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Celebrity shareholders and corporate risk: Based on empirical evidence gathered from Chinese companies listed on the New Third Board

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ABSTRACT

Using the 2014 to 2019 Forbes China Celebrity Lists, this study empirically examined the relationship between celebrity shareholders and corporate risk. The findings suggest that celebrity shareholders increased corporate risk. And the main reason is that the capital structure of the enterprise changes significantly after the celebrity shares in the enterprise. Furthermore, this study finds that celebrity shareholders had a greater impact on corporate risk among firms with no independent directors, a high proportion of management shareholders, a low proportion of institutional investors and those belonging to the Innovation tier. Based on China's unique cultural and market environment, the findings of this study enrich the literature on the impact of celebrities and corporate risk, revealing the economic consequences of celebrity securitization.

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1. Introduction

Celebrities, as defined in Baidu Baike (a Chinese Internet Encyclopedia), are people with certain influences in a particular field, mainly referring to famous actors, entertainers, singers, and athletes. Celebrities have increasingly been investing in the stock market over the years, and their involvement and influence have grown. In the early years of celebrities' stock market investments, they usually follow the strategies of long-time investors or attempt to "accurately" bet on restructuring in the secondary market. Later, they participate in the primary market to reap the benefits of Initial Public Offering (IPO). The appearance of and attention received by celebrities in the capital market has increased significantly (Liu et al., 2022).

On 30 October 2009, the Huayi Brothers Media Corporation (300027.SZ) in the A-share market became one of the first 28 companies listed on the Growth Enterprises Market. Many of its celebrity shareholders became rich overnight, starting a wave of celebrity capitalization. Additionally, in recent years, with the rise of the "fan economy" and "fanquan culture," the resources, discourse power, and influence of celebrities are constantly increasing, and companies can gain increased attention and enhance their reputation and market valuation with the advertising effect of celebrity shareholders. For

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instance, on 2 April 2010, Beijing UniStrong Science & Technology (002383.SZ), a satellite positioning technology company that Yao Ming invested in, saw its share price increase 147.3% on its first trading day, far ahead of the two other IPOs listed on the same day.

Hidden behind the A-share market's "celebrity effect" are huge risks. On one hand, listed companies use celebrities' tags to raise awareness and realize capital appreciation. However, if negative news surfaces regarding the celebrity shareholders, the company's share price, related projects, and even performance will be seriously affected (Kooli et al., 2018). For example, Zhejiang Talent (300426.SZ), formerly a leading company in the film and television industry, attracted market attention due to its celebrity shareholders, such as Zhao Wei and Fan Bingbing. However, due to the exposure of Zhao Wei's information disclosure violations, Fan Bingbing's yin and yang contract case, and other negative events, the company's stock price plummeted, affecting its performance and presenting the risk of delisting.

Corporate risk and its influencing factors have always been a popular topic in corporate finance. Existing literature has explored the impact of holding stockholders (W. Zhang et al., 2021), management shareholding (Chen & Zhang, 2017), institutional investors (Chiang et al., 2015; Hutchinson et al., 2015), and ownership nature (Ho et al., 2021) on corporate risk. The impact of shareholder characteristics on corporate risk has been explored from multiple perspectives, but the "popularity" of shareholders, i.e., "celebrity" shareholders, a group of investors with Chinese characteristics, has been neglected. Therefore, two questions deserve attention and in-depth study: Do celebrity shareholders exacerbate corporate risk, and, moreover, what are the mechanisms involved?

This study manually researched companies with celebrity shareholders from the 2014 to 2019 Forbes China Celebrity Lists and found that companies with celebrity shareholders are mainly concentrated in the New Third Board. A database of New Third Board companies with celebrity shareholders was established. The empirical study found that celebrity shareholders increased corporate risk, which remained robust after conducting endogeneity tests. Further research found that the effect of celebrity shareholders on corporate risk is more significant among companies with no independent directors, a greater proportion of management shareholders, and a lower number of institutional investors and those belonging to the Innovation tier.

The contributions of this study are evident in the following three aspects. First, existing literature focuses primarily on the popularity of groups, such as corporate officers and independent directors (Luo et al., 2016; Wade et al., 2006). In contrast, this study uses shareholder "popularity" as the entry point. It explores corporate finance from the new perspective of celebrity shareholders, enriching the literature on celebrity effects and corporate risk. Second, most research on corporate risk focuses on enterprises listed on the main board. However, small and medium-sized enterprises (SMEs) face different risk factors than large enterprises. This study establishes a database of celebrity shareholders on the New Third Board. It examines the impact of celebrity shareholding on SMEs in the New Third Board, expanding the research sample of factors influencing corporate risk. Third, China's capital market remains dominated by small and medium-sized investors with a strong speculative atmosphere susceptible to irrational emotions, following stock speculation trends, and chasing celebrity concept stocks. Based on

China's unique cultural and market environment, this study explored in-depth the economic consequences of celebrity capitalization, advancing the empirical study of celebrity effects and capital markets. Additionally, this study serves as an important decision-making reference for corporate governance and capital market regulation of New Third Board companies.

The remainder of the paper is organized and structured as follows. Section two contains the literature review, section three provides the theoretical analysis and formulates research hypotheses, and section four discusses the sample selection and research design. Section five provides the empirical analysis and robustness testing, and section six contains the heterogeneity analysis. The final section concludes the paper with a summary and recommendations.

2. Literature review

Celebrity effect, first used as a psychological concept, has been explored extensively in marketing, specifically the aspects of celebrity endorsement and consumer decision-making (Albert et al., 2017; Prentice & Zhang, 2017; Shiva et al., 2022). In contrast, the research on celebrity effect in corporate finance is in its early stages. Scholars have developed two different research findings on the impact of celebrity effect on corporate risk.

The first finding highlights the positive influence of the celebrity effect. Under the constraints of the reputation mechanism, high-profile executives, independent directors, and employees perform to the best of their abilities, actively participate in the company's management, reduce opportunistic behavior, alleviate agency problems, improve corporate performance, and reduce corporate risk. First, aided by the rapid spread of media, the increased visibility and influence of celebrity executives and directors will improve the image and reputation of the firm in public and capital markets, help establish a positive brand image, attract more customers and investors, expand their market share, improve product sales and corporate performance, and reduce corporate risk (Luo et al., 2016; Nguyen & Leblanc, 2001). Chih et al. (2009) found in a study on the celebrity CEOs of listed companies in Taiwan that, in the short term, celebrity CEOs win the favor of the public, attract more customers and investors, and play a positive role in stabilizing firm operations.

