



Agency Problem or Trade-off Hypothesis: The Implication of Corporation Cash Holding——Test Based on Crash risk

Shujun Sheng ^{1,a}

¹*School of business, Shanghai Normal University Tianhua Collegge, Jiading Shanghai, China*
^a *shengsj_1013@163.com*

Abstract

Based on the data of Shanghai-Shenzhen A-share listed companies in China from 2007 to 2019, the relationship between cash holding level and the risk of stock price collapse was verified. The study found that the increase in cash holdings of enterprises, increased management opportunistic behavior, leading to management can make higher on-the-job consumption and seek more compensation, when they implement these behaviors, they are bound to try to conceal; Over time, these actions are eventually discovered by the market and trigger a stock price crash, which manifests itself in cash holdings in capital markets as increasing the risk of a share price collapse; Further analysis found that effective internal and external governance can constrain management's opportunistic behavior.

Keywords: *cash holding; stock price crash risk; agency theory*

1. Introduction

Regarding the causes of the risk of stock price crash, in the past, scholars mainly analyzed from the perspective of investor heterogeneity and management's concealment of negative information. From the perspective of investors, investors who obtain negative information about the enterprise will withdraw from the market and adopt a wait-and-see state, resulting in some negative information being concealed within the company without being known to other investors, and these negative information will eventually be discovered by the market and trigger a stock price crash (Chen et al., 2001; Hong et al., 2003)^[1,11]. In view of the perspective of management concealing negative information, for the sake of self-interest, management will often selectively disclose favorable information and conceal negative information. This concealment of information can cause investors to react less to positive information than negative information (Kothari et al. 2009)^[15], triggering an asymmetrical distribution of stock prices. In the capital market, due to information asymmetry, management often encroaches on the company's cash flow out of self-interest motives such as promotion and reputation.

If you hide negative information from investors, the

market overestimates the company's share price. Internally, due to the continuous encroachment of the company's management on the cash flow, more and more negative information is accumulated, resulting in the greater deviation between the company's stock price and the company's internal value. When the number of negative information concealed by the company's management reaches the critical value, all negative information is concentrated in the capital market and released, resulting in the collapse of the stock price. Recently, some scholars have studied from the perspectives of management power (Luan Fugui, 2021)^[4], concealment of internal control defects and market-oriented level (NIE Shunjiang et al., 2021)^[5] on the significant role of stock price collapse risk, which have important enlightenment for preventing stock price collapse and promoting the health of capital market.

The academic issues about cash holding are mainly based on trade-off theory, pecking theory and agency theory. According to the trade-off theory, when enterprises decide the cash holding level, they may weigh the opportunity cost and shortage cost of cash holding, so as to achieve an optimal cash holding (Kim et al. 1998). Relative to the trade-off theory, the pecking theory gives a similar but not exactly the same way to explain why enterprises hold cash. Myers and majtuf (1984) believe that due to the existence of information

asymmetry, enterprises need to pay an excessive premium for financing from the outside. If enterprises have capital needs, they should first raise funds from the inside, and then consider obtaining funds from the external capital market. Under the framework of pecking theory, the cash assets of enterprises have become the main way of internal financing. The amount of cash held depends on the difficulty of financing and the investment opportunities faced by enterprises. Almeida et al. (2004)^[6] believed that enterprises that are difficult to raise funds from the capital market will have a higher proportion of cash assets retained when there is a net cash inflow as a channel for internal financing to deal with future investment opportunities.

This paper attempts to use the perspective of stock price collapse risk to explain enterprise cash holding. If the agency theory can explain it, it can be expected that with the increase of enterprise cash holding level, the management has more space to implement opportunistic behavior, and is more likely to occur the behavior expected by Jensen (1986) "free cash flow hypothesis"; At the same time, if the shareholders learn about the behavior of the management that damages the interests of shareholders, it is bound to affect the reputation of the management and even force the management to resign. Therefore, the management is bound to try to hide in order to maximize its own interests, and these behaviors will last for a long time until they are finally learned by investors, resulting in the sharp decline of stock price. Therefore, cash holdings are significantly positively correlated with the risk of stock price collapse. On the contrary, if the agency theory can not explain the cash holding of enterprises, the risk of stock price collapse will not change systematically with the level of cash holding.

