Research on the Impact of Common Institutional Ownership on Stock Price Crash Risk

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Abstract. Preventing and mitigating stock price crash risk has been a persistent focus in academic research. Targeting the ownership structure characteristic of common institutional ownership, this study empirically examines its impact on stock price crash risk using a sample of A-share listed companies from 20011 to 2023.The findings reveal that firms with common institutional ownership can effectively mitigate stock price crash risk, thereby supporting the "collaborative governance hypothesis. "The aforementioned conclusions remain valid after robustness checks using alternative models. Mechanism tests reveal that information transparency and corporate governance level play partial mediating roles in the relationship between common institutional ownership and stock price crash risk.

Keywords: Common institutional ownership, Stock price crash risk, Institutional investors, Internal governance.

1. Introduction

Since the establishment of China's capital market, institutional investors have continued to develop and expand. The market value of their shareholdings increased from 3.62 trillion yuan in 2007 to 30.25 trillion yuan in 2019, with their proportion of total market capitalization rising from 11% to 51%, highlighting their increasingly important market position. Although there remains a gap compared to the institutional ownership ratio of over 60% in the U.S. market, the enhanced professional capabilities and expanded scale of shareholdings of institutional investors have made them a significant force influencing the capital market.

In recent years, with the increase in institutional merger and acquisition cases, the phenomenon of common institutional ownership has gradually emerged. This ownership structure is characterized by a single institution holding shares in multiple enterprises within the same industry. In mature markets, it has been proven to exert a "synergistic governance" effect by promoting industry cooperation, improving corporate governance, and achieving economies of scale. Research based on Chinese listed companies also shows that common institutional ownership can effectively enhance the quality of corporate earnings information, demonstrating significant governance and supervisory functions.

In the current complex economic environment, preventing stock price crash risk holds important practical significance. Stock price crashes not only damage corporate value and investor confidence but may also trigger systemic risks, affecting the stable operation of the market. As a core element of corporate governance, ownership structure directly influences shareholder behavior, thereby profoundly impacting enterprises' investment and financing decisions, information disclosure, and governance levels.

Different from traditional research perspectives, this study takes common institutional ownership as the entry point and examines the impact of this equity model on stock price crash risk based on data from A-share listed companies from 2007 to 2020. The research finds that common institutional ownership can significantly reduce stock price crash risk, with its mechanism primarily stemming from the improvement of information quality and the refinement of governance structures. Further analysis indicates that this risk suppression effect is more pronounced in state-owned enterprises and industries with lower competition levels.

This research not only expands the theoretical study of institutional ownership and corporate governance but also provides practical references for regulatory authorities to improve policies, for

listed companies to optimize governance, and for investors to identify risks. It holds positive significance for promoting the stable development of the capital market.

2. Literature Review

Current research on the formation mechanism of stock price crash risk is primarily based on principal-agent theory and information asymmetry theory, focusing on two dimensions: corporate information environment and management behavior. On one hand, information opacity creates conditions for management to conceal bad news, preventing external investors from accurately assessing company value. Once the truth is revealed, it can trigger a stock price crash (Jin & Myers, 2006). On the other hand, management may have incentives to delay the disclosure of negative information in pursuit of private benefits (such as excess compensation, career advancement, etc.) (Kim et al., 2011). When accumulated bad news reaches a tipping point and is released collectively, it triggers stock price crashes.

Existing studies have explored the influencing factors of stock price crash risk from both internal and external corporate perspectives, including internal factors such as ownership structure, information disclosure, investment and financing behaviors, and internal control, as well as external factors like audit supervision, institutional investors, and media coverage. However, with market development, there remains a need to further explore new risk mitigation mechanisms. Differing from traditional research on independent institutional shareholding or "herding" behavior, this study focuses on the emerging phenomenon of common institutional ownership, examining its impact on stock price crash risk through improving the information environment and suppressing the accumulation of negative information.

Notably, most existing literature analyzes the "broker" attribute of institutional investors from a single dimension such as shareholding, neglecting their collaborative governance capabilities formed through investment networks. Common institutional ownership possesses three distinct characteristics: industry hub status, integration effects, and economies of scale, which may generate dual effects of "collaborative governance" and "collusive fraud." Scholars supporting the "collaborative governance" view argue that common institutional shareholders can promote corporate innovation, optimize merger decisions, and enhance information disclosure quality (He & Huang, 2017; Ramalingegowda et al., 2021). Meanwhile, research supporting the "collusion" perspective indicates they may harm competition by manipulating product markets (Azar et al., 2018).