Second, from the perspective of information transparency, celebrity executives and independent directors tend to attract the attention of media, analysts, and other third-party institutions. Therefore, the celebrity effect helps to enhance external supervision, restrain executives' opportunistic behavior, protect investors' rights, and improve corporate governance (Joe et al., 2009; Lauterbach & Pajuste, 2017). Additionally, good corporate governance helps enhance firms' financial security, strengthen their profitability, curb corporate risks, and promote high-quality corporate development (Jiraporn et al., 2015). Z. Zhang and Han (2020) found that high-profile chairpersons were diligent and responsible under the constraints of external supervision and reputation mechanisms, reducing selfish behavior and enhancing corporate risk-taking abilities.

Third, high-profile celebrity executives and independent directors can easily gain social recognition and trust; build a strong social network, hold more social capital; gather more social, political, and business resources for the firm; alleviate financing

constraints; and reduce corporate risks (Messabia et al., 2022b; Oliveira & Fortunato, 2006; Z. Zhang & Han, 2020). Fourth, celebrity executives are good at coordinating team operations, implementing and planning practical strategies, strengthening innovation investments, and actively responding to changes in the market environment. Celebrity employees are more productive, possessed stronger personal abilities, and had greater social capital (Messabia et al., 2022a). These qualities help them guide other colleagues at work, which aids them in building a network of solidarity, rapport, and stable relationships to enhance organizational performance and strengthen the firm's resilience to risk (Call et al., 2015).

The second strand of literature examines the negative impact of the celebrity effect, suggesting that executives, independent directors, and employees with "celebrity" statuses do not improve firm performance but instead indulge in their "celebrity" status, encouraging opportunistic behavior among major shareholders and selfish behavior in management. This leads to serious agency problems for the firm and increased corporate risks. First, executives who are granted "celebrity" statuses have more incentives to act opportunistically to maintain their reputation, cater to the performance expectations of investors and external institutions, and tend to choose projects with high returns and high risks (Lauterbach & Pajuste, 2017; Malmendier & Tate, 2009). These activities increase surplus management activities, whitewash financial statements, and increase information opacity, thereby increasing corporate risk. Celebrity employees were found to be reluctant in sharing their skills and cooperating with others to maintain their reputation within the organization, which reduces team cohesiveness and is detrimental to long-term corporate development (Kim & Glomb, 2014; Lam et al., 2011; Overbeck et al., 2005).

Second, from the perspective of "inaction," it was found that "celebrity" independent directors fail to perform their duties (Luo et al., 2016), are used as "decorations," and are reluctant to cast disapproval votes (Li et al., 2021). Their relaxed supervision of senior management becomes a "shield" for opportunistic behavior among major shareholders and the management, exacerbating agency problems (Luo et al., 2016). Third, the company's overall interests are highly correlated with the reputation of the company's celebrities. Celebrities with a good reputation can build a positive image for the company and gain more social trust (Hussain et al., 2020). However, once a celebrity's malfeasance is exposed through the media, such as a celebrity executive's opportunistic behavior, a celebrity independent director's "inaction," or even a serious ethical or legal violation, it will trigger a massive public reaction and be condemned by society, causing incalculable losses to the company's reputation (Luo et al., Luo et al., 2016). The resulting negative reputation directly leads to the company's blacklisting by financial institutions, causing the company to face higher loan fees and lower loan amounts. Thus, the company's financial capacity is reduced, and their corporate risks increase (Zhu, 2020).

Fourth, an executive with "celebrity" status is likely to be overconfident and adhere to the corporate strategy that made them famous (Hayward et al., 2004). They may even stick with a merger and acquisition strategy that has proven to fail, distorting corporate investment decisions (Sinha et al., 2012), undermining corporate performance, and increasing corporate risk.

In summary, although existing literature has focused on the issue of celebrity effects on corporate risk, a unified conclusion has not been reached. In the limited literature, the

definition of “celebrity” has focused mainly on former leaders of major government departments, senior executives of large companies, prominent teachers in universities, and people associated with research institutions, ignoring the special group of investors who are “celebrity” shareholders.

3. Theoretical analysis and hypothesis

On one hand, celebrity shareholders may exacerbate corporate risk. In this study, “celebrities” are defined as people in the entertainment industry with high media exposure, most of whom lack a professional background in economics and management and are often not proficient with corporate operations. After becoming a shareholder, they play more roles as financial investors and have stronger speculation motives. If the celebrity effect of shareholders is abused, it may lead to an increase in corporate risk. First, due to celebrity backing, banks and other financial institutions will have a certain degree of optimistic expectations about the company’s investment prospects. They tend to lend funds to companies with celebrity shareholders (Ouyang et al., 2021) or accept their equity pledges (Xie et al., 2019). When a company’s ability to obtain bank credit increases, so does its ability to invest. Coupled with the general tendency of Chinese companies to overinvest, this ease of financing will undoubtedly increase the company’s overinvestment behavior and exacerbate corporate risk (Zhai et al., 2016).

Existing research suggests that equity pledges are a means for controlling shareholders to “tunnel” the enterprise at a low cost (Tang et al., 2019). In particular, in the New Third Board market, where equity is highly concentrated, internal governance is unsound, and market supervision is relatively weak. Celebrity shareholding allows major shareholders to encroach on the interests of small and medium-sized shareholders and can easily intensify the equity pledging behavior of major shareholders, triggering increased tunneling and increasing the risk of transferring company (Xie et al., 2019).

Second, after a celebrity becomes a shareholder, the company’s interests and a celebrity’s reputation become highly correlated (Hussain et al., 2020). If negative news comes out about the celebrity shareholder, the media will rapidly disseminate it, negatively affecting investors’ trust in the company. As a result, the company’s reputation and brand value will be damaged, affecting its share price and revenue (Shiva et al., 2022) and increasing corporate risk (Zhu, 2020).

Lastly, celebrities have strong speculative motives. Their shareholder status means a closer relationship with the company. This provides opportunities to carry out illegitimate benefit transfers with the management, such as providing celebrities with concealed tax evasion contracts and making related transactions with other companies in which the celebrities hold shares, damaging corporate values and increasing corporate risk (Kang et al., 2014). Based on the above analysis, the first hypothesis is proposed.

H1a: Celebrity shareholders increase corporate risk.

