

# Early Warning Effect of “Wearing Cap” and “Catching Cap” on the Company’s Risk Structure

## —Empirical Research Based on Breakpoint Regression Design

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### Abstract

This paper takes the listed companies in China from 2010 to 2015 as samples, which uses the breakpoint regression design to analyze the change of risk structure and its possible mechanism of listed companies after wearing and removing hats. The results show that the short-term solvency of listed companies deteriorates after wearing hats, and the long-term liabilities increase significantly. R&D expenditure decreased significantly, and cash flow level deteriorated. Financial leverage and comprehensive leverage increased significantly, and the total market value of the company decreased significantly, which led to a significant deterioration in the short-term financial risk structure of the company after wearing a hat.

### Keywords

Special Treatment System, Risk Structure, The Regression Discontinuity Designs

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## 1. Introduction

Economist Jonathan’s modern market economy structure is mainly divided into four levels: the natural resources of the physical form constitute the first level, commodity trade in services constitutes the second floor, stocks, bonds and other securities constitute the third level, financial derivatives constitute the fourth level, the first two levels are the real economy category, the last two levels are based on the previous two levels, produced for the real economy. In turn, it will also work in the real economy by playing the role of resource allocation in the securities market, to reflect the function of the stock market as a barometer of real economic development.

In the process of macroeconomic operation, economists have great differences in analyzing the role of stock market development in economic development. Some experts believe that the stock market has a strong positive correlation with economic growth, and suggest that the effective capital market divides the stock market into a strong and efficient market. The semi-strong effective market and the weak effective market believe that in a strong and efficient market, the investor information cost tends to zero, and the capital efficiency can be effectively allocated to promote economic growth. Others believe that the correlation between stock market development and economic growth is not large. People put money into the stock market based on risk sharing and other reasons, resulting in lower national savings rate and lower potential growth rate.

China's Shanghai stock market was established in 1990. Shenzhen Stock Exchange was established in 1991. In 2005, it experienced the split share structure reform, adapted to the direction of capital market reform and stable development, and the delisting system and the reform of the registration system of the primary market issuance system. Advance improvement, the effectiveness of China's stock market will inevitably continue to improve. By analyzing the development experience of capital markets in developed countries, we find that developed countries' stock markets have a complete delisting system for listed companies. The delisting system of China's stock market has been criticized by people, mainly since the establishment of the stock market. Lower than the developed countries' markets, the problem of China's stock market formation is difficult to enter, which seriously affects the function of stock market value discovery. Due to the problem of investor structure in China's stock market, retail investors account for a large proportion. In the process of promoting the delisting system, we first adopt a special treatment system to mark the enterprises whose fundamentals have deteriorated, and to pass such signals to investors to make investors the focus shifts to the company, which helps to form a value investment concept.

"ST" (Special Treatment, "special treatment", hereinafter referred to as wearing a hat) is an intermediate measure for the company's normal listing and suspension of listing, mainly to convey to investors the signal of poor company management, to avoid investors' larger Loss of assets. By analyzing the data of A-share listed companies in 2010-2015, we found that the majority of the wearing caps due to abnormal financial status, the abnormal financial situation we mentioned here only refers to the company's net profit for two consecutive fiscal years is negative. This situation, which was worn for three years, was mainly caused by poor management of the company. The research topics we focus on are mainly about whether the risk structure indicators will change significantly before and after the company wears the hat, and the mechanism analysis is behind this change. Understanding this problem will help us understand the special treatment system in promoting the delisting system. The role played in the process makes it easy for us to analyze the original intention of setting up a spe-

cial treatment system. In the articles we searched for, few systematic studies of this aspect were found.

Our research found that the company's short-term solvency is significantly worse after wearing a cap. This may be caused by the company's short-term ability to operate poorly, and the short-term cash flow level deteriorates, resulting in a deterioration in short-term solvency. For the sake of continuing operations, in the case of deteriorating cash flow levels, it is necessary to increase financial leverage. In the short term, the company's financial risks have also increased further. We can also see that the company's relative value indicators are significantly worse. It can be judged that the company's short-term operation has caused the company to wear a hat. After the company wears a hat, it signals the social investors that the company's business is deteriorating. The short-term solvency of the company is worsened due to its own mismanagement and social financing. As a result, the company's financial leverage and financial risks continue to increase.

Compared with the existing literature, the contribution of this paper lies in: First, after analyzing the impact of the company's wearing cap on its risk structure, we analyze its possible impact mechanism. According to a study by Servaes *et al.* (2017), the more social capital a company has, the smaller the credit spread of its borrowings, and the longer the borrowing period, which is mainly due to the creditors' based on the social capital of the enterprise [1]. Trust, this kind of trust can make enterprises enjoy greater convenience in financing. In the existing literature, there is little discussion about the mechanisms behind it. Second, when discussing the impact of wearing caps on risk structure indicators, this paper uses the method of breakpoint regression design. In the subject we studied, there is a strong endogeneity. Since the net profit of the company is negative for two consecutive years, the impact of the research special treatment system on the financial data must be endogenous. We use the breakpoint regression. The method can eliminate other interferences, only to see the impact of wearing a cap on stocks. This effect has two aspects, namely, the impact on the price limit of stock trading and the impact on the risk structure indicators of enterprises.

The following structure is arranged as follows: the second part is the literature review; the third part is the data source; the fourth part is the empirical analysis; the last is the conclusion of this paper.

