

Research on the Relationship between Short Selling Mechanism and the Quality of Enterprise Information Disclosure

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ABSTRACT

This paper empirically examines the impact of the short selling mechanism on the quality of enterprise information disclosure using the data of A-share listed companies on the Shenzhen Stock Exchange from 2017 to 2023. After controlling for a series of possible influencing factors, this paper finds that The implementation of the short selling mechanism has significantly improved the quality of information disclosure of the target company.

KEYWORDS

Short selling mechanism; Information disclosure; Enterprise credit; Internal control

1 Introduction

The phenomena of violations and information distortion in the information disclosure of Chinese enterprises have long been criticized, as they not only aggravate the information asymmetry between investors and enterprises, harm the rights and interests of investors, but also hinder the efficient allocation of resources. As a key trading mechanism in the capital market, short selling not only has an impact on asset prices and volatility, but also acts on the information transmission between investors and managers, and then influences the information disclosure of enterprises. The author has noticed that few scholars conduct research on the relationship between the short selling mechanism and the quality of enterprise accounting information disclosure. In fact, the short selling mechanism actually has a promoting effect on the quality of accounting information disclosure. This paper takes A-share listed companies on the Shenzhen Stock Exchange from 2017 to 2023 as the research object and empirically examines the impact of the short selling mechanism on the quality of enterprise information disclosure.

2 Literature Review and Research Hypothesis

The various influences of short selling on listed companies are bound to be reflected in their information disclosure behaviors. There have been extensive studies at home and abroad, including negative information disclosure, securities lending and short selling, analyst tracking and the quality of enterprise information disclosure.

The studies find that:

(1) The implementation of the short selling mechanism is conducive to negative information being reflected in stock prices more quickly, increasing the risk of stock price decline, thereby reducing the voluntary disclosure quality of negative information by management^[1].

(2) In the case of optimistic bias of analysts, the function of short selling investors' focus on digging negative information can make up for the deficiency of analysts' bias, which holds profound significance for enhancing the quality of enterprise information disclosure^[2]. (3) The introduction of the short selling mechanism significantly improves the information disclosure quality of the target companies; The self-interested behavior of managers can be restrained through short selling by intensifying the incentives for the management, lowering the degree of information asymmetry, and thereby enhancing the information disclosure quality of listed companies^[3]. In view of the above analysis, this paper puts forward the following hypothesis:

H1: Through the policy measures of the short selling mechanism, the quality of enterprise information disclosure rises.

3 Research Design

3.1 Data Source and Sample Selection

This paper takes A-share listed companies on the Shenzhen Stock Exchange from 2017 to 2023 as the research object. The relevant information of listed companies is from the GTA database. The processing of the sample is as follows: (1) Delete companies that went IPO after 2017; (2) Delete companies with insolvency; (3) Delete financial companies; (4) Delete ST companies and samples with missing values of main variables. Finally, 9030 observations are obtained.

3.2 Variable Design and Model Setting

3.2.1 Measurement of Information Disclosure Quality

The explained variable is the quality of enterprise information disclosure. The index of the explained variable is determined through the statistical analysis of the data of A-share listed companies on the Shenzhen Stock Exchange from 2017 to 2023. Based on the evaluation results, listed companies are divided into four grades: excellent, good, passable and fail. On this basis, the following measurement index for information disclosure quality is established in this paper: Evaluation~t When the evaluation result is excellent, good, passable and fail, the values are 4, 3, 2 and 1 respectively.

3.2.2 Measurement of Short Selling

The explanatory variable is the short selling mechanism (MK). The value of the listed company is 1 in the year when it becomes the target of securities lending and the subsequent years, otherwise it is 0[4].

3.2.3 Specification of model

$$EQ = \beta_0 + \beta_1 MK + \beta_2 ROA + \beta_3 GROWTH + \beta_4 LEVEL + \beta_5 LNSIZE + \beta_6 TOP1 + \beta_7 CEO_SHARE + \beta_8 DD + \varepsilon$$

3.3 Descriptive Statistics of Main Variables

The control variables include: Company performance (ROA) (Total profit + Interest expense)/Total assets; Growth (GROWTH) Revenue growth rate; Financial leverage (LEVEL) Debt/Assets; Company size (LNSIZE) Natural logarithm of total assets; Equity concentration (TOP1) Shareholding ratio of the largest shareholder; Management shareholding (CEO-SHARE) Management shareholding. The value is 1 if yes, otherwise it is 0; Enterprise default distance (DD)[5].