Based on the above analysis, we use A-share listed companies in Shanghai and Shenzhen from 2007 to 2019 as a sample and find that cash holdings are significantly positively correlated with the risk of stock price collapse, which is in line with the expectation of agency theory; When we change the measurement indicators of cash holdings, add other control variables and use different measurement models to estimate, this conclusion is still valid. In addition, we hope to explore how cash holdings affect the risk of stock price collapse, that is, when cash holdings increase, it will aggravate the self-interest behavior of the management, and then affect the risk of stock price collapse. We use Baron and Kenny (1986)^[7] Sobel intermediary effect test and find that on-the-job consumption and salary have some intermediary effects. In other words, cash holdings exacerbate the risk of share price collapse through on-the-job consumption and compensation. Our empirical results support the cash holding agency theory.

The possible contributions of this paper are as

follows: what theory can be used to better explain the cash holding of enterprises? The current research is controversial. Opler et al. (1999)^[14] found that listed companies usually hold more cash than predicted by the trade-off theory. These companies with excess cash are more to prevent potential operating losses, which is more in line with the preventive motivation of Keynes (1936); Base et al. (2009)^[9] found that the cash holding level of Listed Companies in the United States increased year by year, but this was not caused by agency problems. However, Blanchard et al. (1994)^[8], Harford et al. (1999) and Richardson (2006) found that agency theory is more supported. In addition, Faulkender and Wang (2006)^[13] found that when enterprises face less financing constraints, the value of cash holdings is also lower, which is in line with the expectation of agency theory. This paper starts from the perspective of stock price collapse risk to explain cash holdings. It is found that the use of agency theory can better explain the cash holdings of listed companies. Our research helps to deepen the understanding of enterprise cash holdings, enrich the literature research of agency theory, and provide research direction for seeking more effective ways of corporate governance.

This paper expands the literature research on the risk of stock price collapse, mostly from investor heterogeneity (Chen et al., 2001; Hong et al., 2003), information asymmetry (Jin and Myers, 2006; Hutton et al., 2009), tax evasion (Kim et al., 2011a), analyst conflict of interest (Xu Nianxing et al., 2012)^[2], accounting conservatism (Kim et al., 2016a) Management power (Luan Fugui et al., 2021) and internal control defects (NIE Shunjiang et al., 2021) explain the risk of stock price collapse. However, there is no research to explain the risk of stock price collapse from the perspective of corporate cash holdings. We find that corporate cash holdings exacerbate the risk of stock price collapse, which is due to the increased self-interest motivation of management with the increase of cash holdings. At the same time, the article deepens the understanding of stock price collapse, and also provides ideas for studying the risk of stock price collapse. Finally, if the stock price has extremely negative returns, it will seriously damage the interests of investors, but investors can not reduce the risk of stock price collapse by building a portfolio. They can only rely on investors to screen which company to invest in at the technical level (Sunder, 2010). Our research helps investors make screening investment decisions.

2. Theoretical analysis and research hypothesis

Jin and Myers (2006)^[12] and Hutton et al. (2009) proposed that after the management conceals the risk of stock price collapse due to negative information, scholars' follow-up analysis mainly follows this idea. In view of the management's need to keep their position,

reputation and promotion, they often selectively disclose good information to the outside world and conceal negative information (Ball, 2009; Kothari et al. 2009). With the passage of time, the number of negative information concealed by the management increases gradually, resulting in the difficulty of concealment; The management keeps concealing negative information until a certain time point. When the negative information increases to such an extent that it is difficult to conceal it, all the negative information is concentrated in the release of the capital market, causing the stock price collapse (Kim et al., 2011a; 2011B)^[10]. Therefore, how does corporate cash holdings affect the risk of stock price collapse?