## 2. Literature Review

In the process of implementing the special treatment system, the listed company was wearing a cap due to poor management, wearing a hat as a signal to convey the deterioration of the company's operations. After the investor knew the signal, he would vote in the stock market to sell the stock. As a result, the company's financing in the capital market is limited, which will have a certain impact on the company's follow-up operations. After the investors got the news of the

company wearing a hat, why did investors make a sale of stocks? The company's wearing of caps mainly affects the company's profitability. After searching the existing literature, we found that scholars have deeper research on the performance of the company after wearing the cap and the actions taken by the executives.

The first is the change of company performance after special treatment. Cai Wangchun *et al.* (2016) found that the special treatment system will lead to a decline in the operating performance of listed companies, and damage the profitability of Listed Companies in the next period [2]. Feng Yun *et al.* (2009) found that delisting system did not significantly promote the listed companies' efforts to improve the quality of the company, because after wearing hats, the company would carry out "shelling" activities, and the company's operating performance did not significantly improve [3]. Lv Changjiang *et al.* (2007) found that the restructuring of ST company only has immediate effect, and it is difficult to bring about the overall improvement and improvement of company performance [3]. Li Zhe *et al.* (2006) found that ST company has serious opportunistic reorganization, and its profitability has not been substantially improved [4]. Wu Jinhua *et al.* (2013) selected 31 hat-wearing enterprises and 31 non-hat-wearing enterprises in 2013. By analyzing and comparing some of the financial indicators with great differences, the study found that hat-wearing enterprises and non-hat-wearing enterprises have great differences in short-term solvency, asset management efficiency and long-term solvency [5]. Tang Qiming *et al.* (2006) used the method of event study to select the cap-wearing enterprises in 2004. The study found that the reaction of Chinese A shares to ST cap-wearing and cap-removal was far from rapid, reflecting that Chinese A shares were not a semi-strong efficient market. There was a strong atmosphere of speculation and speculation in the market. In addition, the reaction of A shares to good news was delayed and adverse, and the reaction to bad news was excessive [6].

The second is the action taken by controlling shareholders and executives after the company has been specially treated. Peng *et al.* (2011) used the data of China's listed companies to conduct empirical research, and found strong evidence to support the large shareholders' conveying interests to listed companies when the company is in financial distress [7]. Cheng *et al.* (2010) found that although specially treated companies adopted more earnings management, its effect was not obvious. On the contrary, the threat of delisting led to more substantial restructuring to improve corporate performance [8]. Mahenthiran *et al.* (2009) found that after being specially treated, companies are keen to improve their performance through earnings management [9]. Green *et al.* (2009) found that listed companies have problems of profit manipulation and audit opinions buyout after special treatment [10]. Yang (2006) found that after wearing a hat, the company increased its earnings by earnings management, reducing R&D costs and selling assets to avoid delisting risk [11]. Bai *et al.* (2004) pointed out that the special treatment system helps to promote the formation of corporate

control market. After special treatment, the major shareholders generally show their support for listed companies. ST company has achieved significant positive cumulative excess returns in two years of special treatment [12]. Zhu Tao *et al.* (2012) used 244 listed companies specially treated between 1999 and 2005 to study the effects and influencing factors of the implementation of the special treatment system and the role played by local governments. The study found that after the company was specially treated, the main solution was to solve the difficulties encountered by the company by replacing the controlling shareholders of listed companies, and some enterprises. In the case of changing the controlling shareholders, the local government plays a greater role. It mainly refers to the areas with less government intervention and good governance environment, and the more likely the controlling shareholders of the specially treated enterprises are to be replaced [13]. Zhu Desheng *et al.* (2006) selected 97 cap-wearing enterprises in 2004 as the research object, and used Logistic model to analyze the reasons for the change of top managers in cap-wearing enterprises. Research and development found that the change of top managers in cap-wearing enterprises was positively correlated with the change of large shareholders, negatively correlated with ROE, and not significantly correlated with cash flow per share and the proportion of state-owned shares [14]. Gong Dalin *et al.* (2012) selected the data of enterprises that cancelled ST from 2009 to 2011, and compared it with the samples of enterprises that still retained ST in 2011. Through the analysis of salary incentive mechanism of cap-removal enterprises and cap-wearing enterprises, it was found that the salary level and salary gap of cap-wearing enterprises were lower than those of ST-withdrawing enterprises. In addition, the salary incentive mechanism of cap-wearing enterprises was also lower than that of ST-withdrawing enterprises. The industry is more perfect [15]. Zhang Xinmin *et al.* (2016) analyzed the relationship between executive compensation and hat-wearing and hat-removal by selecting cap-wearing enterprises and ST-revoked enterprises from 2006 to 2014 as samples and using logit model. The research found that enterprises with low executive compensation and low proportion of executive shareholding were more likely to wear hats; for cap-wearing enterprises, those with low executive shareholding took longer to take off their hats [16].

Thirdly, in the process of wearing hats, which indicators can be used for early warning. Jiang Guohua *et al.* (2004) used logistic regression model to predict the company's cap-wearing in 2003 through financial and equity indicators in 2000. Selected the cap-wearing enterprises in 2003 as samples, the study found that the main business profit rate and the proportion of the largest shareholder can significantly affect the company's cap-wearing probability in two years [17]. Chen Yu *et al.* (2000) selected 58 companies wearing hats in 1998 and 1999 as samples to forecast the financial indicators of companies wearing hats. The study found that with the approaching of the year of wearing hats, the closer to the year of wearing hats, the greater the difference of financial ratios between wearing hats

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companies and normal companies [18].

