

Research on the Impact of Female Directors on Capital Structure Adjustment

-- Based on the perspective of crash risk

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Abstract. This paper selects all non-financial listed companies in Shanghai and Shenzhen A shares from 2010 to 2022 as the research object, based on dynamic capital structure theory, high-level echelon theory and resource dependence theory, through panel regression, to explore the impact of female directors themselves on the speed of capital structure adjustment; And introducing crash risk into the extended model to test the relationship between female directors and the speed of capital structure adjustment from the perspective of crash risk. The results show that the existence of female directors in the board of directors will optimize the capital structure, and the increase in the proportion of female directors in the board of directors will improve the speed of capital structure adjustment; Due to the characteristics of conservative and cautious women, the existence of female directors in the board of directors will reduce the risk of stock price collapse; Based on the perspective of collapse risk, female directors still improve the speed of capital structure adjustment.

Keywords: Female directors, Capital structure, Dynamic adjustment, Crash Risk.

1. Introduction

Since the financial crisis, coupled with the impact of the epidemic in 2020 and the downward pressure on the global economy, China's leverage ratio has risen significantly, and the burden of debt financing costs and financial risks borne by the company is heavy. In this context, the company has become the focus of "deleveraging". Behind the "deleveraging" policy is the change of capital structure. Only when the company's capital structure deviates from the target capital structure, the "deleveraging" policy will be effective, so the research on the company's capital structure is essential. Fischer established a dynamic capital structure model in 1989. After introducing the adjustment cost, it believes that the company's capital structure will deviate from the optimal capital structure to varying degrees, and the optimal capital structure itself is also changing dynamically. When the actual capital structure deviates too far from the optimal capital structure, managers will actively adjust the capital structure to gradually return to the target range and constantly approach the best. The company's capital structure is in a circular dynamic process of deviation adjustment re deviation re adjustment.

In recent years, the level of gender diversity in the company has risen steadily, and the performance of female managers has attracted more and more attention in the company's operation. The European Union has reached a political agreement requiring 40% of non executive directors of listed companies to be women by 2026; The outline for the development of women in China (2021-2030) proposes to increase the proportion of women in the board of directors and establish a reserve of female talents. According to the view of "irrational economic man", factors such as gender characteristics and overconfidence of managers will lead to systematic deviations in their financing decision-making behavior, and female managers will optimize the company's capital structure decision-making due to their own characteristics.[1]At the same time, compared with men, female directors, due to their more conservative personality, are less inclined to take too much risk and radical overinvestment in the process of company investment decision-making, and the quality of information disclosure is higher, thus reducing the risk of stock price collapse caused by excessive accumulation of negative information reaching the threshold of centralized release.

The company's capital structure is also closely linked to the national capital market environment. As one of the company's external environments, once the stock price plunges or even collapses, the company's financing costs will rise, which will lead to changes in capital structure. Therefore, when enterprises face the risk of stock price collapse, managers will turn to pay attention to and adjust the capital structure in order to protect the company's value, so as to reduce the decline of the company's value and minimize losses.

2. Impact mechanism and hypothesis to be verified

2.1. theoretical analysis

2.1.1 Female directors and the speed of capital structure adjustment

Firstly, this paper discusses the relationship between female directors and the speed of capital structure adjustment. Female directors are better at making intuitive decisions than male managers. The American biologist splaney empirically developed the "brain division theory" that women's right brain is more developed and therefore more intuitive. When the capital structure of enterprises deviates, the female board of directors with highly simplified thinking process is not constrained by logical thinking, and quickly judges the occurrence of deviation and decisively makes decisions through intuitive induction, which improves the speed of capital structure adjustment. Ma Jiayi believes that female directors are more observant and can better capture subtle changes and potential risks in the surrounding environment, so as to make timely decisions. ^[2] therefore, female directors are more likely to detect and adjust the changes in capital structure with insight, which is promoting the speed of capital structure adjustment. Female directors also have more efficient communication skills. Li Fang (2008) proposed that female managers should implement flexible leadership and be better at communication and coordination. Through identification and efficient communication, female directors create a good and open communication atmosphere, ensure smooth information sharing, and make more effective decisions under the network based flat organizational structure mode. ^[3] Efficient social skills and communication skills optimize financing conditions and channels, and provide convenience for dynamic adjustment of enterprise capital structure. In addition, female directors as a human capital can make decision-making more diversified; Using the unique human capital of female directors to obtain more social resources will help enterprises adjust their capital structure in time. ^[3] (campler et al., 2012) Su Meiling et al. Took the data of A-share listed companies in China from 2011 to 2016 as the research sample, and found that female directors have a positive effect on the speed of capital structure adjustment after empirical test. ^[3]

