

# The Long-term and Short-term Effects of Equity Pledge on Corporate Value of SMES-Based on the Research of Company A

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**Abstract:** Equity pledge financing on the one hand can not dilute equity and does not affect voting rights, voting rights and income rights. Therefore, equity pledge financing has many advantages, but there are also some limitations. Equity pledge may have a certain impact on the corporate value of small and medium-sized enterprises. This paper discusses the short and long-term effects of equity pledge on smes. The findings are as follows: first, investors have a negative attitude towards equity pledge. Secondly, the frequent equity pledge financing of company A is not conducive to the development of the company's business performance, causing negative impact on the company and damaging the company's value.

## 1. Introduction

The country's economic development is inseparable from the development of small and medium-sized enterprises. Equity pledge has been increasingly favored by small and medium-sized enterprises in recent years. The rapid development of equity pledge proves that it has greater convenience in financing small and medium-sized enterprises. However, there are also some disadvantages of equity pledge, which will have a certain impact on the value of the company.

Right of pledge is closely related to the company's financial risk, cause the uncertainty of enterprise management, at the same time, equity is the process of cash pledge, if in the high risk project, not only increase the risk of major shareholders, also can make the enterprise the management risk and financial risk increase, and may even cause enterprise stock price fluctuations, once again, increase the risk of enterprise [1]. Shareholders' equity pledge will increase the moral hazard of shareholders, and controlling shareholders can gain a lot of benefits through equity pledge, so in this case, controlling shareholders have the incentive to ignore the interests of minority shareholders and seek personal interests, because they pay a small price [2]. Some empirical studies have found that due to the separation of control rights and cash flow rights, equity pledge as a financing method will induce expropriation, which greatly increases the moral hazard of the controller [3].

## 2. Analysis on the Influence of Pledge of A's Equity on the Value of the Company

### 2.1 Analysis of Short-term Market Effect

This paper analyzes the impact of equity pledge of company A through the Event Study Method to obtain the impact of equity pledge event on the short-term market effect of company A.

Company A had a large number of equity pledge events at the beginning of 2018. This paper takes the equity pledge event released by company A on January 11, 2018 as an example to calculate its short-term market performance. Take January 11, 2018 as the event date T (0), take the 10 trading days before and 20 trading days after the announcement as the window period, namely T (-10, +20), and take T (-130, -11) as the estimated period of the normal rate of return.

### 2.1.1 Calculate the Expected Rate of Return

The main indexes and calculation functions involved in the event method adopted in this paper are shown in the following table.

Table 1 Indicators and Calculation Functions of Event Study Method

Indicators	Calculation Function
The yield( $R_t$ )	$R_t = \alpha + \beta R_{mt} + \varepsilon_t$
Event window normal rate of return( $E(R)_t$ )	$E(R)_t = \alpha + \beta R_{mt}$
Excess rate of return( $AR_t$ )	$AR_t = R_t - E(R)_t$
Cumulative excess return( $CAR_t$ )	$CAR_t = \sum AR_t$
Average cumulative excess return( $\bar{CAR}_t$ )	$\bar{CAR}_t = \frac{1}{N} CAR_t$

In this paper, the market model method based on the capital asset pricing model is adopted to calculate the expected return, and the model is determined as:  $R_t = \alpha + \beta_{mt} + \varepsilon_t$ .

In the formula, the letters respectively represent the following meanings:  $R_t$  means the actual rate of return of the stock on day t;  $R_{mt}$  means the rate of return of market making index on day t;  $\alpha$  and  $\beta$  means the coefficient of adjustment when calculating normal rate of return;  $E_t$  means model regression residuals. SPSS software was used for regression analysis, and the regression equation was obtained:  $R_t = 0.955R_{mt} + 0.117$ .

The daily  $R_{mt}$  in the event window T (-10, +20) is substituted into this equation to calculate the expected stock return  $E(R)$ .

### 2.2.1 Calculate Daily Excess Return and Cumulative Excess Return

AR refers to the excess return and CAR refers to the cumulative excess return, then:  $AR_t = R_t - E(R)_t$ ,  $CAR_t = \sum AR_t$ .

Table 2 Cumulative Excess Return and Mean Data Statistics of A in Different Window Periods

Window Period	Cumulative Excess Return (%)	Average Cumulative Excess Return (%)
T(-10,-1)	-0.112	-0.011
T(-1,+1)	-0.521	-0.174
T(+1,+20)	-5.596	-0.280
T(-10,+20)	-5.663	-0.183

Calculate the excess rate of return and cumulative excess rate of return brought by equity pledge event, and make the broken line graph as shown in the Figure 1. As can be seen from the figure, the excess return rate of company A was relatively high a few days before the stock pledge took place, but it declined significantly after the announcement was released. Therefore, it can be judged that the short-term market effect of this stock pledge event on company A is not friendly.