### 3. Research Method

#### 3.1. Data Sources

There are many reasons for the listed companies to wear caps. Some of them are wearing caps due to abnormal financial conditions, some wearing caps due to natural disasters, some wearing caps for other reasons, and other reasons for wearing caps. It is difficult to observe, so we analyze the reasons for wearing a cap due to abnormal financial conditions. For the majority of investors, we can publicly obtain information about the company generally through the financial statements published by the company. Investors make investment decisions generally rely on the financial statements published by the company, so we use the cap of the financial situation to analyze. There is a certain degree of rationality.

This paper selects the listed companies from 2010 to 2015 as the research samples. The data comes from the RESSET database. After downloading all the listed company data from 2010 to 2015, we will first select the stocks that have had the experience of wearing caps in these 6 years. Then, the company that removed the cap in early 2010 was removed, and the company has been wearing the cap and the uncompleted shares and the missing data in the past six years, so that a total of 254 valid samples were obtained. Among them, there are 114 “wearing caps” and 140 “caps”.

In the suggestive announcement before the special treatment (ST), we calculated the reasons for the “wearing cap” of ST enterprises, which are mainly divided into the following categories: 90 samples are due to losses in consecutive two years, accounting for 83%; 11 The sample was issued with an audit report that could not express opinions, accounting for 8%; the net assets per share at the end of the 10 sample period was negative, accounting for 7%; one was guaranteed by the actual controller because of the violation, accounting for 0.7%; The main business was discontinued and could not be recovered in three months, accounting for 0.7%. Since it is easier to set the running variable by using the negative net profit for two consecutive years, we select the sample that has been lost for two consecutive years in the “wearing cap” group.

We are studying the changes in the risk structure indicators before and after the company wears caps. According to previous studies, we use the following indicators to represent the risk structure, mainly including debt service ratios: quick ratio, working capital and long-term debt-to-debt ratio, cash. Flow level: operating index, capital expenditure and depreciation amortization ratio and cash reinvestment ratio, risk level: financial leverage, operating leverage and comprehensive leverage, valuation indicators: price-earnings ratio, price-to-book ratio, market capitalization tangible assets ratio and book value ratio. See the appendix for the calculation formula.

### 3.2. Results and Analysis

#### 1) Model construction

The Regression Discontinuity Designs (RDD) method is an exogenous institutional or policy breakpoint that distributes samples to both sides of the breakpoint according to a pre-determined rule. The study samples on both sides of the breakpoint are affected by random factors. Then, examine the impact of such a system or policy on the study sample to achieve the effect of natural experiments. The China Securities Regulatory Commission has put on a hat on listed companies with abnormal financial status. This system provides us with such an institutional breakpoint. So this article refers to Cook (2008) and Lee and Lemieux (2010) to set up the RDD model, set the empirical model as follows:

$$Y_i = \alpha_0 + \alpha_1 D + \alpha_2 Z_i + \varepsilon_i$$

$Y_i$  value indicating the risk structure indicator,  $D$  indicates whether to wear a cap. Before wearing a cap,  $D$  is 0. After wearing the cap,  $D$  is 1.  $\alpha_1$  is a key factor indicating the change in the risk structure indicator of the company after being dealt with by the cap,  $Z_i$  is grouping variable.  $\alpha_0$  is constant term.  $\varepsilon_i$  is random disturbance.

#### 2) Empirical results

##### a) Analysis of changes in daily trading data after wearing a cap

First, we study how the company's daily closing price, the number of daily stock trading shares and the daily stock trading volume change before and after wearing the cap. We take the data of 20, 30, 60 and 90 trading days before and after wearing the cap for analysis. Here we only report the key coefficient  $\alpha_1$ .

From **Table 1**, we can see that the company's closing price has decreased significantly after 20 trading days after wearing the cap. The number of daily trading shares and daily trading amount is also significantly lower, indicating that the company wears a hat as a negative signal to investors. Investors selling company stocks in the market caused the company's stock price to fall, while the amount of participation in the company's transactions fell sharply, indicating that the special handling system played a role in indicating risks. On the 30<sup>th</sup>, 60<sup>th</sup>

**Table 1.** Analysis of changes in daily trading data of companies before and after wearing caps.

Explained variable	(-20, 20)	(-30, 30)	(-60, 60)	(-90, 90)
Clspc	-0.754**	-0.742**	-0.512**	-0.337**
Daily closing price	(0.355)	(0.301)	(0.210)	(0.165)
lnDnshrtrd	-0.500***	-0.430***	-0.356***	-0.405***
Daily trading shares	(0.0813)	(0.0645)	(0.0443)	(0.0361)
lnDnvaltrd	-0.586***	-0.514***	-0.451***	-0.494***
Daily transaction amount	(0.0894)	(0.0710)	(0.0484)	(0.0387)

Source of data: According to the data of the RESSET database listed companies in 2010-2015. Robust standard errors in parentheses. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.



and 90<sup>th</sup> days after wearing the hat, the daily closing price decreased significantly, and the number of daily trading shares and daily trading amount decreased significantly, indicating that the result is relatively stable. We can see from the coefficient that the wearing time is later. The larger the coefficient, the smaller the daily closing price, the number of daily trading shares and the daily trading amount are affected.

b) Breakpoint regression analysis results of wearing caps

We studied how the risk structure indicators of the company changed before and after wearing a hat. We will be divided into four sections before and after wearing the cap, which are 1 quarter, 2 quarters, 3 quarters and 4 quarters after wearing the cap. We observe the changes in the risk structure indicators of the company within these bandwidths. We only report key factor  $\alpha_1$  here.