On the other hand, celebrity shareholders may reduce corporate risk. First, the unique “advertising effect” of celebrity shareholders attracts increased attention from third parties, such as securities analysts and the media. It plays an external governance role

through information transfer and monitoring mechanisms. Existing studies have found that the media, as an effective information transmission medium, can improve information transparency, restrain management's interest-encroachment behavior with the reputation mechanism, and push companies to improve internal governance (Dyck et al., 2008; Lauterbach and Pajuste, 2017). The professionalism and independence of analysts, as well as their strong information-gathering ability, can effectively reduce information asymmetry. Moreover, external monitoring with continuous tracking can restrain the opportunistic behavior of management and major shareholders, alleviate agency problems, and force firms to improve their business performance (Sun and Liu, 2016) and reduce corporate risks. Second, celebrity groups often possess more resources and discourse power. As external investors have limited access to internal company information, the presence of celebrity shareholders releases positive signals to the capital market about the company's performance. As such, they become conducive to improving the company's reputation, convincing external investors to invest in the company, improving the company's performance (Agrawal & Kamakura, 1995), and reducing corporate risk. Lastly, celebrity shareholders possess a wide range of resources and social connections. Compared to ordinary investors, they are more likely to establish financial and political connections, and these connections may help the recipient firm to broaden financing channels, reduce financing costs, and lower financial risks (Burak Güner et al., 2008; Houston & James, 2001). Based on the above analysis, the second hypothesis is proposed.

H1b: Celebrity shareholders reduce corporate risk.

4. Research design

4.1. Data sources and sample selection

This study aims to examine the impact of celebrity shareholders on corporate risk. Therefore, the first task is to define the scope of celebrity shareholders. The Forbes China Celebrity List is published by the Chinese version of Forbes, a world-renowned business magazine. This list mainly includes celebrities in the Chinese cultural and sports industries. Inclusion in the list is determined by several indicators, such as income, exposure, and influence of works, combined with the results of research and systematic evaluation, giving it a certain degree of credibility. We used the annual Forbes China Celebrity List, combined with annual corporate reports, official news, enterprise surveys, and websites, such as Cninfo, to search and collate samples of companies with celebrity shareholders. We found that most companies are listed on the New Third Board, and we established a database of celebrity shareholders in New Third Board companies. The New Third Board has expanded nationwide since 2013. On 31 December 2013, it developed into the National Equities Exchange and Quotations. Therefore, our samples were selected from companies listed on the New Third Board between 2014 and 2019. Financial data were gathered from the Wind and CSMAR databases.

Table 1. Distribution of celebrity shareholders by industry and year.

Industry	Year						Total
	2014	2015	2016	2016	2018	2019	
Culture, Sports, and Entertainment	1	4	19	23	14	12	73
Manufacturing	1	2	3	5	2	1	14
Leasing and Commercial Service	0	0	2	4	3	2	11
Information Transmission, Software, and Information Technology Service	0	0	3	3	1	1	8
Wholesale and Retail Trade	0	0	1	1	1	0	3
Resident, Repair, and Other Services	0	0	1	0	0	0	1
Accommodation and Catering Trade	0	0	0	1	0	0	1

The initial sample was processed as follows to ensure the validity of the data. First, observations of companies in the financial sector were excluded. Second, observations with missing correlated variables were excluded. Lastly, to eliminate the influence of extreme values on the results, the main continuous variables were winsorized at the 1% and 99% quartiles. A total of 8,228 samples was eventually obtained, including 111 samples of companies with celebrity shareholders. The distribution of celebrity shareholders by industry and year is shown in the [Table 1](#).

4.2. Corporate risk indicator metrics

Since the average listing time of New Third Board companies is not long, using metrics such as earnings volatility requires measuring a 3–5-year rolling period. In contrast, the Z-index is more comprehensive with data easier to collect and process. Therefore, we choose the Z-score model from the financial early warning system (Altman, 1968) to measure corporate risk, calculated as follows:

$$Z\text{-score} = 0.012 \times \text{working capital/total assets} + 0.014 \times \text{retained earnings/total assets} + 0.033 \times \text{earnings before interest and taxes/total assets} + 0.006 \times \text{total market value of stock/book value of liabilities} + 0.999 \times \text{sales revenue/total assets}$$

The smaller the Z-score, the greater the risk to which the company is exposed. Conversely, the larger the Z-score, the less the risk for the company.

4.3. Research model

To investigate the relationship between celebrity shareholders and corporate risk, we established regression model (1):

$$Z - score_{i,t} = \alpha_0 + \alpha_1 Star_{i,t} + \beta Controls_{i,t} + \sum Year + \sum Ind + \varepsilon \quad (1)$$

where the explained variable, *Z-score*, is the corporate risk variable; the explanatory variable, *Star*, is the celebrity shareholder dummy variable, i.e., *Star* takes a value of 1 if there is a celebrity shareholder and 0 otherwise. In the robustness test section, we use celebrity shareholding ratio as an alternative explanatory variable (*Star_pro*). If the coefficient of *Star* is negative after testing, it indicates that celebrity shareholders exacerbate corporate risk, and H1a holds. If is positive, it indicates that celebrity shareholders decrease corporate risk, and H1b holds. In addition, to eliminate the effect of celebrity endorsement

Table 2. Definition of variables.

Type of variable	Variable symbol	Variable name	Formula for variables
Explained variable	<i>Z-score</i>	Corporate risk	$0.012 \times \text{working capital}/\text{total assets} + 0.014 \times \text{retained earnings}/\text{total assets} + 0.033 \times \text{earnings before interest and taxes}/\text{total assets} + 0.006 \times \text{total market value of stock}/\text{book value of liabilities} + 0.999 \times \text{sales revenue}/\text{total assets}$
Explanatory variable	<i>Star</i>	Celebrity shareholders	Dummy variables of 0 and 1 are used, with companies with celebrity shareholders given a value of 1 and companies without celebrity shareholders given a value of 0
	<i>Star_pro</i>	Celebrity shareholding ratio	the number of celebrity shareholding/the total number of capital stock
Control variables	<i>Size</i>	Company size	Natural logarithm of the company's total assets
	<i>Lev</i>	Assets and liabilities	Closing liabilities/total assets
	<i>Board</i>	Board size	Total number of members in the Board of Directors
	<i>Top</i>	Ratio of shares held by the largest shareholder	Number of shares held by the largest shareholder/Total number of shares
	<i>Growth</i>	Revenue growth rate	$(\text{Yearend revenue} - \text{previous year's yearend revenue})/\text{previous year's yearend revenue}$
	<i>Fix</i>	Fixed asset ratio	Fixed assets/total assets
	<i>Bm</i>	Growth	Total market value/book value
	<i>Liq</i>	Liquidity	Current assets/current liabilities
	<i>MS</i>	Management shareholding	Ratio of shares held by management
	<i>CE</i>	Celebrity endorsement	Value of 1 when there is celebrity endorsement, value of 0 otherwise
	<i>Age</i>	Number of years a company has been listed	Current year – listing year
	<i>Year</i>	Year effect	Year dummy variables
	<i>Ind</i>	Industry effect	Industry dummy variables

on corporate risk, we also control for the celebrity endorsement variable in the model. The other control variables are detailed in Table 2 and will not be detailed further.