2.1.2 Female directors and the crash risk

As decision makers, female directors also affect the crash risk from different angles. First, female directors are more ethical. The study found that compared with male directors, female directors have stronger moral constraints on themselves, a higher moral bottom line makes female directors less illegal and criminal behavior, and less self-interest behavior motivated by opportunistic motives such as their own salary and personal reputation, which will reduce the crash risk. Second, female directors are mostly risk averse. In corporate decision-making, female directors are relatively conservative and less risk taking and aggressive financial strategies. Zhang Kun and Yang Dan (2013) studied the relevant data of Listed Companies in Shanghai and Shenzhen from 2004 to 2010, and found that female directors adopted robust strategies due to their relatively weak risk tolerance, which significantly improved corporate performance. ^[5] Therefore, low risk preference can enable female directors to avoid excessive risk behavior and reverse the crash risk. Third, female directors can reduce agency costs. Huang Xinyuan (2019) believes that the female board of directors reduces the agency cost of enterprises, and the risk preference of female directors is lower, and the lower risk preference plays a partial intermediary role in the relationship between female directors and agency cost. ^[6] Agency cost is positively correlated with the risk of stock price collapse, so reducing agency cost can reduce the risk of stock price collapse. Fourth, female directors enhance the internal governance

ability of enterprises. Female directors can improve the internal supervision mechanism of enterprises and reduce the possibility of corruption and information manipulation. At the same time, through communication and supervision, we can improve the quality of enterprise information disclosure and reduce information opacity. Tian Gaoliang and other studies have found that female boards promote the information content of stock prices, and reducing the degree of information asymmetry will reduce the risk of stock price collapse.^[7] In addition, Zhang Hengfeng and Liang Guoping (2015) found that enterprises with a high proportion of female directors have more robust accounting decisions, that is, stronger accounting robustness and lower earnings management level, which is conducive to reducing the occurrence of stock price plunges.^[8]

2.1.3 The Crash risk and the Speed of Capital Structure Adjustment

Ren Min's research found that the risk of a company's stock price collapse positively promotes the cost of equity capital of the company^[9]. Using multiple regression analysis in the early morning, the impact of stock price collapse risk on the capital cost of Chinese A-share companies was analyzed. The results showed that the higher the risk of stock price collapse, the higher the future equity capital cost and debt capital cost of the company. With the increase in the cost of equity capital and debt capital, managers are bound to accelerate the dynamic adjustment of capital structure in order to mitigate the negative impact of collapse risk on company value. Gu Xiaolong et al. found that the stronger the possibility of a company's future stock price collapse, the slower the speed of its capital structure adjustment;^[10] Liu Xiao studied non-financial listed companies in China's A-share market from 2010 to 2015, and found that under certain other conditions, the risk of stock price collapse is significantly positively correlated with the speed of capital structure adjustment, and significantly negatively correlated with the degree of capital structure deviation; Zou Ping also found that the greater the risk of stock price collapse, the higher the deviation degree of capital structure. There are relatively few literature on the impact of stock price collapse risk on the dynamic adjustment of capital structure in existing achievements, but the conclusion is basically consistent, that is, the crash risk will promote the speed of capital structure adjustment.

2.2. research hypothesis

Compared to men, female directors are more observant and intuitive, able to timely capture subtle changes and potential risks, and use intuitive thinking to make decisive decisions, shortening the time for capital structure adjustment; In addition, as human capital, female directors' efficient communication skills make it easier to create good financing channels for the dynamic adjustment of the company's capital structure, it is more convenient to optimize the company's capital structure, thus significantly accelerating the speed of capital structure adjustment. Based on this, the following assumptions are proposed:

H1: Compared to men, female directors can promote the dynamic adjustment speed of a company's capital structure.

Due to women's low risk preferences and high moral constraints, female boards reduce the risk of a company's stock price collapse, which can affect the company's capital structure. After introducing the risk of collapse into the extended model, based on this path, the female board of directors reduces the risk of collapse and then acts on the dynamic adjustment of capital structure; But at the same time, female directors themselves will accelerate the dynamic adjustment of capital structure. After introducing the risk of collapse, the relationship between female directors and capital structure is complex. Based on the literature on the impact of female directors on various aspects of capital structure, I propose the following hypothesis:

H2: Based on the perspective of collapse risk, female directors will still increase the speed of dynamic adjustment of capital structure.

