, resulting in a decrease in motivation, which is not conducive to the improvement of company performance (Bu & Bai, 2013). The third is the inverted U-shaped relationship presented under the joint influence of the two theories, that is, a smaller pay gap can promote employee collaboration and unity, thereby improving company performance; On the contrary, when the pay gap exceeds the threshold, it will make employees feel unfair in their hearts, and it has significant threshold characteristics (Gao & Lu, 2015).

Furthermore, some scholars have studied the impact of the pay gap on the behavior of stakeholders within firms. For employees, their job satisfaction is determined by the gap between their salary and a certain reference salary, which decreases as the company's top 1% salary level increases (Godechot & Senik, 2015). For customers, research shows that social equity is becoming more and more important in consumer perceptions, so they avoid buying from companies with higher CEO-employee compensation ratios (Mohan et al, 2018). For executives, it was found that in order to reduce employees' sense of unfairness and make employees believe that the increase in the pay gap is caused by the increase in the executive's effort, executives will use earnings management to increase the true earnings to defend their compensation (Yang & Wang, 2014).

Finally, many scholars have begun to pay attention to the impact of the pay gap on the performance of corporate stock markets, and the study has found that institutional investors with an aversion to inequality tend to reduce their allocation to stocks with higher pay ratios (Pan et al, 2022). The United Kingdom data, based on which it found that firms with higher levels of pay inequality, showed higher equity returns and greater earnings surprises in their stock markets (Mueller et al, 2017).

2.1.2 Research on the risk of stock price crash risk

The literature on stock price crash risk mainly examines its causes from three aspects:

One is the management cover-up theory, which is that management hides bad news for its own benefit, leading to a sudden explosion of bad news after accumulation, and then causes stock prices to plummet (Jin & Myers, 2006). This includes defending compensation through earnings management and inefficient investment, thereby exacerbating the risk of stock price crashes (Kim et al, 2016).

The second is the information asymmetry theory, that is, investors cannot observe the real operation status of the enterprise, resulting in wrong judgments, resulting in large fluctuations in stock prices; The study finds that there is a significant negative correlation between the degree of corporate information disclosure and the risk of future stock price crash, which is more obvious in companies with high information asymmetry and poor profitability (Ye et al, 2015).

The third is investor sentiment, irrational investment behavior and investor sentiment will exacerbate the sharp rise or fall of stock prices. For example, the high liquidity of stocks amplifies the stock price's post-event reaction to the release of bad news, prompting managers to conceal the bad news, and ultimately causing the stock price to crash (Chang et al, 2017). There are also studies that have shown that irrational investor herd behavior increases the risk of stock price crash (Xu et al, 2013)[7-11].

2.1.3 Research on the correlation between pay gaps and stock price crash risk

There are few literatures at home and abroad that directly study the relationship between the two, and one of them points out that an excessively large internal pay gap among executives will affect the management's perception of fairness, which will lead to an increase in the company's agency cost, which in turn will increase the risk of stock price crash (Wu et al, 2023). The other paper found that the pay gap between senior executives and employees was significantly positively correlated with the risk of stock price crash, which was transmitted through the channel of accounting conservatism, and the correlation between the two was affected by the nature of corporate equity, the quality of internal control, and the degree of marketization (Wu et al, 2020).

2.1.4 Literature Review

The research on the pay gap by domestic and foreign scholars mainly focuses on its relationship with corporate performance and financial indicators, and the scope of investigation is often limited to the executive group. There are many studies on the influencing factors of stock price crash risk, whether it is from the perspective of internal management, external or macro factors, but few papers have studied the relationship between the executive-employee pay gap and the risk of stock price crash. As the issue of income inequality is attracting more and more attention from market investors, it is of great significance to study the impact of the executive-employee pay gap on the risk of stock price crash.