5. Empirical analysis

5.1. Descriptive statistics

The descriptive statistics results of this study are presented in Table 3. The sample's mean corporate risk variable (*Z-score*) is 1.015 with a median value of 0.801, a minimum value of 0.013, and a maximum value of 4.943, showing that the risk varies widely across companies within the sample. The mean value of celebrity shareholders (*Star*) is 1.35%, which means that the number of companies with celebrity shareholders is 1.35% of the total sample. Comparing the control variables reveals that the business performance and corporate governance level of the New Third Board companies in the sample are very heterogeneous.

5.2. Correlation analysis

The Pearson correlation analysis of the variables is presented in Table 4. The correlation coefficients of the main variables are less than 0.7, indicating that there was no serious collinearity problem in the model. The regression coefficient of celebrity shareholders

Table 3. Descriptive statistics of the main variables.

Panel A: Total sample						
Main variables	N	Mean	P50	Sd	Min	Max
Z-score	8228	1.015	0.801	0.814	0.013	4.943
Star	8228	0.014	0	0.115	0	1
Star_pro	8228	0.001	0	0.020	0	0.72
Size	8228	18.46	18.49	1.189	14.98	22.12
Lev	8228	0.406	0.387	0.224	0.027	1.634
Board	8228	5.460	5	1.040	0	9
Top	8228	44.48	44.27	23.19	7.27e-09	99.05
Growth	8228	0.306	0.119	1.019	-0.912	8.509
Fix	8228	0.159	0.096	0.168	0.001	0.727
Bm	8228	1.137	0.649	1.730	0.047	27.99
Liq	8228	3.384	2.024	4.337	0.184	28.83
MS	8228	0.396	0.125	0.905	0	6.533
CE	8228	0.007	0	0.081	0	1
Age	8228	1.818	2	1.275	1	6

Data from empirical results.

(*Star*) and corporate risk (*Z-score*) was -0.037 , significant at the 1% level and indicating a negative relationship between celebrity shareholders and corporate risk. Further empirical tests are needed for more accurate conclusions.

5.3. Regression analysis

A regression analysis was conducted using regression model (1), and the results are shown in Table 5. Column (1) does not include the control variables and yields a regression coefficient of -0.260 for celebrity shareholders (*Star*) and corporate risk (*Z-score*), which is significant at the 1% level. Based on column (1), column (2) controls for the year and industry dummy variables and yields a regression coefficient of -0.201 for celebrity shareholders (*Star*) and corporate risk (*Z-score*), which is significant at the 5% level. Column (3) includes all control variables and yields a regression coefficient of -0.219 for celebrity shareholders (*Star*) and corporate risk (*Z-score*), which is significant at the 1% level and indicates that celebrity shareholders significantly exacerbate firm risk. Assuming a causal relation, a one standard deviation increase in *Star* increases the risk-taking proxy by 2.48 % of its mean. The results validate hypothesis H1a.

5.4. Endogeneity test

5.4.1. PSM test

The relationship between celebrity shareholders and corporate risk may be endogenous. For example, riskier companies may be more motivated to invite celebrity shareholders. Given this, we use propensity score matching to test for endogeneity issues. First, the corporate risk variable (*Z-score*) was used as the explanatory variable while company size (*Size*), assets and liabilities (*Lev*), board size (*Board*), the ratio of shares held by the largest shareholder (*Top*), revenue growth rate (*Growth*), fixed asset ratio (*Fix*), growth (*Bm*), liquidity (*Liq*), management shareholding (*MS*), celebrity endorsement (*CE*), years the company has been listed (*Age*), and the year and industry dummy variables were used as characteristic variables for the Logit regression to calculate the propensity scores. Second,

Table 4. Correlation analysis.

Variables	Z-score	Star	Size	Lev	Board	Top	Ton	Fix	Bm	Liq	MS	CE	Age
Z-score	1												
Star	-0.037***	1											
Size	-0.204***	0.045***	1										
Lev	0.045***	-0.00500	0.064***	1									
Board	-0.060***	0.0120	0.315***	-0.045***	1								
Top	0.077***	-0.045***	-0.208***	0.028**	-0.137***	1							
Growth	0.115***	0.039***	0.070***	0.00800	-0.00900	0.0170	1						
Fix	-0.218***	-0.062**	0.187***	0.107***	0.058***	-0.184***	-0.028***	1					
Bm	-0.071***	0.020*	0.064***	0.164***	0.00600	-0.184***	-0.026**	-0.0160	1				
Liq	0.075***	0.022**	-0.158***	-0.594***	-0.019*	-0.00200	-0.0160	-0.214***	-0.059***	1			
MS	0.027***	0.0110	-0.100***	0.0100	-0.047***	0.035***	0.0170	-0.00300	-0.029***	0.00100	1		
CE	0.0100	0.262***	0.073***	0.00600	0.067***	-0.021*	0.00300	-0.00900	0.0130	-0.0110	-0.0160	1	
Age	-0.098***	0.00800	0.138***	-0.025**	0.113***	-0.342***	-0.073***	-0.054***	0.186***	0.023**	-0.139***	-0.00700	1

Table 5. Regression results of the main test.

Variables	(1) Z-score	(2) Z-score	(3) Z-score
<i>Star</i>	−0.260*** (0.083)	−0.201** (0.082)	−0.219*** (0.079)
<i>Size</i>			−0.101*** (0.009)
<i>Lev</i>			0.365*** (0.058)
<i>Board</i>			0.022*** (0.008)
<i>Top</i>			0.001*** (0.000)
<i>Growth</i>			0.100*** (0.013)
<i>Fix</i>			−0.601*** (0.046)
<i>Bm</i>			−0.032*** (0.006)
<i>Liq</i>			0.016*** (0.004)
<i>MS</i>			0.008 (0.008)
<i>CE</i>			0.242** (0.095)
<i>Age</i>			−0.058*** (0.007)
<i>Year</i>	Not controlled	Controlled	Controlled
<i>Ind</i>	Not controlled	Controlled	Controlled
<i>_cons</i>	1.019*** (0.009)	0.806*** (0.039)	2.513*** (0.172)
<i>Adj. R²</i>	0.001	0.123	0.195
<i>N</i>	8228	8228	8228

Note: ***, **, and * are significant at the 1%, 5%, and 10% levels, respectively.
Adjusted cluster-robust standard errors are indicated in parentheses.

the samples were matched using nearest neighbor matching and caliper matching (1:2), and the matched samples were regressed separately. As shown in Appendices (Table A1), the regression coefficient of celebrity shareholders (*Star*) remains significantly negative, consistent with the results obtained from the main test.