3. Introduction to variable and Its Modeling Design

3.1. Variable Selection

This study selects A-share listed companies from 2011 to 2023 as the data sample and applies the following screening criteria: (1) exclusion of ST, *ST, and financial industry enterprises; (2) exclusion of samples with missing data after consolidation. The data used to construct common institutional ownership indicators are sourced from quarterly institutional investor holding details in the CSMAR database, while other firm-level data are all obtained from the CSMAR database.

The explanatory variable is the common institutional ownership nominal variable (CIO). The phenomenon of common institutional ownership occurs when an institutional investor holds shares in two or more enterprises within the same industry, with each holding proportion exceeding 5%. If a company has institutional co-holdings in any quarter of the same fiscal year, the variable Coz takes the value of 1; otherwise, it is 0.

The dependent variables in this study are measured using two methods to assess stock price crash risk: the negative coefficient of skewness (NCSKEW) and the up-down volatility ratio (DUVOL).

Drawing on existing literature, the following control variables are employed: weekly idiosyncratic stock return (Ret), stock return volatility (Sigma), monthly average excess turnover rate (Dturn), asset-liability ratio (Lev), book-to-market ratio (Bmt), firm size (Size), profitability (Roa),

shareholding ratio of the largest shareholder (Top1), combined shareholding ratio of the top ten shareholders (Top10), equity balance (Balance), and institutional investor shareholding ratio (Institu). To mitigate the influence of macroeconomic conditions and industry characteristics on the results, this study further controls for year fixed effects (Year) and industry fixed effects (Industry).

3.2. Modeling Design

To examine the impact of common institutional ownership on stock price crash risk, the following empirical model is constructed:

$$CR_{i,t} = \beta_0 + \beta_1 CIO_{i,t} + \gamma Controls_{i,t} + Year_t + Industry_t + \varepsilon_{i,t}$$

Among them, $CR_{i,t+1}$represents stock price crash risk, measured by $NCSKEW_{i,t+1}$and $DUVOL_{i,t+1}$respectively; $CIO_{i,t}$denotes common institutional ownership; the definitions of the control variables in $Controls_{i,t}$are provided in the variable table; $Year_t$and $Industry_t$represent year and industry fixed effects, respectively; and $\varepsilon_{i,t}$is the random disturbance term.

4. Empirical analysis

4.1. Baseline Regression

Table 1. Common institutional ownership and stock price crash risk

	(1)	(2)
	$NCSKEW_{t+1}$	$DUVOL_{t+1}$
CIO	-0.030**	-0.016*
	(-2.181)	(-1.734)
Controls	Yes	Yes
Year	Yes	Yes
Industry	Yes	Yes
N	30741	30741
Adj-R^2	0.043	0.062

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. t-statistics are reported in parentheses.

The regression results show that common institutional ownership (CIO) exhibits statistically significant negative correlations with both the negative return skewness coefficient ($NCSKEW_{t+1}$) and the return volatility ratio ($DUVOL_{t+1}$). This demonstrates that common institutional ownership can effectively reduce the probability of stock price crash risk, supporting the "collaborative governance hypothesis" that common institutional ownership helps mitigate stock price crash risk.

4.2. Robustness Test

Since this study employs panel data, issues related to time series and cross-sectional dependence across firms may affect the research results. Therefore, two-dimensional cluster-robust standard errors, adjusted at both the firm and year levels, are applied to the regression model.

Table 2 reports the regression results after two-way clustering adjustment at the firm and year levels. The regression results in Table 2 show that the coefficients of common institutional ownership (CIO) are significantly negative in both the regressions on $NCSKEW_{t+1}$ and $DUVOL_{t+1}$, indicating that common institutional ownership can reduce stock price crash risk, which is consistent with the baseline regression results.

Table 2. Regression results with two-way clustering by firm and year

	(1)	(2)
	$NCSKEW_{t+1}$	$DUVOL_{t+1}$
CIO	-0.030**	-0.016*
	(-2.007)	(-1.653)
Controls	Yes	Yes
Year	Yes	Yes
Industry	Yes	Yes
N	30741	30741
Adj-R^2	0.042	0.061

4.3. Mechanism Tests

From an agency perspective, the first type of agency problem motivates management to pursue personal benefits, leading them to invest in projects with negative net present value (NPV) for further expansion, thereby exacerbating corporate overinvestment. Research has found that due to agency problems between shareholders and management, managers tend to engage in overinvestment, which increases stock price crash risk. Therefore, this study hypothesizes that overinvestment is a pathway through which common institutional ownership affects stock price crash risk. Specifically, common institutional investors strengthen the supervision and governance of management, reducing management's tendency toward overinvestment and ultimately lowering the likelihood of stock price crashes.Drawing on the research of Richardson (2006), the following model is constructed to measure overinvestment (OVINV), and the residuals of the model are obtained. A positive residual indicates the presence of overinvestment, while a negative residual indicates underinvestment. If the residual is greater than 0, it remains unchanged; if it is less than 0, it is set to 0.