2.2 Research Hypothesis

According to the management cover-up theory, a large pay gap between executives and employees will give executives the motivation to defend themselves in response to the doubts of internal personnel and even the public's accusations, and in order to make their own income seem reasonable, executives may adjust their unfavorable performance indicators to achieve the purpose of compensation defense. Among them, managers with less power tend to falsify performance by managing earnings, while managers with more power tend to defend by increasing the weight of favorable performance indicators (Miu & Hu, 2016). According to the fairness theory, for employees, customers and other internal stakeholders, the greater compensation risk makes them have a stronger perception of unfairness, which leads to a decline in the company's production efficiency and business performance, and finally leads to a stock price crash. According to the theory of information asymmetry, these behaviors of corporate stakeholders cannot be understood by the market, resulting in the accumulation of bad news, and when these bad news are released, leading to the risk of stock price crash. From all three perspectives, pay gaps have the potential to have an impact on the risk of stock price crash. Therefore, hypothesis H1 is proposed.

Hypothesis H1: The executive-employee pay gap is significantly positively correlated with the risk of stock price crash.

Prosocial behavior theory, also known as social behavior, refers to a type of behavior that conforms to social expectations and has no obvious benefit to the actor itself, but the actor consciously and voluntarily brings benefits to the recipient of the behavior. Pro-socialists value the outcomes of others and equality of outcomes more than individualists and competitors (Lange & Paul, 1999). Therefore, as a positive social behavior, more investors are beginning to pay attention to the inequality of enterprises, which is reflected in their own investment behavior. Therefore, hypothesis H2 is proposed.

Hypothesis H2: Investors' aversion to inequality exacerbates the positive impact of the executive-employee pay gap on the risk of stock price crash.

State-owned enterprises usually play a leading and exemplary role in fulfilling their social responsibilities while pursuing their own corporate interests, so within state-owned enterprises, the formulation of remuneration systems pays more attention to fairness, and the perception of unfairness among stakeholders within the enterprise is stronger. Therefore hypothesis H3 is proposed.

Hypothesis H3: In state-owned enterprises, the executive-employee pay gap is more strongly correlated with the risk of stock price crash[12-15].

3. Research Design

3.1 Sample Data Source

This paper selects all A-share listed companies in Shanghai and Shenzhen from 2011 to 2022 as the initial sample, and the data sources include CSMAR database, National Bureau of Statistics and other websites. After obtaining the data, this paper treats the original data as follows: Exclude financial companies; Exclude ST, *ST, PT shares; Exclude companies with missing important variables such as compensation data, this paper also excludes companies where executive compensation is less than employee compensation. Tail shrinkage at 1% and 99% levels was performed on continuous variables to exclude interference with the results of the study by extreme values. In this article, STATA16 is used for data processing and analysis.

3.2 Definition of Variables

3.2.1 Dependent Variable

First, by excluding the market return, the return of the individual stock of company i in week s is calculated:

$$R_{i,s} = \alpha_i + \beta_1 R_{m,s-2} + \beta_2 R_{m,s-1} + \beta_3 R_{m,s} + \beta_4 R_{m,s+1} + \beta_5 R_{m,s+2} + \varepsilon_{i,s} \tag{1}$$

Among them, $R_{i,s}$ refers to the yield of stock i considering the reinvestment of cash dividends in week s, and $R_{m,s}$ refers to the average rate of return weighted by the market capitalization of all shares of A shares in week s, and then defines the weekly trait return as:

$$W_{i,s} = \ln(1 + \varepsilon_{i,s}) \tag{2}$$

Secondly, on the basis of the company's weekly characteristic rate of return, two indicators to measure the risk of stock price crash are constructed. One is to use the negative return skew coefficient (NCSKEW) to measure the risk of stock price crash. The specific formula is:

$$NCSKEW_{i,t} = -\frac{\left[n_{i,t}(n_{i,t}-1)^{\frac{3}{2}}\sum W_{i,s}^3\right]}{\left[(n_{i,t}-1)(n_{i,t}-2)(\sum W_{i,s}^2)^{\frac{3}{2}}\right]} \tag{3}$$

Where $n_{i,t}$ is the number of weeks that stock i has been traded in a given year. The higher the value of NCSKEW, the greater the skew coefficient of negative returns, and the higher the risk of stock price crash.