5.4.2. Instrumental variable method

We chose the mean industry-year variable for celebrity shareholders in the New Third Board as an instrumental variable since whether a company has celebrity shareholders may influence the industry. However, there is no direct correlation between the mean industry-year variable for celebrity shareholders and corporate risk in single companies. Additionally, this instrumental variable satisfies the exogenous condition.

The instrumental variable also passed the under-identification and weak identification tests, indicating that the choice of this instrumental variable is reasonable. The results are shown in Appendices (Table A2). In the first stage, the correlation coefficient between the instrumental variable IV and celebrity shareholders (*Star*) in column (1) was 0.916, significantly positive at the 1% level, indicating that the instrumental variable increases celebrity shareholders. In the second stage, the correlation coefficient between celebrity shareholders (*Star*) and corporate risk (*Z-score*) in column (2) was −3.082, significant at the 1% level. Additionally, this study uses instrumental variables for the GMM test, with

its results presented in column (3). The correlation coefficient between celebrity shareholders (*Star*) and corporate risk (*Z-score*) was -3.082 , significant at the 1% level. The above results indicate that the main test findings still hold after controlling for endogeneity.

5.5. Robustness tests

5.5.1. Substituting explanatory variables

To ensure the conclusion's robustness, we used the percentage of celebrity shareholders as an explanatory variable. The specific test results are presented in Appendices (Table A3). Column (1) did not include the control variables and yielded a regression coefficient of -1.227 for celebrity shareholders (*Star_pro*), significant at the 1% level. Column (2) controlled for the year and industry dummy variables and yielded a regression coefficient of -0.971 for celebrity shareholders (*Star_pro*), significant at the 1% level. Column (3) included all control variables and yielded a regression coefficient of -0.902 for celebrity shareholders (*Star_pro*), significant at the 1% level. Assuming a causal relation, a one standard deviation increase in *Star_pro* increases the risk-taking proxy by 1.78% of its mean. The test results still support the hypothesis H1a.

5.5.2. Substitution of explained variables

The choice to replace the measurement method of corporate risk is based on the modified *Z-score* of MacKie-Mason (1990), which was used to measure corporate risk. The modified *Z-score* can prevent stock market indicators from influencing the corporate risk measure, making the results more consistent with the actual operating conditions of the company and suitable for evaluating corporate risk in emerging financing markets. Modified $Z\text{-score} = 1.2 \times \text{Working capital}/\text{total assets} + 1.4 \times \text{Retained earnings}/\text{total assets} + 3.3 \times \text{Earnings before interest and tax}/\text{total assets} + 1.0 \times \text{Sales revenue}/\text{total assets}$. The smaller the *Z-score* value, the greater the corporate risk and vice versa. As shown in Appendices (Table A4), the regression results remain largely consistent with the main test – that is, the presence of celebrity shareholders is significantly and negatively correlated with corporate risk.

6. Further analysis

6.1. Celebrity shareholders and corporate risk: the component of the Z-score

The above empirical results show that celebrity shareholding will significantly increase corporate risk. In order to further explore the main impact of celebrity shareholding on enterprises, we divide the explained variable *Z-score* into five sub-indicators (which are the five components in the *Z-score* calculation formula: enterprise liquidity, capital accumulation, production capacity, capital structure and sales capacity, the higher the value is, the lower the enterprise risk is), and conducts regression analysis in turn.

Table 6 reports the regression results based on the *Z-score* subdivision indicators. Column (1) shows that celebrity shareholding (*Star*) improves the liquidity of enterprises at the significance level of 5%, indicating that the ability to attract funds brought by the capital injection of celebrities and celebrity effect can improve the liquidity of enterprises to a certain

Table 6. Regression results of the Z-score subdivision indicators.

Variables	(1) enterprise liquidity	(2) capital accumulation	(3) production capacity	(4) capital structure	(5) sales capacity
<i>Star</i>	0.001** (0.000)	−0.001 (0.001)	−0.000 (0.001)	−0.278** (0.135)	−0.093 (0.115)
<i>Size</i>	0.000* (0.000)	0.004*** (0.001)	0.003 (0.002)	−0.023*** (0.006)	−0.142*** (0.021)
<i>Lev</i>	−0.014*** (0.001)	−0.023*** (0.004)	−0.017 (0.011)	0.438** (0.201)	0.576*** (0.164)
<i>Board</i>	−0.000* (0.000)	−0.001*** (0.000)	−0.001 (0.000)	0.023 (0.024)	0.033*** (0.010)
<i>Top</i>	−0.000 (0.000)	0.000*** (0.000)	0.000** (0.000)	0.001 (0.001)	0.002* (0.001)
<i>Growth</i>	−0.000 (0.000)	−0.000 (0.001)	0.003 (0.002)	0.005 (0.006)	0.119*** (0.028)
<i>Fix</i>	−0.008*** (0.000)	−0.000 (0.001)	0.000 (0.002)	0.196*** (0.045)	−0.769*** (0.062)
<i>Bm</i>	0.000 (0.000)	−0.001 (0.001)	−0.000 (0.000)	−0.008 (0.006)	−0.031*** (0.008)
<i>Liq</i>	0.000 (0.000)	−0.000*** (0.000)	−0.000* (0.000)	0.092*** (0.028)	−0.018*** (0.003)
<i>MS</i>	0.000*** (0.000)	0.001*** (0.000)	0.000 (0.000)	0.024 (0.024)	−0.010 (0.011)
<i>CE</i>	−0.001*** (0.000)	−0.002** (0.001)	−0.000 (0.001)	0.057 (0.045)	0.220** (0.094)
<i>Age</i>	−0.000** (0.000)	−0.001*** (0.000)	−0.000 (0.001)	−0.014 (0.014)	−0.050*** (0.010)
<i>Year</i>	Controlled	Controlled	Controlled	Controlled	Controlled
<i>Ind</i>	Controlled	Controlled	Controlled	Controlled	Controlled
<i>_cons</i>	0.004 (0.003)	−0.060*** (0.009)	−0.039 (0.023)	−0.163 (0.373)	3.106*** (0.295)
<i>Adj. R²</i>	0.149	0.066	0.006	0.057	0.106
<i>N</i>	8228	8228	8228	8228	8228

Note: ***, **, and * are significant at the 1%, 5%, and 10% levels, respectively. Adjusted cluster-robust standard errors are indicated in parentheses.

extent, thus reducing the risks of enterprises. The regression coefficients of *Star* in columns (2), (3) and (5) are not statistically significant, indicating that celebrity shareholding does not significantly improve the capital accumulation, production capacity and sales capacity of enterprises. The results of Column (4) show that celebrity shareholding has a negative impact on the stability of corporate capital structure at the significance level of 5%, thus increasing the level of corporate risk, and the absolute value of its influence coefficient is significantly higher than that in Column (1) ($0.278 > 0.001$). Therefore, we conclude that the main reason why celebrity shareholding exacerbates firm risk is its negative impact on firm capital structure.