3. Research design

3.1. Sample Data Description

This article selects all listed companies in China's Shanghai and Shenzhen A-shares from 2010 to 2022 as the research objects, and the sample data is unbalanced panel data. The financial data mainly comes from CSMAR, and some stock data comes from RESSET. The initial data is processed as follows: (1) According to the industry classification of China Securities Regulatory Commission (CSRC) in 2012, excluding data from listed companies in the financial industry. (2) Exclude sample data with ST, ST *, and asset liability ratio greater than 1. (3) In order to estimate the value of the crash risk, it is necessary to calculate the weekly specific return of each stock. Therefore, this article excludes samples with less than 30 trading weeks per year to ensure accurate estimation. (4) Eliminate samples with missing data that cannot be obtained through multiple channels. (5) Perform 1% to 99% tail reduction on continuous variables.

After manual screening and processing, 24481 data observations were ultimately obtained. This article uses Excel to preliminarily organize these data samples, and then applies Stata16 for subsequent empirical analysis.

3.2. Variable Definition

3.2.1 Capital structure(Lev)

Referring to the existing research foundation, this article uses total liabilities/total assets to measure the capital structure(Lev).

3.2.2 Female directors(Female)

In the empirical analysis process, this article uses the proportion of female directors to the total number of directors to measure female directors(Female);

3.2.3 Crash risk(Crashrisk)

Drawing on the method of Chen et al. (2001)^[11], NCSKEW and DUVOL are used to measure the crash risk of listed companies. Firstly, establish the following model:

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

Among them, $R_{i,t}$ is the return on reinvestment of stock i considering cash dividends in week t , and $R_{m,t}$ is the average return weighted by the circulating market value of all listed companies in week t . Estimate model (1) to obtain residual $\varepsilon_{i,t}$, thus obtaining the company specific rate of return: $W_{i,t} = \ln(1 + \varepsilon_{i,t})$.

Based on this, the following two crash risk measurement indicators are constructed:

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

Among them, n is the number of trading weeks for stock i . The larger the NCSKEW value, the more severe the degree of negative skewness coefficient, indicating a greater crash risk.

$$DUVOL = \log\{[(n_{up} - 1) \sum_{down} W_{i,t}^2] / [(n_{down} - 1) \sum_{up} W_{i,t}^2]\} \quad (3)$$

Among them, n_{up} and n_{down} are the number of weeks in which $W_{i,t}$ exceeds and falls below the annual average return $W_{i,t}$. The higher the DUVOL value, the more skewed the distribution of returns to the left, and the greater the crash risk.

The capital structure of listed companies is influenced by the characteristics of multiple companies. Referring to the research of Flannery and Rangan^[12], combined with existing research results, the following company characteristic factors were selected as control variables: company size, uniqueness, non debt tax shield, asset liquidity, profitability, asset tangibility, growth, and median industry debt ratio.

In addition, this article also incorporates industry and annual dummy variables to control for industry fixed effects and annual fixed effects. The definition and measurement of variables are shown in Table 1.

Table 1. Variable Definition

Variable name	symbol	Variable Definition
Capital structure	Lev	Total liabilities /total assets at the end of the period
Crash risk	NCSKEW DUVOL	Calculation can be found in formula (2) Calculation can be found in formula (3)
Female directors	Female	Female directors/total number of directors
Company size	Size	The natural logarithm of total assets
Uniqueness	Uniq	Sales expenses/main business income
Non-debt tax shield	Dep	Depreciation of fixed assets/total assets
Asset liquidity	Liq	Current assets/total assets
Profitability	Prof	EBIT/total assets
Asset Tangibility	Tang	(Fixed assets+inventory)/total assets
Growth	Tobinq	Market value/total assets
Industry	Ind	Industry dummy variable
Year	Year	Year dummy variable

3.3. Model building

3.3.1 Female directors and the speed of capital structure adjustment

In the first part of this paper, from the perspective of gender, in order to test the impact of female directors themselves on the speed of capital structure adjustment, and to study the impact of female directors on the speed of capital structure adjustment from the perspective of collapse risk after the introduction of stock price collapse risk, we intend to add female directors and collapse risk variables to the partial adjustment model to estimate the speed of capital structure adjustment of enterprises, To test the impact of female directors on the speed of capital structure adjustment.