The second is to use the yield up and down volatility ratio (DUVOL) to measure the risk of stock price crash. For each company and year, first define the week in which the trait yield is less than the average as the falling week, and the week in which the trait yield is higher than the mean as the rising week. Then, the standard deviation of the trait returns of the falling and rising weeks is calculated to obtain the falling volatility and rising volatility. Finally, divide the falling volatility by the rising volatility and take the natural logarithm to obtain the DUVOL indicator for each company and annual sample, which is calculated as follows:

$$DUVOL_{i,t} = \ln\frac{[(n_{i,t,u}-1)\sum W_{i,s,d}^2]}{[(n_{i,t,d}-1)\sum W_{i,s,u}^2]} \tag{4}$$

where $n_{i,t,u}$ and $n_{i,t,d}$ represents the number of weeks in which the weekly characteristic return of the company's stock price is greater than and less than its average annual return, respectively. The higher the value of DUVOL, the more left-skewed the distribution of returns, and the greater the risk of stock price crash.

3.2.2 Independent Variable

The independent variables in this paper are measured using the relative pay gap (PayRatio), i.e., the pay ratio, while the absolute pay gap (PayGap) is used as a robustness test (Kong et al, 2017).

PayRatio=Top 3 average executive compensation / Average compensation for employees　　(5)

PayGap=Ln(Top 3 average executive compensation - Average compensation for employees) (6)

3.2.3 Adjust Variable

This paper uses investor pessimism as a proxy for the degree of investor aversion to inequality, because if investors have an inequality aversion, their aversion increases when they are pessimistic about the economy (Ingolf et al, 2023). For the measurement of investor sentiment at the market level, domestic and foreign scholars usually use variables such as the number of new individual account openings, trading volume, closed-end fund discount rate, number of IPOs, and first-day IPO yield to conduct principal component analysis to construct the corresponding investor sentiment index. However, for individual stocks, the above approach is not feasible. This paper argues that the number of negative words in the posts published by investors in the stock bar is greater than the number of positive words, and the subjective emotional color of the post is pessimistic (Li Shigang, 2020). Therefore, this paper takes the natural logarithm of the total number of negative posts on average each calendar day as a measure of the pessimism of small and medium-sized investors, and the greater the pessimism of investors, the stronger the inequality aversion:

$$Neg_{i,t} = \ln\left(M_{i,t}^{neg}/365\right) \tag{7}$$

Among them, $M_{i,t}$ represents the sum of the number of negative posts on corporate i in all natural day stock bars in t year, based on the characteristics of more small and medium-sized investors in China's A-share market, that is, retail investors, this indicator can well measure the pessimism of investors.

3.2.4 Control Variable

Since the company's internal compensation information is generally only disclosed in the annual report, and the annual report contains a lot of information related to the company's operation and strategy, this paper controls the factor variables that may affect the stock price crash: company size (Size), leverage ratio (Lev), company age (Age), characteristic weekly return volatility (Sigma), information opacity (Abacct), income tax expense ratio (Tax), and average weekly turnover rate (Dturn).

3.3 Model

To test whether the pay ratio affects the risk of stock price crash, a model was constructed (8).

$$Risk_{i,t+1} = a + b\,PayRatio_{it} + cControls_{it} + \sum Year + \sum Ind + \varepsilon_{it} \tag{8}$$

Where $Risk_{i,t}$ represents the weekly skewness of returns (Model 3) and the volatility of stock price movements (Model 4).

To test the moderating effect of investor inequality aversion, the interaction term with the pay ratio was included in the regression, a model was constructed (9).

$$Risk_{i,t+1} = a + b\,PayRatio_{it} + cNeg_{i,t+1} * PayRatio_{it} + dNeg_{i,t+1}$$

$$+eControls_{it} + \sum Year + \sum Ind + \varepsilon_{it} \tag{9}$$

To test the heterogeneity effect of property rights, this paper divides the whole sample into state-owned listed companies and non-state-owned listed companies, and then performs group regression, and uses chow test and other methods to analyze the differences between groups, as shown in Table 1.