The reason may be that although celebrity shareholding increases the exposure of enterprises and attracts more attention from investors and financial institutions, it is difficult for enterprises to raise a large amount of equity capital through the New Third Board because the market is not active enough. Enterprises are more likely to obtain debt financing through the endorsement of celebrity tags. As a result, they have more debt and less equity, and the capital structure is unstable, which increases the risk of the enterprise.

6.2. Celebrity shareholders and corporate risk: analysis of heterogeneity

The above empirical results show that celebrity shareholding will significantly increase the level of corporate risk, and the main reason is the negative impact of celebrity shareholding on the stability of corporate capital structure. This section further tests the heterogeneity of the impact of celebrity shareholders on corporate risk from the perspectives of governance factors, such as independent director establishment, management shareholding, institutional investors, and the tiered system in the New Third Board.

6.2.1. The impact of independent director establishment

As an important part of internal corporate governance, independent directors can, to a certain extent, supervise management's behavior, inhibit "tunneling" by major shareholders, alleviate agency problems, and promote healthy corporate development (Xiang and Zhu, 2020). However, different from the listed companies on the main board, China's New Third Board market does not require the listed companies to have independent directors, which makes most of the New Third Board enterprises lack internal supervision and decision-making power, and it is not conducive to the long-term development of enterprises and the New Third Board market. In 2020, in order to urge listed enterprises to improve their governance level, the National Small and Medium Enterprise Share Transfer System Co., Ltd. issued the "Guidelines No. 2 for the Governance of Companies Listed on the National Equities Exchange and Quotations – Independent Directors", proposing that independent directors should be established at the selected level of the New Third Board. It shows that relevant departments are highly concerned about the imperfect governance structure and lack of supervision mechanism of enterprises listed on the New Third Board. Given that independent directors play a supervisory and decision-making role in corporate operation, financing, investment and other activities, we believe that independent directors can inhibit the promotion effect of celebrity shareholding on corporate risk by strengthening corporate governance. That is, we expect that the impact of celebrity shareholding on corporate risk may be more significant in companies without independent directors.

In order to verify the above analysis, we use the interaction term (*Star_Indep*) of the proportion of independent directors (*Indep*) and *Star* to examine the role of independent directors. The regression results in Column (1) of Table 7 show that the influence coefficient of the interaction term *Star_Indep* is 0.514 and significant at the level of 10%, indicating that the independent directors established in the listed enterprises on the New Third Board can effectively play their role in improving corporate governance and control the increase of corporate risks to a certain extent.

6.2.2. The impact of management shareholding

Existing studies have found that management's control over the company increases with the proportion of management shareholding, even influencing the company's business decisions. Their influence can lead to a near-failure of external monitoring mechanisms, which can induce selfish behavior among the management and generate agency problems, i.e., triggering the management trench effect (Chen & Zhang, 2017; Fabisik et al., 2021). We believe that in the New Third Board market with lax supervision and imperfect investor protection system, the management with a higher shareholding ratio will be

Table 7. Celebrity shareholders and corporate risk: Heterogeneous grouping results.

Variables	(1)	(2)	(3)	(4)
<i>Star</i>	−0.242*** (0.086)	−0.186** (0.085)	−1.007*** (0.381)	−0.173* (0.103)
<i>Star_Indep</i>	0.514* (0.299)			
<i>Indep</i>	0.303*** (0.080)			
<i>Star_MS</i>		−0.067** (0.031)		
<i>MS</i>		0.010 (0.009)		
<i>Star_Inst</i>			0.015* (0.009)	
<i>Inst</i>			0.000 (0.000)	
<i>Star_Tier</i>				−0.273** (0.126)
<i>Tier</i>				0.139*** (0.030)
<i>Size</i>	−0.106*** (0.010)	−0.101*** (0.009)	−0.127*** (0.015)	−0.112*** (0.010)
<i>Lev</i>	0.368*** (0.059)	0.365*** (0.058)	0.448*** (0.093)	0.358*** (0.061)
<i>Board</i>	0.011 (0.009)	0.022*** (0.008)	0.023** (0.009)	0.017** (0.008)
<i>Top</i>	0.001*** (0.000)	0.001*** (0.000)	0.002*** (0.001)	0.002*** (0.000)
<i>Growth</i>	0.101*** (0.013)	0.100*** (0.013)	0.097*** (0.016)	0.108*** (0.014)
<i>Fix</i>	−0.608*** (0.046)	−0.602*** (0.046)	−0.748*** (0.071)	−0.609*** (0.049)
<i>Bm</i>	−0.032*** (0.006)	−0.032*** (0.006)	−0.038*** (0.007)	−0.030*** (0.006)
<i>Liq</i>	0.016*** (0.004)	0.016*** (0.004)	0.024*** (0.005)	0.013*** (0.004)
<i>MS</i>	0.007 (0.008)		−0.000 (0.012)	0.004 (0.008)
<i>CE</i>	0.201** (0.095)	0.233** (0.096)	0.381*** (0.128)	0.246** (0.100)
<i>Age</i>	−0.060*** (0.007)	−0.059*** (0.007)	−0.057*** (0.010)	−0.066*** (0.008)
<i>Year</i>	Controlled	Controlled	Controlled	Controlled
<i>Ind</i>	Controlled	Controlled	Controlled	Controlled
<i>_cons</i>	2.646*** (0.180)	2.509*** (0.172)	2.987*** (0.279)	2.750*** (0.189)
<i>Adj-R²</i>	0.196	0.195	0.145	0.200
<i>N</i>	8220	8228	5210	7442

Note:***, **, and * are significant at the 1%, 5%, and 10% levels, respectively. Adjusted cluster-robust standard errors are indicated in parentheses.

more “unscrupulous” due to the lack of external supervision. After celebrity shareholding attracts more investors’ attention, the management will have stronger speculation motivation and expropriation behavior, which will further aggravate the effect of celebrity shareholding on corporate risk.