Let us first look at the regression result with a bandwidth of 1, representing three indicators of solvency (**Table 2**): quick ratio, working capital, and long-term debt-to-equity ratio. In contrast, the quick ratio and working capital are mainly used to indicate the change in the solvency of the company after wearing the cap in the short term. We can see that the quick ratio is negative after wearing the cap. The ability to sell debts is weakening, but not statistically significant. Working capital was significantly reduced after wearing a cap, which intuitively reflected the weakening of the company's short-term solvency. These two indicators show that the company's short-term solvency will be weakened after wearing a cap. The long-term debt-to-equity ratio has increased significantly, indicating that the company's liabilities have increased significantly after wearing a cap. It also shows that the company may adopt a form of expanding long-term liabilities to get the company out of trouble after wearing a cap. Therefore, we can see from the above three indicators that the company's solvency will weaken immediately after wearing the cap, and the company will reduce its long-term debt to deal with the company's ability to reduce its capital market after wearing a cap. Therefore, long-term liabilities are significantly increased.

Three indicators representing cash flow: operating index, capital expenditure and depreciation amortization ratio, and cash reinvestment ratio. The company's operating index and cash reinvestment ratio are both significantly reduced after wearing a cap, indicating that the company's short-term cash flow after the cap is reduced, resulting in a significant deterioration in the company's short-term cash flow. The reason may be that the company's capital turnover rate has decreased after wearing the cap. The ratio of capital expenditure to depreciation and amortization is significantly reduced, indicating that the company's capital expenditure after wearing a cap is reduced, indicating that the company's investment in assets after wearing a cap is reduced. In view of the significant reduction in the ratio of intangible assets. After seeing the company wearing a cap, its investment in investment has been reduced. This may be due to the fact that the company is limited by financing in the capital market after wearing the cap, thus reducing investment in investment.



**Table 2.** Regression analysis of the influence of wearing cap on the risk structure index of the company.

Explained variable	1	2	3	4
<u>quick ratio</u>	-0.0160 (0.0414)	0.0278 (0.0500)	0.0963** (0.0391)	0.104*** (0.0278)
<u>working capital</u>	-0.230*** (0.0352)	-0.157*** (0.0287)	-0.134*** (0.0243)	-0.0622*** (0.0182)
longtermcapital	0.0394*** (0.0120)	0.0414*** (0.00924)	0.0361*** (0.00720)	0.0194*** (0.00549)
operating index	-0.00587*** (0.00125)	-0.0107*** (0.00163)	-0.00231* (0.00123)	-0.000943 (0.00392)
capital expenditure	-0.0679*** (0.0103)	-0.0974*** (0.0142)	-0.0567*** (0.0111)	-0.0107 (0.00759)
cashreinvestmen	-0.0543 (0.0689)	-0.231*** (0.0500)	-0.224*** (0.0374)	-0.125*** (0.0258)
financialleverage	0.0194*** (0.00481)	-0.0147 (0.0165)	0.0425** (0.0173)	0.0593*** (0.0119)
operatinglever	0.0101 (0.00832)	-0.0165** (0.00763)	0.0187*** (0.00591)	0.0393*** (0.00431)
comprehensivelever	0.0316*** (0.00655)	-0.0159 (0.0227)	0.0524** (0.0220)	0.105*** (0.0152)
pe	-0.0121 (0.0100)	-0.0570*** (0.0114)	-0.0450*** (0.00890)	0.00582 (0.00650)
pb	-0.222*** (0.0250)	-0.255*** (0.0189)	-0.179*** (0.0141)	-0.118*** (0.00972)
markettangible	-0.372*** (0.0501)	-0.471*** (0.0608)	-0.231*** (0.0456)	-0.134*** (0.0314)
booktomarket	0.134*** (0.0382)	0.177*** (0.0319)	0.182*** (0.0257)	0.179*** (0.0189)

Source of data: According to the data of the RESSET database listed companies in 2010-2015. Robust standard errors in parentheses. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1.

Three indicators representing risk levels: financial leverage, operating leverage and comprehensive leverage. It can be seen that after wearing the cap, the financial leverage has increased significantly, which has led to a further increase in the risk level. This may be due to the fact that the company has turned to the bank or other institutions for financing after the capital market financing is restricted, resulting in further improvement of its financial leverage. This will also have a certain impact on the company's operations, or it may be that the company adopts a radical strategy after wearing a hat to get rid of the state of wearing a

hat. The company's operating leverage has also improved to a certain extent, but it is not statistically significant. It may be due to the company's expansion of financial expenses and operating expenses have not increased significantly. On the whole, we can see that the company's comprehensive leverage is significantly improved, and the company's risk level is further improved after wearing the cap.

Four indicators representing relative value indicators: price-to-earnings ratio, price-to-book ratio, market capitalization tangible assets ratio, and book value-to-market ratio. We see that the price-earnings ratio is lower, but it is not statistically significant. It may be because the company's stock price will drop immediately after the company releases the information on the bearish information, resulting in a decline in the price-earnings ratio. The price-to-book ratio has also declined after wearing a cap, and it has been significantly reduced. The market-to-value ratio of tangible assets has also decreased significantly. The book-to-market ratio has increased significantly. These are after the company announced the wearing of cap information. In response, the reaction is a sharp drop in the stock price, which leads to a decrease in the company's market value. It shows that the special treatment system has certain feedback effect on the wearing company.