(1) Explore the relationship between female directors and the speed of capital structure adjustment. First, set the local adjustment model, as shown in equation (4).

$$\text{Lev}_{i,t} - \text{Lev}_{i,t-1} = \lambda (\text{Lev}_{i,t}^* - \text{Lev}_{i,t-1}) \quad (4)$$

Secondly, fit the target capital structure. Target capital structure Lev^* is affected by company characteristics and time factors. This paper selects a series of company characteristic variables related to capital structure, and performs linear fitting of target capital structure. The fitting model is shown in (5):

$$\text{Lev}_{i,t}^* = \beta_0 + \beta_1 \text{Controls}_{i,t-1} \quad (5)$$

Bring equation (5) into equation (4) and add random error term to sort out the model (6):

$$\text{Lev}_{i,t} = \lambda \beta_0 + (1 - \lambda) \text{Lev}_{i,t-1} + \lambda \beta_1 \text{Controls}_{i,t-1} + \varepsilon \quad (6)$$

Among them, λ The average annual capital structure adjustment rate of the sample companies estimated for the model. To test the impact of female directors on the speed of capital structure adjustment, this article adds female director variables and interaction terms between female directors and capital structure on the basis of model (6), and obtains an extended model (7):

$$\text{Lev}_{i,t} = \alpha_1 + (1 - \lambda_1) \text{Lev}_{i,t-1} + \gamma_1 \text{Female}_{i,t-1} + \eta_1 \text{Female}_{i,t-1} * \text{Lev}_{i,t-1} + \beta_1 \text{Controls}_{i,t-1} + \varepsilon \quad (7)$$

In the model, the speed of capital structure adjustment is $\lambda_1 - \eta_1 \text{Female}_{i,t-1}$. Under normal circumstances, female directors in the board of directors are positive. If the symbol of is significantly positive, it indicates that the speed of capital structure adjustment will decrease as the proportion of female directors in the board of directors increases; On the contrary, if the sign of is significantly

negative, it indicates that the speed of capital structure adjustment will increase as the proportion of female directors in the board of directors increases.

3.3.2 From the perspective of crash risk, female directors and the speed of capital structure adjustment

The second part of this article introduces the crash risk. This article selects NCSKEW and DUVOL as two indicators to measure the crash risk. Based on the perspective of collapse risk, it tests whether the impact of female directors on capital structure adjustment has changed. It is divided into the following two steps:

Firstly, explore the impact of female directors on the crash risk, and establish a panel regression model (8) for the relationship between female directors and the crash risk, as follows:

$$\text{CrashRisk}_{i,t} = \alpha_2 + \phi_2 \text{CrashRisk}_{i,t-1} + \gamma_2 \text{Female}_{i,t} + \beta_2 \text{Controls}_{i,t} + \varepsilon \quad (8)$$

If γ_2 significantly negative, it indicates that female directors reduce the crash risk;

Secondly, the crash risk, female director variables, and interaction terms are simultaneously introduced into the local adjustment model to obtain an extended model, exploring how female directors affect the speed and degree of deviation of a company's capital structure adjustment from the perspective of crash risk. The specific regression model is as follows:

$$\begin{aligned} \text{Lev}_{i,t} = & \alpha_3 + (1 - \lambda_3) \text{Lev}_{i,t-1} + \gamma_3 \text{Female}_{i,t-1} + \eta_3 \text{Female}_{i,t-1} * \text{Lev}_{i,t-1} \\ & + \phi_3 \text{CrashRisk}_{i,t-1} + \theta_3 \text{CrashRisk}_{i,t-1} * \text{Lev}_{i,t-1} \\ & + \omega_3 \text{Female}_{i,t-1} * \text{CrashRisk}_{i,t-1} * \text{Lev}_{i,t-1} + \beta_3 \text{Controls}_{i,t-1} + \varepsilon \end{aligned} \quad (9)$$

The crash risk indicators of two models use the fitted values of model (8). If $\eta_3 + \omega_3$ is significantly positive in model (9), it indicates that after introducing the crash risk, the speed of capital structure adjustment will decrease as the proportion of female directors in the board of directors increases; If $\eta_3 + \omega_3$ is zero, it indicates that the risk of stock price collapse does not affect the speed of capital structure adjustment by female directors; If $\eta_3 + \omega_3$ is negative, the speed of capital structure adjustment will increase as the proportion of female directors in the board of directors increases after introducing the crash risk.