Therefore, this paper infers that companies with higher cash holdings are more prone to the research content mentioned in Jensen (1986) "free cash flow hypothesis". Because corporate liabilities can restrict the agency behavior of management (Jensen and Meckling, 1976), However, high cash holdings offset the corporate governance effect of debt; In addition, cash assets actually constitute assets at the discretion of the management. If the management encroaches on the company's special assets, they must sell them in the market and pay excessive transaction costs, which will not occur if they encroach on the company's cash assets. Therefore, the agency theory can fully explain the reasons why listed companies are willing to hold more cash. If the agency can explain the cash holding, it can predict that when the enterprise's cash holding level is higher, it will aggravate the motivation of the management to abuse the company's cash flow. At the same time, it can more easily implement the embezzlement behavior, and it is more likely to carry out the behaviors that damage the interests of shareholders, such as over investment, high on-the-job consumption, profligacy and waste.

After the implementation of these self-interest behaviors by the management, if it is known by the shareholders, it is bound to affect its position, reputation and promotion. Then the management must try to hide a lot of negative information inside the company and the company's share price is seriously overvalued. Over time, these negative information accumulated within the company gradually increased. Finally, at a certain point, all negative information was released in the capital market, causing investors to rush to sell the company's shares and exacerbate the sharp decline of the share price. Therefore, if the agency theory can explain enterprise cash holdings, it can be expected that with the increase of enterprise cash holdings, it will aggravate the opportunistic behavior of management, make it more likely to encroach on the property of listed companies, and try to hide its encroachment behavior, so that cash holdings will aggravate the risk of stock price collapse in the market. Based on the above analysis mechanism, this paper puts forward the hypothesis that the

company's cash holding level is significantly positively correlated with the stock price collapse.

3. Research design and model construction

3.1. Sample selection and data sources

Taking the A-share listed companies from 2007 to 2019 as the research sample, according to the practice (1) excluding the financial listed companies, (2) excluding the insolvent companies, (3) excluding the companies with missing samples, (4) in order to ensure the reliability of the measurement of the risk index of stock price collapse, excluding the samples with the annual stock weekly return of less than 30 observations. At the same time, in order to control the influence of outliers on the regression results, we winsorize the upper and lower 1% quantiles of continuous variables. The data of the article are from Guotai'an database.

3.2. Model design and variable definition

3.2.1. Risk of share price collapse

Based on previous studies (Chen et al., 2001; Hutton et al., 2009; Kim et al., 2011a, 2011B; Xu et al., 2014; Cao Haimin et al., 2019^[3]; Luan Fugui et al., 2021), we use negative skew return of stock price (nckew) and fluctuation ratio of stock price (duvol) to measure the risk of stock price collapse.

First, we need to calculate the stock specific rate of return, and carry out the following regression by year:

$$R_{i,t} = \beta_0 + \beta_1 R_{m,t+2} + \beta_2 R_{m,t+1} + \beta_3 R_{m,t} + \beta_4 R_{m,t-1} + \beta_5 R_{m,t-2} + \varepsilon_{i,t}$$

Where $R_{i,t}$ represent the market return rate of stock i in week T , $R_{m,t}$ represent the comprehensive return rate of A-share market in week T . at the same time, the super front and lag terms of the comprehensive return rate of A-share market are added to the model, so as to eliminate the impact of market trend on stock return and return the residual $\varepsilon_{i,t}$ represents the part of the stock return that cannot be explained by the return fluctuation of the whole market, and the further transformation reflects the unique return of the company.

Firstly, the negative skewness coefficient of stock price (nckew) is used to measure the risk of stock price collapse. It is obtained by calculating the ratio of the third-order moment of weekly special return and the second-order moment of weekly special return, where n represents the trading weeks of the this stock in year t . The greater the negative skewness coefficient of stock price (nckew), the higher the risk of collapse.

$$NCSKEW_{i,t} = [n(n-1)^2 \sum W_{i,t}^3] \div [(n-1)(n-2) (\sum W_{i,t}^2)^{3/2}]$$

Secondly, the fluctuation ratio of stock price (duvol) is used to measure the risk of stock price collapse. The ratio of the second moment of weekly special yield when the stock price of the *i*th stock goes down and the second moment of weekly special yield when the stock price goes up in the *T* year is calculated, and then it is obtained by logarithmic conversion. If the weekly special rate of return is higher than the average annual special rate of return, it means that the stock price rises. The higher the price fluctuation ratio (duvol), the more serious the left deviation of the specific yield of the stock in year *t*, which reflects the higher the risk of stock price collapse.

$$DUVOL_{i,t} = \log \{ [(n_u - 1) \sum_{Down} W_{i,t}^2] \div [(n_d - 1) \sum_{Up} W_{i,t}^2] \}$$

3.2.2. Cash holding level

Based on the research of Opler et al. (1999), Faulkender and Wang (2006), Lu Zhengfei and Han Feichi (2013), this paper defines the cash holding level (monetary capital + trading financial assets) / (total assets - monetary capital - trading financial assets).