Table 1. Variable Definitions

variable type	variable name	variable definitions
Dependent	NCSKEW	Skewness coefficient of negative returns
Variable	DUVOL	The rate at which the yield fluctuates up and down
Explanatory	PayRatio	The ratio of the top three executives to the average compensation

Variable		of employees
	PayGap	The difference between the top three executives and the average compensation of employees is logarithmic
Adjust Variable	Neg	The logarithm of the average total number of negative posts per calendar day
	Size	The logarithm of the total assets of the enterprise
	Lev	Total liabilities over total assets
	Age	The logarithm of the year the business was founded
Control Variable	Sigma	Trait weekly return volatility
	Dturn	Average weekly turnover rate
	Abacct	The absolute value of the accrued profit for handling
	Tax	Income tax expense ratio

4. Empirical Results Analysis

4.1 Descriptive Statistics

From the descriptive statistics in Table 2, it can be seen that the mean values of NCSKEW and DUVOL are -0.32 and -0.20, respectively, and the standard deviations are 0.72 and 0.47, respectively, indicating that there are large differences in stock price crash risks among different companies. From the perspective of salary data, the average value of the relative pay gap between senior executives and employees is about 7.5 times, the range is as small as 1.4 times, and the maximum is close to 40 times, and the standard deviation of the pay gap is 6.15, indicating that the pay gap between senior executives and employees is still generally high, and the difference between companies is large.

Table 2. Descriptive Statistics Results

variable	observation	mean	sd	min	max	P50
$NCSKEW_{t+1}$	24588	-0.320	0.720	-2.510	1.680	-0.270
$DUVOL_{t+1}$	24588	-0.200	0.470	-1.370	1.020	-0.200
$PayRatio_t$	24588	7.540	6.150	1.440	38.63	5.700
$PayGap_t$	24588	13.13	0.820	10.87	15.32	13.12
Neg_{t+1}	24588	1.380	0.860	-0.660	3.620	1.350
$Size_t$	24588	22.28	1.300	20.02	26.32	22.08
Lev_t	24588	0.420	0.200	0.0600	0.860	0.410
Age_t	24588	2.840	0.350	1.610	3.500	2.890
$Sigma_t$	24588	0.0600	0.0200	0.0300	0.140	0.0600
$Dturn_t$	24588	0.120	0.100	0.0100	0.520	0.0900
$Abacct_t$	24588	0.0500	0.0500	0	0.270	0.0400
Tax_t	24588	0.220	0.300	-0.640	1.980	0.180

4.2 Basic Regression Results

Table 3 documents the regression results using the relative pay gap (PayRatio) as an independent variable. Among them, when the risk of stock price crash is measured by the negative return skew coefficient NCSKEW, the coefficient before PayRatio is 0.0034, which is significantly positive at the 1% level; When the yield up and down volatility ratio DUVOL measures the risk of stock price crash, the coefficient before PayRatio is 0.0020, which is also significant at the 1% level, indicating that relative pay gap would significantly increase the risk of stock price crash. This suggests that the relative pay gap between executives and employees is increasingly becoming a scale in the minds of corporate stakeholders, and the higher the value, the more unequal aversion will drive them to react, leading to a higher risk of stock price crash. This validates the hypothesis H1 of this paper: the executive-employee pay gap is positively correlated with the risk of stock price crash.

It is further found that among the control variables, scale (Size), asset-liability ratio (Lev), establishment period (Age), volatility of characteristic weekly returns (Sigma), and the corporate transparency (Abacct) are significantly correlated with the risk of stock price crash[16-20].

Table 3. Basic Regression Results

	(1)	(2)
	$NCSKEW_{t+1}$	$DUVOL_{t+1}$
PayRatio	0.0034***	0.0020***
	(4.1027)	(3.6085)
Size	-0.0140***	-0.0237***
	(-2.5897)	(-6.6466)
Lev	-0.1516***	-0.0876***
	(-4.9219)	(-4.3650)
Age	-0.0779***	-0.0541***
	(-4.9625)	(-5.2942)
Sigma	0.6450**	-0.0545
	(2.1142)	(-0.2683)
Dturn	0.0186	0.0556
	(0.2932)	(1.3330)
Abacct	0.3149***	0.1281**
	(3.5138)	(2.1651)
Tax	-0.0213	-0.0058
	(-1.2364)	(-0.5415)
_cons	0.2318*	0.5059***
	(1.8048)	(5.9236)
N	24588	24588
Year	Yes	Yes
Industry	Yes	Yes
r2_a	0.0330	0.0413

Note: ***, **, and * represent significant at the levels of 1%, 5%, and 10%, respectively; The t-value is in parentheses, and the enterprise-level clustering robustness standard error is used.