Then we can see that in the bandwidth from 2 to 4, the quick ratio is not significant, and the latter is significantly improved. The working capital is significantly negative, indicating that the company's solvency is significantly worse in the short term, long-term capital. The debt ratio is significantly positive, indicating that the company's long-term liabilities are increasing after wearing the cap; the operating index is significantly positive at 3, but the coefficient value is relatively small, and the rest is significantly negative, capital expenditure and depreciation. The amortization ratio is significantly negative, the result is relatively stable, the cash reinvestment ratio is negative at 1 time, but it is not statistically significant, indicating that the company's reinvestment rate after wearing a cap is declining, in the range of bandwidth 2 to 4. The cash reinvestment rate coefficient is significantly negative, indicating that the company's cash reinvestment rate is lower after wearing the cap, which also shows that the company is significantly reduced after investing in the hat; we can see the financial Leverage, operating leverage and integrated leverage are significantly positive in subsequent bandwidths, indicating that the company's risk level is improved after wearing a cap, and also indicates our knot. Relatively stable; in the analysis of the relative value of the index, we can see that in follow-up bandwidth, the result is more robust.

#### c) Breakpoint regression graph

After regression analysis of the above four groups of risk structure indicators, we can see that our results are relatively stable. Next, let's look at the breakpoint regression graphs of the various indicators of the company after wearing the cap. We choose the range of bandwidth 4 to draw a breakpoint regression graph, the graph is as follows:

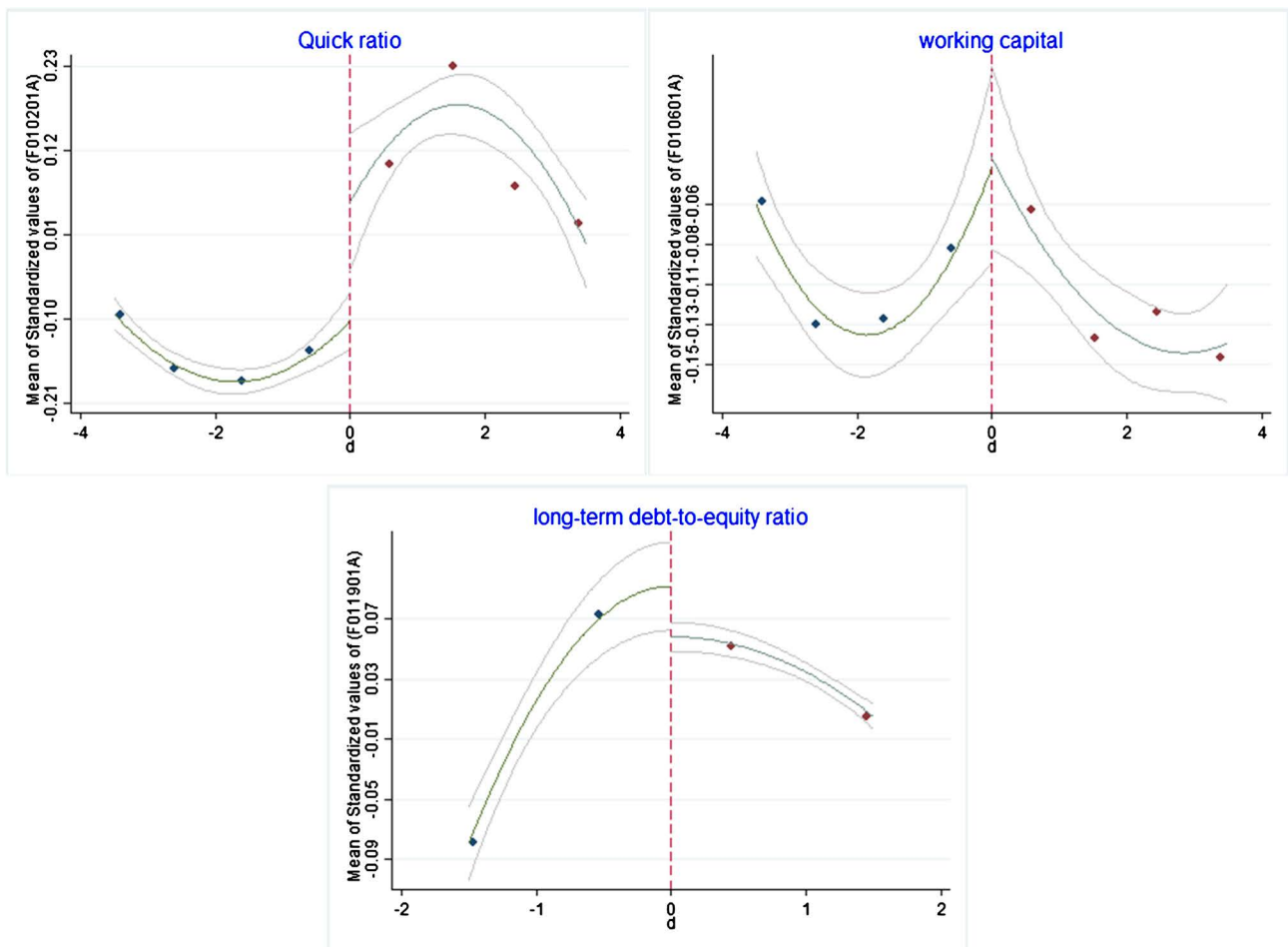
Indicators representing solvency: quick ratio, working capital and long-term

debt-to-equity ratio.