3.2.3. Control variables

Chen et al. (2001) found that the negative skewness coefficient of the previous period was significantly positively correlated with the collapse risk of the current period, so we added the lag term *n*skew_{*t*} of the stock price collapse risk as the control variable; Since the monthly excess stock turnover rate can be used as a proxy variable for investors' choice and has a significant positive correlation with the risk of future stock price collapse (Chen et al., 2001), we choose the monthly

excess stock turnover rate *d*turnover_{*t*} as the control variable; At the same time, Chen et al. (2001) found that there was a significant positive correlation between the past return of stock and the risk of future stock price collapse, so we added the mean value of stock specific weekly return (ROA) as the control variable; At the same time, companies with greater yield volatility are more likely to have a stock price crash, so we add the standard deviation of weekly special yield of stocks (*sigma*) to control the impact of yield volatility on crash risk; At the same time, based on previous studies (Xu et al., 2004; Kim et al., 2011a; 2011B), the natural logarithm (*size*), asset liability ratio (*Lev*), market to book ratio (*MB*) and return on total assets (*ROA*) reflecting profitability are added to control the impact of company characteristics.

3.2.4. Build measurement model

Build the following measurement model to measure the impact of cash holdings on the risk of stock price collapse:

$$Crash\ Risk_{i,t+1} = \beta_0 + \beta_1 Cash_{i,t} + \beta Controls + IND + YEAR + \epsilon$$

Among them, *crashrisk* represents the risk of stock price collapse, which is measured by the negative skewness coefficient of stock price (*n*skew) and the fluctuation ratio of stock price (*duvol*), *cash* represents the cash holding level, which is obtained by using the sum of corporate cash and transactional financial assets compared with non cash assets. *Controls* is the control variable we designed earlier. At the same time, we control the industry and annual fixed effects in the model, and study according to Petersen (2009), Adjust the standard error to the company level cluster to control the cross-sectional heteroscedasticity. The definitions of relevant variables are shown in Table 1.

Table 1 variable definition

Variable name	Symbol	Definition and measurement of variables
Explained variable	<i>NCSKEW_{i,t+1}</i>	The negative skewness coefficient of the weekly stock return of the <i>i</i> th stock <i>t</i> + 1. The higher the ratio of <i>n</i> skew, the higher the risk of stock price collapse
	<i>DUVOL_{i,t+1}</i>	The fluctuation ratio of <i>T</i> + 1 weekly yield of the <i>i</i> th stock. The higher the ratio of <i>duvol</i> , the higher the risk of stock price collapse
Explanatory variable	<i>Cash_{i,t}</i>	Cash holding level. <i>Cash_{i,t-1}</i> = (cash + trading financial assets) ÷ (total assets - Cash - trading financial assets)
control variable	<i>NCSKEW_{i,t}</i>	Negative skewness coefficient of stock return of company <i>I</i> in period <i>T</i>
	<i>SIGMA_{i,t}</i>	Stock returns fluctuate. Standard deviation of weekly special return of company <i>I</i> 's stock in period <i>T</i>
	<i>RET_{i,t}</i>	Average stock return. The average value of the special weekly rate of return of the stock of company <i>I</i> in period <i>T</i>

	SIZE _{i,t}	Company size. Natural logarithm of total assets of company I in phase t
	LEV _{i,t}	Corporate financial leverage. Asset liability ratio of company I in the T period
	ROA _{i,t+1}	Return on total assets. Ratio of net profit and total assets of the company I in period T + 1
	MB _{i,t}	Market to book ratio. Ratio of total market value to net assets in phase t of company
	DTurn _{i,t}	Excess turnover rate. The monthly average turnover rate of company I's stock in period T minus the monthly average turnover rate in period T-1
	ABACC _{i,t}	Degree of information asymmetry. $(Daci, t + Daci, T-1 + Daci, T-2) \div 3$, where $ DAC $ is the absolute value of the modified Jones coefficient calculated according to dechow et al. (1995) to measure earnings management. Hutton et al. (2009) used $ DAC $'s 3-year moving weighted average to measure information asymmetry, so we also used this method to measure the degree of information asymmetry.
	YEAR	Dummy variable. Control annual fixed effect
	INDUSTRY	Dummy variable. Control the fixed effect of the industry and divide the industry according to the industry classification guidelines of China Securities Regulatory Commission (2012)

