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Research on the Effect of Short Sale Mechanism on Cash Dividend Policy of Listed Companies

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Abstract

Based on the implementation of the short sale mechanism in China, this paper studies the impact of the implementation of the short sale mechanism on the cash dividend policy of listed companies in China by using the DID model and Logit model, using the dividend signal theory, dividend agency theory and other dividend related theories, and using the A-share listed companies in Shanghai and Shenzhen stock exchanges from 2008 to 2018 as the research sample. We find that after the short sale mechanism is introduced into China, the level and tendency of cash dividend payment of the companies that can be sold short are significantly improved compared with the companies that do not implement short sale.

Keywords

Short Selling Mechanism; Dividend Payment Level; Dividend Payment Tendency.

1. Introduction

Dividend policy is one of the important financial contents of a company, which will not only affect the interests of major shareholders and minority shareholders, but also affect the reputation and future development of the company, and is an important tool to make the national capital market more stable. Due to the importance of dividend policy and the continuous development of stock market and corporate system, the cash dividend policy of listed companies has been paid more and more attention by stakeholders and market investors. After 2001, China's securities regulatory authorities began to introduce policies related to cash dividends to supervise the dividend behavior of enterprises, with the purpose of improving the level and willingness of cash dividend payment of enterprises, and changing the current situation that the capital market focuses on financing and ignores returns. However, although the state has formulated relevant policies that clearly stipulate that listed companies should pay dividends, the phenomenon of no dividends and low dividends in China is still relatively serious, and most companies prefer to keep their funds in the company to find the right time to invest. In addition, there are large differences in dividend payment among different companies. Some companies' dividend payment can reach 100%, but most companies do not participate in dividend payment for a long time, and the dividend payment has been 0 for several consecutive years. The problem that the capital market focuses on financing but less return has not been solved.

On March 31, 2010, margin trading and short selling system was officially introduced in China, which stipulates that securities companies and investors that meet certain standards can conduct margin trading and short selling. Among them, short selling is the so-called short selling transaction. Short sale mechanism refers to the process in which investors borrow shares from others and sell them when they estimate that the price of a stock will fall in the future. When the stock price really falls, they buy back the shares and return them to the lender to close out the position. In this process, investors can make profits by taking advantage of the difference of stock prices at different times. The margin trading system has only been

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implemented in China for a few years, that is, the short sale mechanism has also been implemented for a short time, but the margin trading mechanism plays an extremely important role in China's stock market. For example, the margin trading mechanism makes it possible for investors to use the bad news of listed companies to conduct earnings operation, so that the stock price can more fully and truly reflect the market information. It will help reduce the volatility of stock prices and curb the occurrence of crashes. From the perspective of the innovation of the short sale mechanism to the stock market, the introduction of the short sale mechanism improves the one-sided market in China, which only allows long but not short selling. Short sale mechanism has become an effective pricing tool in the stock market, and has been widely used in the western capital market. After the implementation of the short sale mechanism in China, the list of target companies has been expanded for many times, and the A-share market has increased from 90 pilot short selling companies in 2010 to 949 target companies in 2018. It can be seen that the role of the short sale mechanism is not to be underestimated.

Although there are many studies on cash dividends, few studies have studied cash dividend policy from the perspective of short sale mechanism. Most scholars studying the short sale mechanism also focus on the relationship between the implementation of the short sale system and the pricing efficiency of the national securities market. Short sale mechanism is an external supervision mechanism and policy, which helps to timely integrate the bad news of the enterprise into the stock price of the enterprise, resulting in the decline of the company's stock price and the loss of the interests of the management. Whether the management of the company that can be shorted will, under such risks and pressures, restrain their own bad behaviors such as self-interest and myopia, correct the behavior of not distributing dividends or distributing a small amount of dividends, and consider changing the company's dividend policy by distributing cash dividends as a signal to convey information; It is worth thinking about what impact the implementation of short sale mechanism will have on the dividend payment of the company. Based on the theory of dividend agency and dividend behavior, this paper discusses the relationship between the implementation of short sale mechanism and the cash dividend policy of listed companies in our country..

2. Research Design

2.1. Analysis and Research Supposes

According to the theory of short sale constraints, when investors are very optimistic about a stock and keep pushing up the stock price, if there are short sale constraints, negative investors will not be able to participate in short sale transactions and make profits. After the introduction of the short sale mechanism, the short sale mechanism is not constrained. Since external investors have the motivation to sell short the company's stock and make profits by collecting negative news of the company, they will collect and analyze the relevant information of the listed company. If the company has bad news, then external investors will sell short the company's stock to earn profits. This shows that the stock price of listed companies can more fully reflect the negative news of the company after the short sale restriction is relaxed, and the negative news is integrated into the stock price, so the short sale mechanism can give full play to the information discovery function. When outside investors sell short the company's stock for profit because of the bad news they have collected, other investors will also intensify their herd behavior due to the transmission effect of short selling signals (Chen and Liu, 2014) [1], which will increase the risk of the company's stock price falling. This shows that the implementation of short sale mechanism will have a greater impact on the company's stock price. After the short sale constraint is relaxed, investors are free to conduct short sale transactions. Faced with this situation, in order to reduce the loss of corporate interests, the company's management and shareholders have to respond to it, so the short sale mechanism will affect the company's financial behavior and resource allocation behavior, that is to say, the implementation of the short sale mechanism will have a certain impact on the company's dividend policy.