4.3 Robustness Check

From the results of Table 4, it can be seen that when the absolute pay gap of executives and employees (PayGap) is used as the independent variable, the impact coefficients on the stock price crash risk indicators NCSKEW and DUVOL are 0.0239 and 0.0115, respectively, which are significantly positive at the level of at least 5%. The regression results after substituting the explanatory variables indicate that the measurement of the pay gap does not affect the correlation between the executive-employee pay gap and the risk of stock price crash, ensuring the robustness and completeness of the conclusion.

Table 4. Robustness Regression Results

	(1)	(2)
	$NCSKEW_{t+1}$	$DUVOL_{t+1}$
PayGap	0.0239***	0.0115**
	(3.3776)	(2.4914)
Size	-0.0150***	-0.0235***
	(-2.6446)	(-6.3309)
Lev	-0.1473***	-0.0863***
	(-4.7410)	(-4.2716)
Age	-0.0776***	-0.0538***
	(-4.9377)	(-5.2660)
Sigma	0.6397**	-0.0557
	(2.0970)	(-0.2744)
Dturn	0.0250	0.0596
	(0.3955)	(1.4302)
Abacct	0.3150***	0.1284**

	(3.5111)	(2.1686)
Tax	-0.0210	-0.0057
	(-1.2200)	(-0.5347)
_cons	-0.0172	0.3753***
	(-0.1327)	(4.3270)
N	24588	24588
Year	Yes	Yes
Industry	Yes	Yes
r2_a	0.0328	0.0410

4.4 Moderating effect Check

In this test, the next year's investor pessimism and relative pay gap (PayRatio) are centralized into interactive terms to verify whether the inequality aversion generated by market investors after learning about the company's internal pay news will exacerbate the positive impact of the pay gap on the risk of stock price crash. Comparing the regression results of column (1) and column (2), the coefficient before the interaction term was significantly positive at the 10% level. Columns (3) and (4) show the results with DUVOL as the dependent variable, and we can see that the coefficient before the interaction term is also positive and significant at the 1% level, indicating that the moderating effect of investor inequality aversion on the impact of pay ratio on stock price crash risk is significant, which verifies the hypothesis H2: Investors' inequality aversion will exacerbate the positive impact of the executive-employee pay gap on the risk of stock price crash, as shown in Table 5.

Table 5. Moderating effect Regression Results

	(1)	(2)	(3)	(4)
	$NCSKEW_{t+1}$	$NCSKEW_{t+1}$	$DUVOL_{t+1}$	$DUVOL_{t+1}$
PayRatio	0.0034***	0.0031***	0.0020***	0.0016***
	(4.1027)	(3.4648)	(3.6085)	(2.8030)
Neg_{t+1}*PayRatio		0.0018*		0.0017***
		(1.8981)		(2.6050)
Neg_{t+1}		-0.1480***		-0.0930***
		(-21.4257)		(-20.7655)
Size	-0.0140***	0.0363***	-0.0237***	0.0080**
	(-2.5897)	(6.1617)	(-6.6466)	(2.1040)
Lev	-0.1516***	-0.1654***	-0.0876***	-0.0960***
	(-4.9219)	(-5.4438)	(-4.3650)	(-4.8458)
Age	-0.0779***	-0.0405***	-0.0541***	-0.0307***
	(-4.9625)	(-2.6042)	(-5.2942)	(-3.0518)

Table 5 Moderating effect Regression Results (continued)