4. Analysis of empirical results

4.1. Descriptive statistics of main variables

The results of descriptive statistical analysis of main variables are listed in Table 2. It can be seen that the mean value of ncskew -0.252 and duvol -0.167 are basically consistent with the research results of scholars Jiang Xuanyu, Xu Nianxing (2015) and Xu Nianxing

(2012), and the standard deviations are 0.677 and 0.468 respectively, indicating that there are great differences between the two indicators of the research samples; The result of cash ratio is 0.188, which is not far from that of Lu Zhengfei and Han Feichi (2013). At the same time, it is roughly the same as that of faulkender and Wang (2006) using the U.S. capital market, and the range of other control variables is within a reasonable range.

Table 2 Descriptive statistics of main variables

Variable name	Observe	mean value	standard deviation	p25	median	p75
NCSKEW	15501	-0.252	0.677	-2.299	-0.218	1.637
DUVOL	15501	-0.167	0.468	-1.319	-0.168	1.049
Cash	15501	0.188	0.137	0.000	0.151	1.000
Size	15501	22.13	1.279	19.81	21.94	26.06
ROA	15501	0.042	0.051	-0.157	0.037	0.195
LEV	15501	0.441	0.205	0.0540	0.440	0.870
RET	15501	0.003	0.012	-0.020	0.001	0.037
Sigma	15501	0.066	0.025	0.026	0.061	0.148
MB	15501	0.617	0.239	0.131	0.616	1.111
DTURN	15501	-0.138	0.487	-1.983	-0.076	0.970
ABACC	15501	0.066	0.075	0.001	0.043	0.435

4.2. Regression analysis

4.2.1. Regression results of cash holdings and stock price crash risk

Table 3 and table 4 respectively report the results of regression analysis with the negative skewness coefficient of stock price (ncskew) and the fluctuation

ratio of stock price (duvol) as the explanatory variables. In the first column, we only regress ncskewt + 1 with the control variable. Chen et al. (2001) found that the negative skewness coefficient of stock price can predict the risk of future stock price collapse. The higher the negative skewness coefficient in this period, the greater the risk of future stock price collapse. Our results show that the T value of ncskewt is 10.63, which is consistent

with the findings of Chen et al. (2001).

In columns 2 to 4, we add the explanatory variable cash holding (casht). In column 2, we do not add the control variable, but only do univariate regression. The regression results show that the coefficient of casht is 0.286, and the T value is 6.24, which is significantly positive at the level of 1%, indicating that with the increase of enterprise cash holding level, the risk of stock price collapse also increases; In column 3, we add the control variable in column 1. The coefficient of casht is 0.110, which is still significantly positive, indicating that the results of previous empirical analysis are not due to the omission of important explanatory variables. Finally, Hutton et al. (2009) used earnings management as the proxy variable of information transparency to test the ability of information transparency to predict the risk of stock price collapse. Considering that when the degree of information asymmetry is high, it is more helpful for the management to use the company's cash assets to implement their opportunistic behavior. In order to control this impact, we added earnings management variable (abacc) in column 4. We found that after adding earnings management (abacc), The conclusion is still valid. In addition, when we choose the

fluctuation ratio of stock price (duvol) as the measurement index of stock price collapse risk, the conclusion remains unchanged and will not be repeated here. To sum up, the results of the empirical test basically verify our previous assumptions. With the increase of cash holding level, the tendency of the management to implement opportunistic behavior also intensifies. If the opportunistic behavior implemented by the management is found by the shareholders, it will inevitably affect the position and reputation of the management, and make it difficult for the management to implement similar behavior in the future. Therefore, the management must try to hide these behaviors that damage the interests of shareholders until they are finally found by the capital market, and all negative information is exposed, causing a crash.