Table 1 Descriptive Statistics of Main Variables

Variable	N	Min	p50	Max	Mean	SD
Evaluation~t	9030	1	2	4	1.937	0.710
MK	9030	0	1	1	0.729	0.445
ROA	9029	-28.94	0.0480	5.864	0.0450	0.325
GROWTHA	9020	-3.798	0.0990	859.6	0.744	15.80
LEVEL	9029	0.00800	0.460	28.55	0.470	0.364
LNSIZE	9029	16.65	22.78	31.43	23.09	1.654
TOP1	8155	2.880	31.51	89.09	33.77	14.97
CEO SHARE	9029	0	1	1	0.825	0.380
DDhsh	8485	1.686	8.419	103.9	9.033	3.520

4 Empirical Analysis

4.1 Ordinal Regression

In recent years, the assessment of enterprise comprehensive performance has gradually become an important research topic in the fields of corporate governance and financial management. Comprehensive performance assessment (Evaluation Result) reflects the overall performance of enterprises in multiple aspects, including not only financial conditions, but also corporate governance, market reputation, social responsibility and other factors. Therefore, comprehensive performance assessment has been extensively utilized to appraise the health condition and long-term competitiveness of enterprises. With the amassment of data and the advancement of analysis methods, more and more studies attempt to reveal the factors affecting the comprehensive performance of the company.

This paper investigates the influence of multiple variables on the comprehensive performance assessment of the company via the ordinal regression model. The results are presented in Table 2. It can be observed that a significant positive impact on the company's comprehensive performance is exerted by short selling (MK), and its regression coefficient is 0.1194, and the p-value is 0.000, suggesting that this outcome is statistically significant. To a large extent, the market generally regards short selling as a signal that investors are bearish on the company's prospects. However, in this analysis, companies with a high proportion of short selling show a higher comprehensive performance score. This phenomenon may be explained from the complexity of the market's expectations for the company's future. In some cases, short selling investors may not be completely bearish, but are confident in the company's future potential and use short selling as a short-term trading strategy. This indicates that the signal of short selling in the market may not only point to negative expectations, but also be related to the company's potential long-term development opportunities.

The regression coefficient of financial leverage (LEVEL) is 1.0407, and it is remarkably significant ($p = 0.000$), indicating that the leverage level has a positive impact on the company's comprehensive performance. By increasing debt financing, the company can use external capital to expand business scale and improve profitability. Especially in capital-intensive industries, high leverage is often an important means for the company to enhance market competitiveness. High leverage can not only help the company expand rapidly, but also bring more resources for business investment in the short term, thereby improving the company's comprehensive performance. However, high leverage may also be accompanied by higher financial risks. In the long run, companies with excessive leverage may face greater debt repayment pressure.

For the company's performance (ROA), its regression coefficient is -2.9419, and the p-value is extremely significant ($p = 0.000$). There exists a significant negative linkage of the company's performance and comprehensive performance. This is different from the intuitive perception that the better the performance, the better the company's performance. High ROA usually represents that the company's current profitability is strong, but these companies may have entered the mature stage, and the market's expectations for their future growth space are low, thus reflected in the comprehensive performance is more conservative. Further analysis may indicate that high-performing companies pay more attention to maintaining the existing profit situation rather than pursuing innovation or expanding new markets, so their comprehensive performance evaluation is low. Especially in the capital market, investors may be more concerned about the future growth potential of enterprises, rather than just short-term profits.

The regression coefficient of the company size (LNSIZE) is -0.3035, and the p-value is significantly 0.000, indicating a significant negative correlation between the company size and the comprehensive performance. Although larger companies have more resources and market influence, their scores in the comprehensive performance are lower than those of small companies. Large companies often have problems in responding to market changes and promoting innovation due to management complexity and internal coordination difficulties, and are not as flexible as small companies. In addition, excessive size may lead to a long internal decision-making chain and reduced management efficiency, affecting the overall performance of the company. Large companies may be more conservative when maintaining the existing market share, which may also be one of the reasons for their lower performance scores.