4. Empirical analysis

4.1. The speed of dynamic adjustment of female directors and capital structure.

In order to examine the impact of female directors themselves on the speed of dynamic capital structure adjustment, referring to regression model (7), and the specific results are shown in Table 2.

According to the test results in Table 2, the coefficient of the interaction terms $\text{Female}_{i,t-1} * \text{Lev}_{i,t-1}$ is significantly negative at the 5% level. According to the model setting, it indicates that the higher the proportion of women in the board of directors, the more helpful it is to improve the speed of capital structure adjustment. The empirical results are consistent with the research hypothesis. Female directors, due to their keen observation ability, timely perceive subtle changes and potential risks in the external environment, and use direct thinking to make decisive decisions; Meanwhile, due to the unique human capital attributes brought by female directors, they can help companies dynamically adjust their capital structure, obtain key resources, and create good financing channels, significantly accelerating the speed of capital structure adjustment. Therefore, hypothesis 1 can be verified.

Table 2. Empirical results (1)

variable	Explained Variable $Lev_{i,t}$
$Lev_{i,t-1}$	0.6100*** (0.0124)
$Female_{i,t-1}$	0.0447** (0.0197)
$Female_{i,t-1} * Lev_{i,t-1}$	-0.0996** (0.0432)
$Size_{i,t-1}$	0.0146*** (0.0025)
$Dep_{i,t-1}$	-0.7780*** (0.1260)
$Liq_{i,t-1}$	-0.0316*** (0.0095)
$Prof_{i,t-1}$	-0.0506*** (0.0173)
$Tang_{i,t-1}$	0.0405*** (0.0102)
$Tobinq_{i,t-1}$	-0.0013 (0.0008)
$Uniq_{i,t-1}$	-0.0338 (0.0223)
Indmed	0.0155 (0.0259)
Constant	-0.1270** (0.0578)
N	24481
Adj-R ²	0.848
Ind/Year	YES

Note: * * *, * *, and * respectively indicate significance at the 1%, 5%, and 10% significance levels, with standard error in parentheses (the same below).

4.2. From the perspective of crash risk, the relationship between female directors and capital structure adjustment.

To examine whether the relationship between female directors and the speed of capital structure adjustment has changed after the introduction of crash risk, this section first explores the relationship between female directors and crash risk. Referring to the regression model (8), perform a regression analysis on the entire sample data, please refer to Table 3 for specific processing.

Table 3. Empirical results (2)

Variable	Explained Variable <i>NCSKEW</i>	Explained Variable <i>DUVOL</i>
<i>CrashRisk_{t-1}</i>	-0.0794*** (0.0075)	-0.1670*** (0.0074)
<i>Female</i>	-0.1430** (0.0590)	-0.1400** (0.0669)
<i>Size</i>	-0.0182 (0.0130)	-0.0549*** (0.0143)
<i>Dep</i>	-0.8610 (0.8460)	-1.1730 (0.9190)
<i>Liq</i>	0.0938* (0.0553)	-0.1790*** (0.0617)
<i>Prof</i>	-0.0854 (0.0924)	0.5420*** (0.1000)
<i>Tang</i>	-0.1530** (0.0625)	-0.0977 (0.0695)
<i>Tobinq</i>	-0.0160*** (0.0048)	-0.0615*** (0.0055)
<i>Uniq</i>	-0.0084 (0.1440)	-0.1470 (0.1560)
<i>Constant</i>	0.2650 (0.3050)	1.6080*** (0.3360)
<i>N</i>	24481	24481
<i>Adj-R²</i>	0.0734	0.1140
<i>Ind/Year</i>	YES	YES

Note: * * *, * *, and * respectively indicate significance at the 1%, 5%, and 10% significance levels, with standard error in parentheses (the same below).

The first and second columns respectively show the regression results of using different indicators *NCSKEW* and *DUVOL* to measure the crash risk. From Table 3, it can be seen that regardless of which indicator is used to measure the risk of stock price collapse, the coefficients of female directors are significantly negative, indicating that an increase in the proportion of female directors in the board of directors will significantly reduce the risk of stock price collapse. Due to the cautious personality traits of female directors, the risk of stock price collapse can be reduced by increasing information transparency; Most female directors are risk averse and tend to adopt conservative decisions, reducing the possibility of stock price crashes caused by overinvestment; In addition, female directors have a higher moral standard, resulting in less illegal and opportunistic behavior, lower agency costs, and thus reducing the risk of stock price collapse.