Sigma	0.6450**	1.8709***	-0.0545	0.7157***
	(2.1142)	(6.0540)	(-0.2683)	(3.4829)
Dturn	0.0186	0.2027***	0.0556	0.1714***
	(0.2932)	(3.1875)	(1.3330)	(4.1105)
Abacct	0.3149***	0.4059***	0.1281**	0.1853***
	(3.5138)	(4.5720)	(2.1651)	(3.1654)
Tax	-0.0213	-0.0222	-0.0058	-0.0063
	(-1.2364)	(-1.3104)	(-0.5415)	(-0.5984)
_cons	0.2318*	-0.8817***	0.5059***	-0.1926**
	(1.8048)	(-6.3318)	(5.9236)	(-2.1365)
N	24588	24588	24588	24588
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
r2_a	0.0330	0.0540	0.0413	0.0607

4.5 Heterogeneity analysis

The heterogeneity analysis of property rights is based on whether the enterprise is state-owned or not, and the sample is divided into two sub-samples, state-owned enterprises and non-state-owned enterprises, and the regression results are shown in Table 6, where panel A shows the regression results of state-owned enterprises, and the impact of the pay ratio on stock price crash risk is significantly positive in state-owned enterprises, and panel B shows that the relationship between the two is not significant in non-state-owned enterprises. Through the comparison of the significance of the coefficient of regression results between state-owned enterprises and non-state-owned enterprises in column (1) and the results of chow test, it can be seen that the relationship between the internal salary gap and the stock price crash risk is strong in state-owned enterprises, but not obvious in private enterprises, and the comparison through column (2) is similar, indicating that in state-owned enterprises due to stricter internal salary formulation and external supervision, they will pay more attention to fairness, and corporate stakeholders have a more obvious perception of unfairness, resulting in a stronger impact of the pay gap on the risk of stock price crash. Therefore, hypothesis H2 is verified: In state-owned enterprises, the executive- employee pay gap is more strongly correlated with the risk of stock price crash.

Table 6. Robustness Regression Results

	(1)	(2)
	$NCSKEW_{t+1}$	$DUVOL_{t+1}$
Plan A		
PayRatio	0.0049***	0.0033***
	(3.6008)	(3.8143)
Control variable	Yes	Yes
N	9211	9211
Year	Yes	Yes
Industry	Yes	Yes
r2_a	0.0371	0.0482
Plan B		
PayRatio	0.0009	0.0004
	(0.7657)	(0.5125)
Control variable	Yes	Yes
N	15377	15377
Year	Yes	Yes
Industry	Yes	Yes
r2_a	0.0293	0.0370
Chow test P value	0.021**	0.010***

5. Conclusion

This paper uses multiple regression method to study the relationship between the executive-employee pay gap and the stock price crash risk of listed companies by selecting the data of listed companies from 2011 to 2022. Firstly, whether a large executive-employee pay gap increases the risk of stock price crash is discussed, and then the robustness test is carried out by substitute variables, and the moderating variable of inequality aversion is further analyzed to test whether the market's inequality aversion will exacerbate the correlation between the two. Finally, the heterogeneity analysis is carried out based on the division of enterprise property rights, and the conclusions are as follows: (1) The larger the executive-employee pay gap, the higher the risk of stock price crash, mainly because the larger executive-employee pay gap will affect the behavior of corporate stakeholders such as executives, employees, shareholders and market investors, thereby increasing the risk of stock price crash. This includes over-investing and earnings management by executives, declining employee productivity, and selling behavior by investors due to inequality aversion. As a result, corporate stakeholder behavior triggered by the executive-employee pay gap increases the risk

of stock price crash. (2) Inequality aversion will exacerbate the positive impact of the executive-employee pay gap on the risk of stock price crash, and with the aggravation of social inequality, people will become more sensitive to the unfairness in society, so for companies with large pay gaps, investors will have inequality aversion, resulting in greater fluctuations in stock market performance. (3) In state-owned enterprises, the executive-employee pay gap is more strongly correlated with the risk of stock price crash. This is because stakeholders within state-owned enterprises, other than senior executives, are generally more concerned about fairness and have a greater perception of unfairness about high pay gaps.

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