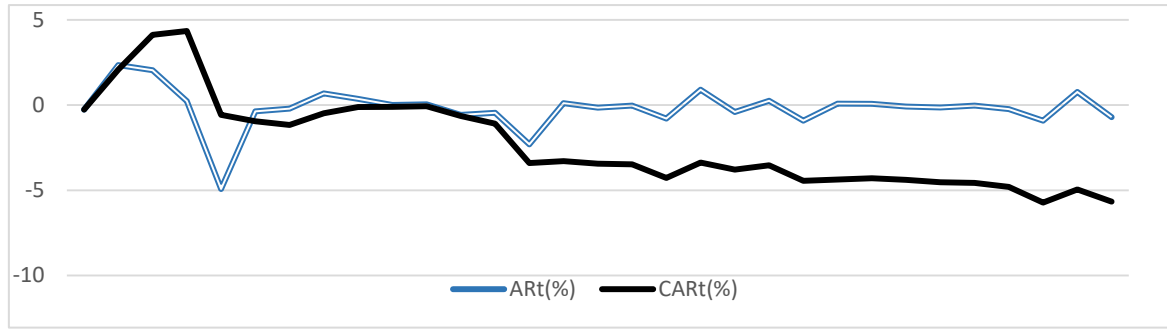


Figure 1 the Trend of Excess Return Rate and Cumulative Excess Return Rate of company A

From the above analysis, it can be seen that before the announcement of pledge of shares of company A, the excess return rate of company A dropped sharply, and then rose to a certain extent. Such fluctuation means that before the announcement of pledge of shares of company A is disclosed, the market already has relevant information, so the stock price starts to fluctuate, reflecting the changes in the market.

To sum up, the market gave a relatively negative reaction to the event of company A, and investors made it after the announcement. Therefore, the equity pledge of company A affected its short-term market performance and had a negative impact on the company's value.

## 2.2 Analysis of Long-term Market Returns

In fact, a large number of equity pledge not only affects the stock price on the date of the pledge announcement, but also has a great negative impact on the stock price in the long run. From 2017 to 2018, the stock right pledge of company A was relatively frequent, and the stock right pledge was made for four times in two years, during which the stock price of company A continued to decline.

In addition to short-term performance, equity pledge also has a certain impact on the long-term earnings of company A. This paper adopts the Buy and Hold Abnormal Return Method to analyze the long-term market Return of company A. The formula of BHAR is as follows:  $BHAR_i = \prod_{t=0}^T (1 + R_{it}) - 1$ . Where, T represents the time interval of investigation, and  $R_t$  represents the stock return rate of the sample company in month T.

It can be seen from the calculation of long-term market returns that in the two years from 2017 to 2018, the BHAR value of company A is basically in negative value and has a significant downward trend, as shown in the Figure 2.

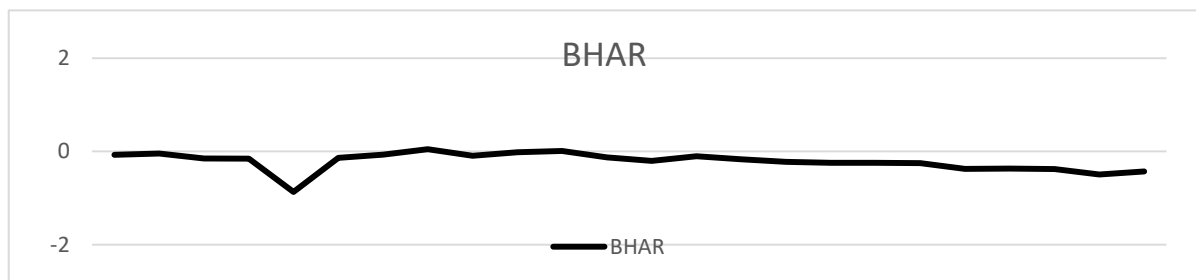


Figure 2 Long-term Earnings of A in 2017-2018

As shown in the figure, the negative value of BHAR indicates that the long-term holding of company A in these two years has basically negative return, and the market has a negative attitude towards the long-term performance of company A. In January 2017, the BHAR value of A was -0.0733, but in December 2018, the BHAR value dropped to -0.4291. Due to information asymmetry, such pledge of shares will reduce the utilization rate of resources of A, harm the interests of ordinary shareholders, and adversely affect the company's value, thus hindering the company's development in the long run. So, when the market is faced with the non-transparent information disclosure of equity pledge behavior, it is easy to show a negative reaction.

From another perspective, the continuous decline in the BHAR value of company A indicates that the market has doubts about the motivation of its pledge of shares, and the market starts to lose

confidence in A, so it will give a negative reaction after the announcement of pledge of shares. The frequent stock pledge behavior had a long-term adverse impact on the value of the company.

### **3. Conclusion**

This paper finds that equity pledge financing has a negative impact on the short-term market effect and long-term holding period benefit of company A. Therefore, as for the financing method of equity pledge, small and medium-sized enterprises should treat it from a reasonable perspective, and use it cautiously, reasonably and appropriately.

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### **References**

- [1] Yuejun Tang, Yuanyang Song, Liyin Jin. Involvement of controlling shareholders, deviation of two rights and marketing strategy style -- based on the second type of agency problem and the theory of ultimate control [J]. *Management world*, 2012 (2): 82-95.
- [2] Holmen, M. and P. Hogfeldt. Pyramidal discounts: Tunneling or agency costs [J]. *Working paper*, 2015:87-98.
- [3] Ji Han, Shenghui Liu, Hongwei Zhang. An Empirical Study of Financing Cost of Small and Medium-sized Enterprises Based on a Questionnaire Survey of 18 Cities in China [J]. *Financial Development Review*, 2014 (1): 65-75.
- [4] Rafael La Porta, Florencio Lopez-De-Silanes, Andrei Shleifer. Corporate Ownership Around the World [J]. *Journal of Finance*, 1999, 54 (2):471-517.