In order to explore how female directors affect the dynamic adjustment speed of capital structure after introducing the risk of collapse, referring to the regression model 9), full sample data was selected, and *NCSKEW* and *DUVOL* were respectively substituted into the model for panel regression, as shown in Table 4.

According to the test results in Table 4, the coefficients of the interaction terms $\text{Female}_{i,t-1} * \text{Lev}_{i,t-1}$ are significantly negative, indicating that female directors in the board of directors themselves will accelerate the speed of capital structure adjustment. After introducing the risk of collapse, the coefficients of the interaction terms $\text{Female}_{i,t-1} * \text{CrashRisk}_{i,t-1} * \text{Lev}_{i,t-1}$, and $t-1$ for the three variables are negative $\eta_3 + \omega_3$ is significantly negative, indicating that after introducing the risk of collapse, from this path, female directors affect the risk of collapse and thus increase the overall speed of capital structure adjustment. In addition, female directors themselves will also significantly increase the speed of capital structure adjustment. Overall, an increase in the

proportion of female directors in the board of directors will increase the speed of capital structure adjustment, thereby ensuring the sustainability of enterprise development.

Table 4. Empirical results (3)

Variable	Explained Variable $Lev_{i,t}$	
	NCSKEW	DUVOL
$Lev_{i,t-1}$	0.5930*** (0.0186)	0.6150*** (0.0126)
$Female_{i,t-1}$	0.0487** (0.0199)	0.0445** (0.0197)
$Female_{i,t-1} * Lev_{i,t-1}$	-0.1290** (0.0634)	-0.0823* (0.0426)
$CrashRisk_{i,t-1}$	0.0621** (0.0298)	-0.0005 (0.0126)
$CrashRisk_{i,t-1} * Lev_{i,t-1}$	-0.0802 (0.0668)	-0.0622** (0.0271)
$Female_{i,t-1} * CrashRisk_{i,t-1} * Lev_{i,t-1}$	-0.1110 (0.1800)	-0.1080 (0.0895)
$Female_{i,t-1} * CrashRisk_{i,t-1}$		
$Size_{i,t-1}$	0.0148*** (0.0025)	0.0144*** (0.0025)
$Dep_{i,t-1}$	-0.7770*** (0.1260)	-0.8000*** (0.1260)
$Liq_{i,t-1}$	-0.0342*** (0.0095)	-0.0365*** (0.0095)
$Prof_{i,t-1}$	-0.0515*** (0.0173)	-0.0548*** (0.0173)
$Tang_{i,t-1}$	0.0416*** (0.0103)	0.0376*** (0.0102)
$Tobinq_{i,t-1}$	-0.0013 (0.0008)	-0.0010 (0.0008)
$Uniq_{i,t-1}$	-0.0344 (0.0224)	-0.0350 (0.0222)
$Indmed_{i,t-1}$	0.0152 (0.0260)	0.0177 (0.0259)
Constant	-0.1180** (0.0577)	-0.1190** (0.0578)
N	24481	24481
Adj-R ²	0.848	0.849
Ind/Year	YES	YES

Note: * * *, * *, and * respectively indicate significance at the 1%, 5%, and 10% significance levels, with standard error in parentheses (the same below).

5. Summary

(1) The relationship between female directors and dynamic adjustment of capital structure. Due to the highly simplified thinking process of female directors, their ability to quickly judge deviations and make decisions based on intuition, and their ability to communicate effectively, the presence of

female directors in the board of directors will optimize the capital structure, and the proportion of female directors in the board will increase, which will accelerate the speed of capital structure adjustment.

(2) The relationship between female directors and the crash risk. Compared with male directors, female directors have stronger moral binding force, lower agency cost, conservative prudence and stronger corporate governance ability, which will reduce the crash risk.

(3) Based on the perspective of crash risk, the relationship between female directors and the dynamic adjustment of capital structure. After introducing the crash risk, this paper still examines the impact of female directors on capital structure adjustment. The results show that in terms of the speed of capital structure adjustment, although female directors reduce the crash risk and thus affect the speed of adjustment, female directors will still improve the speed of capital structure adjustment due to their stronger role in the speed of capital structure adjustment.

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