$$Inv_{i,t} = \beta_0 + \beta_1 Q_{i,t-1} + \beta_2 Lev_{i,t-1} + \beta_3 Cash_{i,t-1} + \beta_4 Age_{i,t-1} + \beta_5 Size_{i,t-1} + \beta_6 Ret_{i,t-1} + \beta_7 Inv_{i,t-1} + \sum Year + \sum Industry + \varepsilon_{i,t}$$

Among these, Inv represents the investment level of the company in the current year, calculated as (expenditures on the acquisition and construction of fixed assets, intangible assets, and other long-term assets + net cash paid to acquire subsidiaries and other business units - depreciation of fixed assets, depletion of oil and gas assets, depreciation of productive biological assets - net cash received from the disposal of fixed assets, intangible assets, and other long-term assets) / total assets; Q is Tobin's Q; Lev is the asset-liability ratio; Cash is the ratio of cash and cash equivalents to total assets; Age is the natural logarithm of the number of years since the company went public;Size is the natural logarithm of the company's total assets; Ret is the annual stock return considering the reinvestment of cash dividends.

From an information perspective, financial statements serve as the primary channel for external investors to access internal company information. Earnings management practices impede the transmission of true accounting information, exacerbating information asymmetry between the firm and external investors, thereby increasing stock price crash risk. In other words, earnings management reflects the quality of management's information disclosure.Calculation of Earnings Management (EM) with Reference to the Modified Jones Model

Therefore, common institutional ownership may reduce stock price crash risk by curbing overinvestment and constraining earnings management.

To test the mediating effects of overinvestment and earnings management, the following mediation effect models are constructed:

$$MEDIATOR_{i,t} = \beta_0 + \beta_1 CIO_{i,t} + \gamma Controls_{i,t} + Year_t + Industry_t + \varepsilon_{i,t}$$

Among them, $MEDIATOR_{i,t+1}$represents stock price crash risk, measured by $OVINV_{i,t}$and $EM_{i,t}$respectively; $CIO_{i,t}$denotes common institutional ownership; the definitions of the control variables in $Controls_{i,t}$are provided in the variable table; $Year_t$and $Industry_t$represent year and industry fixed effects, respectively; and $\varepsilon_{i,t}$is the random disturbance term.

Table 3. Mechanism test regression results

	(1)	(2)
	OVINV	EM
CIO	-0.007***	-0.003**
	(-4.632)	(-2.253)
Controls	Yes	Yes
Year	Yes	Yes
Industry	Yes	Yes
N	26773	30075
Adj-R^2	0.038	0.105

Table 3 presents the regression results of the mechanism tests. The coefficients of the three measurement indicators of common institutional ownership on both overinvestment and earnings management are significantly negative, indicating that common institutional ownership significantly reduces management's overinvestment behavior and earnings manipulation, thereby lowering stock price crash risk.

5. Summary

Focusing on whether common institutional ownership affects stock price crash risk through the "collaborative governance" effect or the "collusive fraud" effect, this study conducts an in-depth analysis using data from A-share listed companies from 2011 to 2023. The findings reveal that firms with common institutional ownership effectively reduce stock price crash risk, supporting the "collaborative governance" hypothesis. This conclusion remains robust after rigorous sensitivity tests. Mechanism tests further indicate that information transparency and corporate governance level partially mediate the relationship between common institutional ownership and stock price crash risk.

These findings provide empirical evidence of the governance role played by common institutional large shareholders in the stock market, deepen the discussion on "shareholder activism" exercised by institutional investors, and enrich the research perspective on common institutional ownership. The results offer certain reference value for further guiding institutional investors to participate in corporate governance. However, a more comprehensive understanding of the phenomenon of common institutional ownership is still required. First, although common institutional ownership demonstrates positive effects in the context of crash risk due to its advantages in "collaborative governance" and information resources, how to better leverage this external governance model to serve companies in the stage of high-quality economic development remains to be further observed and explored. Second, regulatory authorities still need to enhance experimentation and standardization of this equity phenomenon, encouraging and guiding more high-quality external shareholder models to participate in corporate governance. Third, it is essential to remain vigilant about the potential monopoly risks associated with this model, actively improve the information disclosure mechanism for common institutional shareholders, increase information transparency, and promote the stable and healthy development of the capital market. Additionally, this study has limitations: based on the causes of crash risk, it only explores the impact pathways of common institutional ownership on stock price crash risk from the perspectives of information quality and agency problems. Other potential pathways warrant further investigation.

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