According to the dividend agency theory, the interests of the company's managers are different from those of the company's shareholders. Compared with our country's capital market, the capital market of western countries is more mature, and there is less abuse of power by the management. However, in our country's capital market, it is common that the management abuses its power to engage in self-interested behaviors such as in-service consumption without paying or less golden dividend, which damages the interests of minority shareholders; In addition, the management can use its own power to formulate the compensation mechanism to gain benefits, and with this motivation and ability, the management will also reduce the company's cash dividend distribution rate and increase the company's retained cash, so as to achieve the purpose of manipulating cash flow (Quan and Wu, 2010) [2]. If the management is overconfident, the management will be more inclined to invest the retained funds of the company and accelerate the development of the company rather than distribute the funds to the shareholders, resulting in a low level of cash dividend distribution (Huang, 2011) [3]. After the short sale restriction is relaxed, the negative news will be incorporated into the stock price, and the overconfidence of the management will be revised accordingly (Ye and Yuan, 2007) [4], which will adjust the company's cash dividend policy. From this point of view, this paper believes that the short sale mechanism, as an external supervision mechanism, can play a role of market supervision, reduce the financial decisions that have adverse effects on the company, limit the misappropriation of the company's cash assets by the management and major shareholders to a certain extent, so that the management can improve the company's cash dividend policy and increase the payment level of cash dividends. Therefore, the short sale mechanism can improve the payment level of cash dividends. Based on the above analysis, this paper proposes a hypothesis:

After the implementation of the short-selling mechanism, the cash dividend payment level of the companies that can be short-sold increases compared with the companies that cannot be short-sold.

2.2. Sample Selection and Data Source

By 2018, the number of companies on the list of short selling targets has expanded from 96 at the beginning to 902 (excluding those that were removed from the list and those that were re-selected into the list after being removed from the list). This paper takes the companies selected into the list of short selling targets as the research sample, takes the companies not selected into the list of short selling targets in the A-share market as the control group, takes the period from January 1, 2008 to December 31, 2018 as the research interval, and selects the initial samples as follows: (1) Eliminating ST companies; (2) Excluding financial companies; (2) Excluding financial companies;(3) Eliminate the companies that have been kicked out of the list of target companies for short selling; (4) Excluding companies with non-positive net profit; (5) Eliminate the samples with other financial data missing.

2.3. Empirical Model

In the current research on the short sale mechanism, whether it is the impact on the stock market or the corporate behavior, most of the existing literature adopts the multiplications method to empirically test the short sale mechanism. difference-in-difference (DID) has been widely used in econometrics in recent years, mainly for the implementation of projects and the implementation effect of public policies, because the implementation of public policies is usually different from ordinary research. The implementation of public policy cannot completely guarantee that the implementation group of the policy and the control group are completely random in the allocation of samples. As a result, samples may have their own differences before the implementation of the policy. The multiplicity method can effectively control such differences in research objects, which is why many econometric studies use the multiplicity method to do research.

The short sale mechanism has been implemented in China since 2010. After the short sale mechanism, China Securities Regulatory Commission (CSRC) will present a new list of short selling targets every year to designate pilot companies for short selling. The introduction of the short sale mechanism not only generates the difference between shorting and non-shorting firms at the same point in time, but also the difference between pre-pilot and post-pilot for the same firm. To evaluate the impact of the introduction of the short sale mechanism on the dividend policy of listed companies by comparing the samples between groups and before and after the introduction of the short sale mechanism using the multiplier method can reduce the impact of other uncontrollable factors on the research conclusions. This paper refers to the practice of Gu and Zhou (2017) [5], and according to the research purpose of this paper, controls the industry and year fixed effects respectively. The short sale mechanism interaction item Post*List is added, and the DID model is constructed as follows:

$$Payout_{i,t} = \beta_{0+}\beta_1 Post * List + \beta_2 Lev_{i,t} + \beta_3 Eps_{i,t} + \beta_4 Growth_{i,t} + \beta_5 Size_{i,t} + \beta_6 Cf_{i,t} + \beta_7 First_{i,t} + \beta_8 Tbq_{i,t} + \beta_9 State_{i,,t} + \sum Industry + \sum Year + \varepsilon_{i,t} \quad (1)$$