From **Figure 1**, we can see that the quick ratio is significantly improved after the company wears a cap. The change in working capital is not significant, but its coefficient is negative, indicating that the company's short-term solvency after wearing a cap is weakened, long-term capital liabilities. The rate has increased significantly after the company wears a cap, indicating that after the company wears a cap, it expands its long-term liabilities to make up for the short-term problem of difficulty in financing in the capital market due to wearing a hat. So we can see that after wearing a cap, the company's short-term solvency is weakened, and long-term liabilities are expanding.

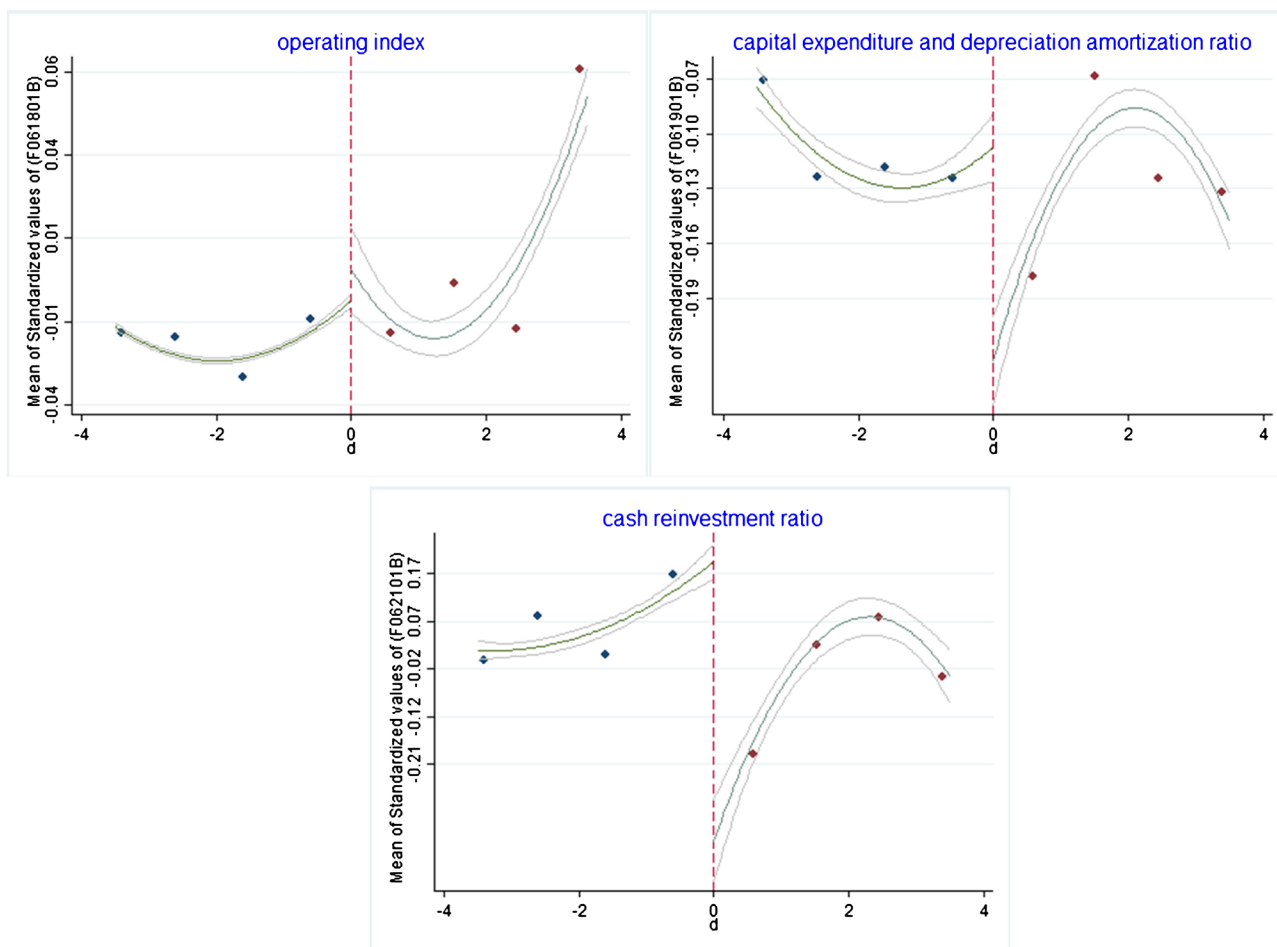
Indicators representing cash flow: operating index, capital expenditure and depreciation amortization ratio and cash reinvestment ratio.

From **Figure 2**, we can see that after the company wears a cap, the operating index is reduced, but the significance is not significant, and we can see that the cash reinvestment ratio has dropped significantly, indicating that the company is operating after wearing a cap. The net cash flow generated was significantly reduced. As the company's net profit also decreased, we can see that the change in



Source of data: According to the data of the RESSET database listed companies in 2010-2015.

**Figure 1.** A breakpoint diagram representing the solvency indicator.



Source of data: According to the data of the RESSET database listed companies in 2010-2015.