We then focus on whether adding cash holding (cash) can increase the explanatory power of the model. We found that whether ncskewt + 1 is used as the explained variable or duvol + 1 is used as the explained variable, after adding casht in column 3, the adjusted R2 of the model increases compared with that without casht in column 1.

Table 3 regression results of cash holdings and stock price crash risk

	(1)	(2)	(3)	(4)
	NCSKEWt+1	NCSKEWt+1	NCSKEWt+1	NCSKEWt+1
Casht		0.286*** (6.24)	0.110** (2.34)	0.109** (2.32)
NCSKEWt	0.079*** (10.63)		0.082*** (9.25)	0.081*** (9.24)
Size	-0.003 (-0.44)		-0.018*** (-2.66)	-0.018*** (-2.60)
ROA	0.264** (2.28)		0.429*** (3.15)	0.425*** (3.12)
LEV	-0.073** (-2.23)		-0.002 (-0.05)	-0.005 (-0.13)
RET	10.240*** (13.14)		7.906*** (8.35)	7.888*** (8.33)
Sigma	-0.278 (-0.83)		-0.071 (-0.18)	-0.095 (-0.24)
MB	-0.192*** (-5.80)		-0.173*** (-4.55)	-0.172*** (-4.52)
DTURN	-0.062*** (-5.31)		-0.056*** (-3.89)	-0.056*** (-3.85)
ABACC				0.073 (0.99)
Constant	-0.029 (-0.22)	-0.078* (-1.65)	0.232 (1.55)	0.221 (1.48)
Industry / year	control	control	control	control
N	15501	15501	15501	15501
Adj.R2	7.00%	5.70%	7.91%	7.91%
F	47.574	35.960	38.601	37.579

Table 4 regression results of cash holdings and stock price crash risk

	(1)	(2)	(3)	(4)		
	DUVOLT _{t+1}	DUVOLT _{t+1}	DUVOLT _{t+1}	DUVOLT _{t+1}		
Casht		0.229*** (7.19)	0.096*** (2.95)	0.096*** (2.93)		
NCSKEW _t	0.049*** (9.74)		0.053*** (8.75)	0.052*** (8.71)		
Size	-0.016*** (-3.97)		-0.026*** (-5.55)	-0.025*** (-5.49)		
ROA	0.151* (1.94)		0.280*** (3.00)	0.277*** (2.97)		
LEV	-0.059*** (-2.71)		-0.016 (-0.61)	-0.018 (-0.69)		
RET	7.081*** (13.20)		5.686*** (8.55)	5.672*** (8.53)		
Sigma	-0.517** (-2.31)		-0.331 (-1.21)	-0.349 (-1.27)		
MB	-0.088*** (-3.98)		-0.071*** (-2.74)	-0.070*** (-2.71)		
DTURN	-0.040*** (-5.12)		-0.030*** (-2.93)	-0.029*** (-2.89)		
ABACC				0.053 (1.07)		
Constant	0.279*** (3.20)	-0.064* (-1.91)	0.435*** (4.30)	0.427*** (4.22)		
Industry / year	control	control	control	control		
N	15501	15501	15501	15501		
Adj.R2	7.51%	6.01%	8.29%	8.30%		
F	49.206	37.043	39.427	38.392		
Industry / year	control	control	control	control	control	control
N	15501	15460	15460	15501	15460	15460
Adj.R2	8.14%	42.17%	8.15%	8.52%	42.17%	8.52%
F	37.58	94.37	36.65	38.39	94.37	37.46

4.2.2. Robustness test

We use other indicators to measure cash holdings. We use the ratio of monetary capital to trading financial assets to total assets to measure the level of cash holdings; It is found that our conclusion is still robust when we replace other indicators to measure the level of cash holdings.

5. Research conclusions and suggestions

If the agency motivation can explain the cash holding of listed companies, the management has the motivation to hold more cash in order to make more over investment and higher on-the-job consumption. After they implement these behaviors, they are bound to hide them in various ways. However, the negative

information hidden by the management will eventually be found by the capital market over time, aggravating or causing the stock price collapse. We use the data of Chinese A-share listed companies from 2007 to 2019 to verify. The empirical results show that corporate cash holdings exacerbate the risk of future stock price collapse. After adding a series of corporate characteristic variables, the conclusion is still valid; After changing the measurement indicators of cash holdings and using different measurement models, the conclusion remains unchanged. We further test the intermediary effect between cash holdings and stock price collapse risk. We find that cash holdings exacerbate the risk of stock price collapse through on-the-job consumption and compensation. To sum up, our results support the agency theory of cash holding.