In order to verify the above analysis, we use the interaction term (*Star_MS*) of management shareholding ratio (*MS*) and *Star* to examine the role of management shareholding. As seen in the regression results in column (2) of Table 7, the influence coefficient of the interaction term *Star_MS* is −0.067, and it is significant

at the level of 5%. It indicates that the relationship between celebrity ownership and firm risk is more significant when the managerial ownership is high than when the managerial ownership is low.

6.2.3. *The impact of institutional investors*

According to the Efficient Monitoring Hypothesis, compared with individual investors, institutional investors have stronger information advantages, professional knowledge and analytical ability, which can restrain the self-interested behavior of corporate management and major shareholders, and exert corporate governance effect (Tang et al., 2021). Especially in the New Third Board market, strict market access conditions make only investors with strong financial strength and rich investment experience can become shareholders in it (the New Third Board requires investors to have relevant investment managers, and requires institutional investors and natural person investors to have paid-up capital and capital accounts greater than 1 million yuan), so institutional investors occupy a dominant position in the New Third Board market. Moreover, institutional investors with information advantages and investment experience choose to invest in the New Third Board market with low liquidity, mostly because they observe the value-added space of start-ups and pay attention to their long-term development, rather than taking short-term arbitrage as the investment purpose (Xue and Zhang, 2021). Therefore, institutional investors who participate in the New Third Board listed enterprises will pay more attention to the relevant activities of enterprises and actively play their role in supervision and governance. Based on the above, we believe that the governance effect of institutional investors in the New Third Board market can inhibit the promotion effect of celebrity shareholding on corporate risk.

In Column (3) of Table 7, we use the interaction term (*Star_Inst*) of the shareholding ratio of institutional investors (*Inst*) and *Star* to examine the role of institutional investors' shareholding. The regression results show that the influence coefficient of the interaction term *Star_Inst* is 0.015, and it is significant at the level of 10%. This shows that in the New Third Board market, institutional investors can supervise and constrain corporate behavior, thus inhibiting the promotion effect of celebrity shareholding on corporate risk.

6.2.4. *The impact of a tiered system*

With the rapid growth of the number of listed enterprises on the New Third Board, the gap between listed enterprises in the market in terms of operation scale, capital accumulation and development prospects has gradually become prominent. In order to reduce the cost of information collection for investors, improve the efficiency of investment analysis and enhance the ability of risk control, the New Third Board has implemented a tiered system since 2016, which divides different enterprises into different tiers (Innovation-tier and Base-tier) according to their operating conditions and stock market performance, providing authoritative basis for investors to select enterprises. At the same time, differentiated management is implemented for enterprises at different tiers, and the transaction system, issuance system and information disclosure requirements of enterprises at the Innovation-tier are stricter.

The tiered system delivers information to investors about the better quality of enterprises at the Innovation-tier, reduces investors' risk assessment of them, improves the

liquidity of the stock market at the Innovation-tier, and makes enterprises at the Innovation-tier more able to attract funds (Xie et al., 2019). In this case, the celebrity shareholding enterprises at the Innovation-tier have the superposition effect of Innovation-tier and celebrity tag, which will attract more attention from investors and financial institutions. However, since the overall supervision intensity of the New Third Board market is still weaker than that of the main board market, and the tiered system does not really reflect the differential role of supervision (Qi, 2017), the shareholders of enterprises with increased stock liquidity and valuation after entering the Innovation-tier will have stronger speculation motivation and tunneling behavior (Xie et al., 2019), which is not conducive to the stable development of enterprises. Based on the above, we believe that the effect of celebrity shareholding on improving corporate risk may be more prominent in the Innovation-tier.

To test the above analysis, we set the dummy variable *Tier*, which assigns the value of 1 to the samples of the Innovation-tier and 0 to the samples of the Base-tier. At the same time, since the tier system of the New Third Board started in 2016, we delete the non-tier samples from 2014 to 2016. In Column (4) of Table 7, the role of tier system is examined by the interaction term (*Star_Tier*) of *Tier* and *Star*. The regression result shows that the influence coefficient of the interaction term *Star_Tier* is -0.273 , and it is significant at the level of 5%, which shows that the relationship between celebrity shareholding and corporate risk in the Innovation-tier is more significant than that in the Base-tier.

7. Conclusion and recommendations

In recent years, with the rise of the “fan economy” and “fanquan culture,” the resources, discourse power, and influence of celebrity groups are increasing daily. More celebrities are becoming shareholders in listed companies. However, behind the myth of the “celebrity effect” in China’s capital market lie huge risks. Based on the Forbes China Celebrity List from 2014 to 2019, this study empirically tested a database of companies with celebrity shareholders on the New Third Board by using publicly disclosed annual reports and manual research. Companies with celebrity shareholders were found to face greater corporate risks, and these results remains robust even after controlling for endogeneity. The test of sub-dimension shows that the main reason why celebrity shareholding increases corporate risk is that it has a negative impact on corporate capital structure. Furthermore, this study found that celebrity shareholders had a greater impact on corporate risk among firms with no independent directors, a high proportion of management shareholders, and a low proportion of institutional investors and those belonging to the Innovation tier.

According to the findings of this study, we propose the following recommendations. First, companies should optimize their shareholding structure, actively introduce institutional investors, check-and-balance major shareholders’ stock ownership, and reduce the controlling shareholders’ and management’s selfish behaviors. Additionally, to enhance the governance effect and reduce corporate risks, companies can improve the board of directors structure, increase the proportion of independent directors, and improve their internal supervision mechanism. Second, regulatory authorities should increase supervision of celebrity shareholders in listed companies and crack down on their unlawful acts. Authorities should focus on further reforming the tiered system, improving the market

governance mechanism, and strengthening supervision and information disclosure, especially for abnormal stock price fluctuations and concept stock speculation, in order to effectively protect investors' legitimate rights and interests and safeguard the New Third Board market's healthy and orderly development. Third, when making investment decisions, investors should be more aware of risks, be wary of the high valuation bubble of the "celebrity effect," not blindly follow stock purchasing trends, collect information through multiple channels, comprehensively and objectively examine a company's real operating conditions, and assess the company's long-term development capacity.

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Appendices

Table A1. Celebrity shareholders and corporate risk: PSM test results.