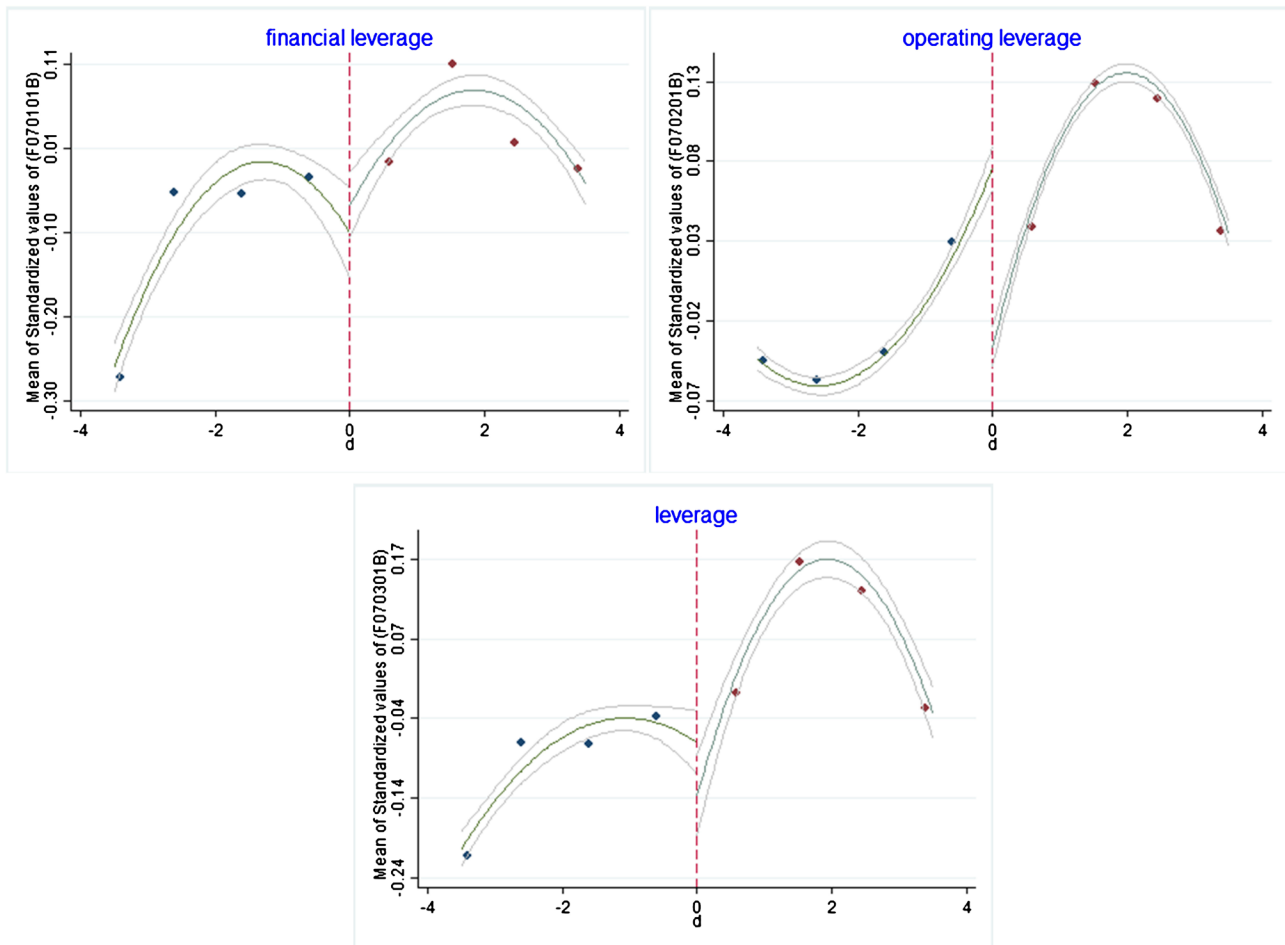
**Figure 2.** Represents the indicator of cash flow levels.

the operating index is small and significant. The ratio of capital expenditure to depreciation and amortization is significantly reduced, indicating that the company's cash invested in fixed assets, intangible assets and other long-term assets is reduced after wearing a cap, so it can be seen that the company's investment in these projects is reduced. It may be due to the limited financing capacity caused by the company wearing a cap.

Indicators representing risk levels: financial leverage, operating leverage and leverage.

From **Figure 3**, we can see that the company's financial leverage has increased significantly after wearing the cap, indicating that the company's financial expansion after wearing a hat is very strong, which also led to the company's financial risk after wearing a hat, the company's operations Leverage is also significantly improved, and the overall leverage is also significantly improved, so we can see that after the company wears a cap, the company can only turn to financial plus leverage after the capital market is limited, which will lead to the risk of the company wearing the cap. Further increase.