We further prove that if the agency theory can better explain the enterprise's cash holding, when the enterprise's cash holding is insufficient, with the increase of cash holding, the self-interest behavior of management is more likely to occur, which will exacerbate the risk of stock price collapse. Our empirical results show that, compared with pecking theory, agency theory may better explain the cash holding motivation of Listed Companies in China, which may be due to the lack of protection for investors. Based on the research conclusion, this paper believes that the proposal is to form effective supervision over the management. When the risk coefficient of cash holding and stock price collapse is lower and the coefficient difference is statistically significant, the key to solve the problem is to standardize corporate governance and deal with the marketization process, so as to alleviate the agency problem of insiders and shareholders, protect the interests of investors and facilitate the healthy development of the capital market.

References

- [1] Hong, Harrison, and Jeremy C. Stein. "Differences of opinion, short-sales constraints, and market crashes." *The Review of Financial Studies* 16.2 (2003): 487-525.
- [2] Xu Nianxing, Jiang Xuanyu, Yi Zhihong, Xu Xinzhong Analysts' conflict of interest, optimism bias and stock price collapse risk [J] *Economic research*, 2012,47 (07): 127-140
- [3] Cao Haimin, Meng Yuan Is corporate charitable donation hypocritical -- a study from the perspective of stock price collapse risk [J] *Accounting research*, 2019 (04): 89-96.
- [4] Luan Fugui, Zhao ailing Management power and the risk of stock price collapse [J] *Friends of accounting*, 2021 (06): 109-117.
- [5] Nie Shunjiang, Tian xunhoe, Zi Ruofei Concealment of internal control defects, marketization level and stock price collapse risk [J] *Friends of accounting*, 2021 (14): 95-102 Li Renhua, Zhan Yiwei Communicating the impact of key audit matters on audit quality -- An Empirical Test Based on the implementation of Auditing Standard No. 1504 [J] *Friends of accounting*, 2019 (13): 13-18.
- [6] Almeida, Heitor, Murillo Campello, and Michael S. Weisbach. "The cash flow sensitivity of cash." *The Journal of Finance* 59.4 (2004): 1777-1804.
- [7] Baron, Reuben M., and David A. Kenny. "The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations." *Journal of personality and social psychology* 51.6 (1986): 1173.
- [8] Blanchard, Olivier Jean, Florencio Lopez-de-Silanes, and Andrei Shleifer. "What do firms do with cash windfalls?." *Journal of financial economics* 36.3 (1994): 337-360.
- [9] Bates, Thomas W., Kathleen M. Kahle, and René M. Stulz. "Why do US firms hold so much more cash than they used to?." *The journal of finance* 64.5 (2009): 1985-2021.
- [10] Kim, Jeong-Bon, Yinghua Li, and Liandong Zhang. "CFOs versus CEOs: Equity incentives and crashes." *Journal of Financial Economics* 101.3 (2011): 713-730.
- [11] Chen, Joseph, Harrison Hong, and Jeremy C. Stein. "Forecasting crashes: Trading volume, past returns, and conditional skewness in stock prices." *Journal of financial Economics* 61.3 (2001): 345-381.
- [12] Jin, Li, and Stewart C. Myers. "R2 around the world: New theory and new tests." *Journal of financial Economics* 79.2 (2006): 257-292.
- [13] Faulkender, Michael, and Rong Wang. "Corporate financial policy and the value of cash." *The Journal of Finance* 61.4 (2006): 1957-1990.
- [14] Opler, Tim, et al. "The determinants and implications of corporate cash holdings." *Journal of financial economics* 52.1 (1999): 3-46.
- [15] Kothari, Sabino P., Susan Shu, and Peter D. Wysocki. "Do managers withhold bad news?." *Journal of Accounting Research* 47.1 (2009): 241-276.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