Variables	(1) Nearest neighbor matching	(2) Nearest neighbor matching	(3) Caliper matching	(4) Caliper matching
<i>Star</i>	−0.255* (0.130)	−0.202** (0.101)	−0.285** (0.130)	−0.225** (0.100)
<i>Size</i>		−0.225*** (0.048)		−0.248*** (0.050)
<i>Lev</i>		0.462** (0.215)		0.450** (0.216)
<i>Board</i>		0.093** (0.042)		0.098** (0.043)
<i>Top</i>		0.005 (0.003)		0.006* (0.003)
<i>Growth</i>		0.095* (0.049)		0.088* (0.048)
<i>Fix</i>		−0.109 (0.490)		−0.136 (0.502)
<i>Bm</i>		−0.028 (0.029)		−0.029 (0.029)
<i>Liq</i>		0.048** (0.024)		0.046* (0.024)
<i>MS</i>		−0.015 (0.047)		−0.016 (0.047)
<i>CE</i>		0.157 (0.198)		0.137 (0.207)
<i>Age</i>		−0.014 (0.049)		−0.005 (0.049)
<i>Year</i>	Controlled	Controlled	Controlled	Controlled
<i>Ind</i>	Controlled	Controlled	Controlled	Controlled
<i>_cons</i>	1.044*** (0.232)	4.066*** (0.866)	1.048*** (0.237)	4.428*** (0.903)
<i>Adj. R²</i>	0.223	0.374	0.229	0.381
<i>N</i>	269	269	267	267

Note:***, **, and * are significant at the 1%, 5%, and 10% levels, respectively. Adjusted cluster-robust standard errors are indicated in parentheses.

Table A2. Celebrity shareholders and corporate risk: Results of the IV-2SLS and IV-GMM regressions.

<i>Variables</i>	(1) <i>First</i>	(2) <i>IV-2SLS</i>	(3) <i>GMM</i>
<i>Star</i>		−3.082*** (0.353)	−3.082*** (0.428)
<i>IV</i>	0.916*** (0.0426)		
<i>Size</i>	0.00387*** (0.00113)	−0.093*** (0.009)	−0.093*** (0.010)
<i>Lev</i>	0.00404 (0.00678)	0.475*** (0.051)	0.475*** (0.064)
<i>Board</i>	−0.00266** (0.00122)	0.012 (0.009)	0.012 (0.010)
<i>Top</i>	−0.000165** (6.75e-05)	0.001** (0.001)	0.001** (0.000)
<i>Growth</i>	0.00297** (0.00119)	0.109*** (0.009)	0.109*** (0.015)
<i>Fix</i>	−0.0202*** (0.00752)	−1.015*** (0.058)	−1.015*** (0.053)
<i>Bm</i>	0.000501 (0.000722)	−0.030*** (0.005)	−0.030*** (0.007)
<i>Liq</i>	0.000323 (0.000351)	0.020*** (0.003)	0.020*** (0.004)
<i>MS</i>	0.00295** (0.00134)	0.007 (0.010)	0.007 (0.010)
<i>CE</i>	0.359*** (0.0147)	1.329*** (0.171)	1.329*** (0.248)
<i>Age</i>	0.00106 (0.00120)	−0.070*** (0.009)	−0.070*** (0.008)
<i>Year</i>	<i>control</i>	<i>control</i>	<i>control</i>
<i>Ind</i>	<i>control</i>	<i>control</i>	<i>control</i>
<i>_cons</i>	−0.0504** (0.0224)	2.530*** (0.171)	2.530*** (0.188)
<i>R</i> ²	0.126		
<i>N</i>	8228	8228	8228

Note:***, **, and * are significant at the 1%, 5%, and 10% levels, respectively.
Adjusted cluster-robust standard errors are indicated in parentheses.

Table A3. Celebrity shareholders and firm risk: Substituting explanatory variables.

Variables	(1) Z-score	(2) Z-score	(3) Z-score
<i>Star_pro</i>	-1.227*** (0.213)	-0.971*** (0.170)	-0.902*** (0.226)
<i>Size</i>			-0.102*** (0.009)
<i>Lev</i>			0.365*** (0.059)
<i>Board</i>			0.022*** (0.008)
<i>Top</i>			0.001*** (0.000)
<i>Growth</i>			0.100*** (0.013)
<i>Fix</i>			-0.598*** (0.046)
<i>Bm</i>			-0.032*** (0.006)
<i>Liq</i>			0.015*** (0.004)
<i>MS</i>			0.007 (0.008)
<i>CE</i>			0.179** (0.089)
<i>Age</i>			-0.059*** (0.007)
<i>Year</i>	Not controlled	Controlled	Controlled
<i>Ind</i>	Not controlled	Controlled	Controlled
<i>_cons</i>	1.017*** (0.009)	0.805*** (0.039)	2.518*** (0.171)
<i>Adj. R²</i>	0.001	0.122	0.194
<i>F</i>	33.046	58.586	55.963
<i>N</i>	8228	8228	8228

Note:***, **, and * are significant at the 1%, 5%, and 10% levels, respectively.
Adjusted cluster-robust standard errors are indicated in parentheses.

Table A4. Celebrity shareholders and corporate risk: Replacing the explained variables.

<i>Variables</i>	(1) <i>Z-score</i>	(2) <i>Z-score</i>	(3) <i>Z-score</i>
<i>Star</i>	−0.239*** (0.082)	−0.134* (0.080)	−0.160* (0.083)
<i>Size</i>			−0.081*** (0.010)
<i>Lev</i>			0.301*** (0.059)
<i>Board</i>			0.018** (0.008)
<i>Top</i>			0.001*** (0.000)
<i>Growth</i>			0.095*** (0.012)
<i>Fix</i>			−0.698*** (0.044)
<i>Bm</i>			−0.019*** (0.006)
<i>Liq</i>			−0.019*** (0.002)
<i>MS</i>			0.010 (0.008)
<i>CE</i>			0.220** (0.095)
<i>Age</i>			−0.055*** (0.007)
<i>Year</i>	<i>Not controlled</i>	<i>Controlled</i>	<i>Controlled</i>
<i>Ind</i>	<i>Not controlled</i>	<i>Controlled</i>	<i>Controlled</i>
<i>_cons</i>	0.937*** (0.009)	0.755*** (0.037)	2.225*** (0.175)
<i>Adj. R²</i>	0.001	0.120	0.196
<i>N</i>	8228	8228	8228

Note:***, **, and * are significant at the 1%, 5%, and 10% levels, respectively.
Adjusted cluster-robust standard errors are indicated in parentheses.