When studying the relationship between the short sale mechanism and the cash Dividend payment tendency (Dividend), the cash dividend payment tendency (Dividend) is a dummy variable, and the Logit model is applicable to the regression where the dependent variable is a dummy variable. Therefore, the Logit model is used to test the relationship between the short sale mechanism and the cash dividend policy, which can meet the requirements of the optimal estimation parameters. Therefore, this paper uses Logit model to empirically test the relationship between short sale mechanism and cash dividend payment propensity. The model is as follows:

$$\text{logit(Dividend)} = \beta_{0+}\beta_1 Post * List + \beta_2 Lev_{i,t} + \beta_3 Eps_{i,t} + \beta_4 Growth_{i,t} + \beta_5 Size_{i,t} + \beta_6 Cf_{i,t} + \beta_7 First_{i,t} + \beta_8 Tbq_{i,t} + \beta_9 State_{i,,t} + \sum Industry + \sum Year + \varepsilon_{i,t} \quad (2)$$

3. Literature References

Lintner(1956) proposed that the tradeoff choice of dividend distribution behavior of listed companies would have an impact on the market value of the company[6]. However, Miller(1961) believed that the value of a company's stock had nothing to do with the dividend policies formulated by listed companies, but only with the profitability of listed companies, so there was no need to pay too much attention to dividend distribution policies[7]. Since the two theories were put forward, theories related to dividends have received more support from scholars. Empirical studies of dividend policies by domestic and foreign scholars are mostly carried out based on the dividend agency theory and dividend signal theory.

3.1. Agency Theory of Dividends

The agency theory refers to that the ownership of the company belongs to the shareholders, but the management right of the company is controlled by the management, which leads to the separation of the ownership and management right of the company. The dividend agency theory holds that: The company's payment of cash dividends will reduce the company's free cash flow, which, on the one hand, can restrain the company's over-investment. In addition, the distribution of dividends reduces the discretionary cash flow of the company, which reduces

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the opportunities for major shareholders to seek personal interests and implement related transactions, and helps alleviate the agency problem between major shareholders and minority shareholders.

3.2. Empirical Results

The regression results of short sale mechanism and cash dividend policy ,seeTable 1.

Table 1. Regression results of short sale mechanism and cash dividend policy

	OLS Regression	Logit Regression
	(1) Payout	(2) Dividend
Post*List	0.040***	0.127*
	(4.85)	(1.92)
Lev	-0.322***	-3.344***
	(-13.32)	(-25.76)
Eps	-0.091***	2.671***
	(-10.88)	(29.61)
Size	0.018**	0.415***
	(2.57)	(14.63)
Cf	0.087**	1.497***
	(2.51)	(5.13)
First	0.226***	1.241***
	(5.30)	(8.53)
State	0.025	-0.320***
	(1.42)	(-6.99)
Growth	-0.029***	-0.454***
	(-7.93)	(-12.87)
Tbq	-0.009***	-0.103***
	-0.002	(-6.80)
Constant	(-0.02)	-7.687***
	(1.49)	(-12.04)
Industry	Control	Control
Year	Control	Control
firm	Control	
N	21,500	21,470
F	25.41	
Adj-R2	0.0365	
PseudoR2		0.2214
Loglikekigood		-8425.8253

OLS regression and Logit regression both add industry fixed effects and time fixed effects, and OLS regression also adds company effects to control the influence of time and industry factors on the regression results. It can be seen from the results of Regression (1) that the correlation coefficient of the interaction term between Payout and short sale is 0.040, which is positive and significantly positive at the level of 1%. It can be seen from the Logit regression results that the correlation coefficient of the interaction term between Dividend and short sale is 0.127, which is relatively large and significantly positive at the level of 10%. The regression results of OLS regression and Logit regression support the first hypothesis, that is, after the introduction of

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short sale mechanism, while the short sale mechanism integrates negative information into the stock price, it may also lead to a sharp decline in the stock price, which will bring losses to the interests of the company. In order to safeguard the interests of the company, the management will consider using cash dividends as a signal. The cash dividend policy is adjusted on the original basis, and the company's cash dividend is increased.

4. Conclusion

This paper selects the A-share listed companies from 2008 to 2018 as the research sample to study the impact of the implementation of short sale mechanism on the cash dividend policy of listed companies. In the establishment of the model, this paper refers to the previous research and adopts the DID model to empirically study the relationship between the cash dividend policy payment level and the short sale mechanism of listed companies. Then the Logit model is used to study the relationship between the dividend payment tendency and the short sale mechanism. Finally, the robustness test is carried out by means of regression of the samples matched by the propensity score matching method, excluding the data interference of the year when the short selling targets are added to the list, and changing the explained variables. The final research conclusion is: After the introduction of the short sale mechanism in China, compared with the companies that cannot sell short, the companies that can sell short pay higher cash dividends.

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