Indicators representing relative value: price-to-earnings ratio, price-to-book

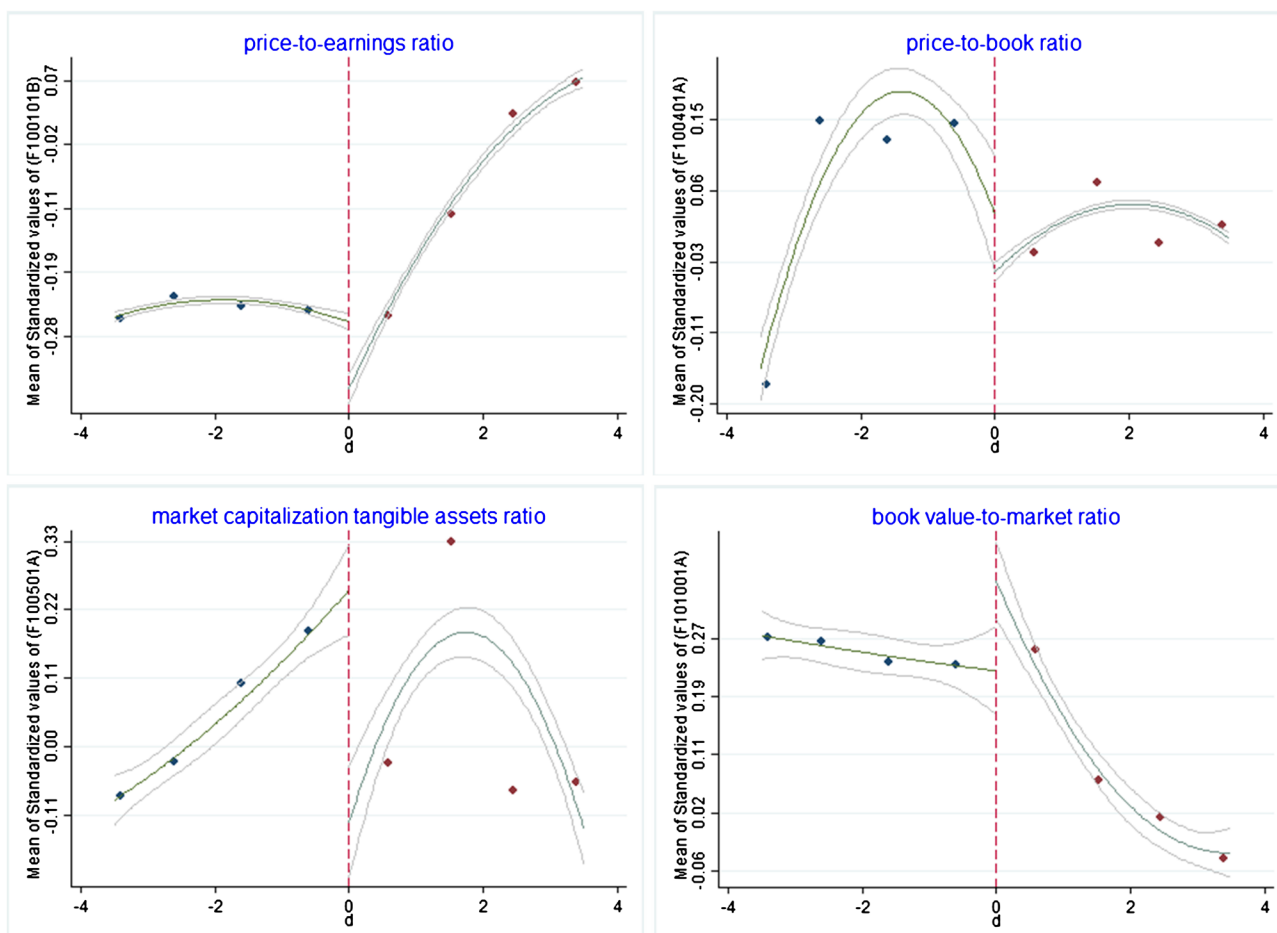


Source of data: According to the data of the RESSET database listed companies in 2010-2015.

**Figure 3.** Indicators representing risk levels.

ratio, market capitalization tangible assets ratio, and book value-to-market ratio.

From **Figure 4**, we can see that after the company wears a cap, the price-earnings ratio is significantly lower, the price-to-book ratio is significantly lower, the market-to-value tangible assets ratio is significantly lower, and the book-to-market ratio is significantly higher. From these four indicators, we can see that wearing a cap A signal to investors indicates that there is a problem with the company's operations, so investors will sell the company's stock in the market, which will lead to a decline in the market value of the company. This also demonstrates the role of the special treatment system. The special treatment system is to let the company have problems. Being marked in the market, as a signal of problems in the company's operations, gives investors a reasonable expectation when making investment decisions, so in this respect, the special handling system has a certain positive effect. In terms of combining these aspects of risk structure, we can see that the company will choose to expand long-term liabilities and increase financial leverage after wearing caps due to limited financing in the capital market. At this time, although the company can solve short-term funding problems, Due to the high debt, the company will survive under extremely



Source of data: According to the data of the RESSET database listed companies in 2010-2015.

**Figure 4.** A breakpoint diagram representing relative value.

high interest pressure and is also a great risk to the company's operations.

#### 4. Conclusion

We used RESSET data to empirically study the changes in the risk structure indicators of the company after wearing the cap. Through empirical analysis, we came to the following conclusion: we can see that after wearing the cap, the short-term solvency is significantly weakened, the long-term debt is significantly increased; the intangible asset ratio is significantly lower, indicating that the company's R & D investment is lower; the receivables turnover rate is significantly lower; the company's operating index and cash-to-investment ratio are significantly lower. The company's cash flow level has deteriorated significantly; the company's financial leverage and comprehensive leverage have increased significantly, indicating that the company's financial risk level has increased significantly after wearing the cap; the company's P/E ratio, P/B ratio and market capitalization tangible assets ratio have significantly decreased. Wearing a hat as a signal of a company's poor business has caused investors to sell off in the capital market, resulting in a decrease in its market value.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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