The regression coefficient of equity concentration (TOP1) is -0.0102, and the significance is extremely high ($p = 0.000$), indicating that companies with a high concentration of equity have poor comprehensive performance. High equity concentration means that a few major shareholders have strong control over the company, which may lead to internal governance problems of the company.

The excessive concentration of major shareholders may lead to the lack of diversified supervision and checks and balances mechanisms in the company's decision-making process, thus leading to an impact on the quality of the company's decisions.

In addition, excessive equity concentration may exacerbate the conflict of interests between management and major shareholders, thereby affecting the company's long-term development.

The regression coefficient of management shareholding (CEO_SHARE) is -1.4081, and the p-value is significant ($p = 0.000$), indicating that companies with a high proportion of management shareholding have a low comprehensive performance score. The original intention of the design of management shareholding is to enhance the enthusiasm of management through the binding of interests, but when the proportion of management shareholding is too high, it may lead to the short-termization of management decisions, pay more attention to short-term stock price performance, and ignore the company's long-term strategic planning.

Especially when the supervision of external investors weakens, management may be more inclined to increase their own income through high-risk and high-return strategies, which may have an adverse impact on the company's long-term performance.

The regression coefficient of the enterprise default distance (DDBhsh) is -0.0165, and the p-value is significant ($p = 0.000$), indicating that companies with a large default distance have poor comprehensive performance. The larger the default distance, the worse the company's financial health and the higher the risk of bankruptcy or default. These companies are usually difficult to gain market trust, and thus have a low score in the comprehensive performance assessment. Companies with high default risk may have difficulty attracting investors, and the deterioration of financial conditions may also weaken their competitiveness, thereby having a negative impact on market performance.

Finally, the regression coefficient of growth (TGROWTH) is 0.0039. Although it has a positive impact, it does not pass the significance test ($p = 0.104$), indicating that the impact of growth on the company's comprehensive performance is not obvious.

This result may reflect the complexity of the impact of growth on the company's performance. Although the company's growth is theoretically related to the company's performance, the actual situation may be affected by many factors, such as industry competition, economic cycle and company strategy. In addition, the interaction between growth and other company characteristics may also play a disturbing role here, making it difficult to reflect a significant impact in a simple linear model.

Table 2 Ordered Regression Table

ER	Coef	Std.err	z	P value	95%conf.interval	
MK	0.1194127	0.0318128	3.75	0.000	0.0570608	0.1817646
ROA	-2.941882	0.1691187	-17.40	0.000	-3.273349	-2.610416
TGROWTH	0.0038908	0.0023935	1.63	0.104	-0.0008004	0.0085819
LEVEL	1.040675	0.0864089	12.04	0.000	0.8713168	1.210034
LNSIZE	-0.303428	0.0136631	-22.21	0.000	-0.3302072	-0.276649
TOP1	-0.0101158	0.000949	-10.66	0.000	-0.0119758	-0.008256
CEO_SHARE	-0.1408112	0.0363198	-3.88	0.000	-0.2119968	-0.069626
DDBhsh	-0.0161477	0.0045728	-3.53	0.000	-0.0251102	-0.007185
CUT1	-7.921801	0.2748012	-	-	-8.460401	-7.3832
CUT2	-6.004434	0.2700761	-	-	-6.533774	-5.475095
CUT3	-4.786077	0.2708247	-	-	-5.316845	-4.25531

4.2 Robustness Test

In this study, robustness tests are conducted by cleverly replacing the explained variable, so as to further analyze the specific impact of the short selling mechanism on the quality of enterprise information disclosure more comprehensively and deeply, thus making the research conclusion more reliable and persuasive. Currently, the common methods for measuring the quality of enterprise information disclosure mainly include two types: one is based on the scoring system of authoritative institutions, such as the rating of the information disclosure quality of listed companies on the Shenzhen Stock Exchange by the Shenzhen Stock Exchange[6]; the other is to measure the quality of information disclosure by constructing indirect indicators. In recent years, the KV method based on information content^[7] has gradually become a more common measurement method. The construction of the KV index is as follows:

$$\ln |(P_t - P_{t-1}) / P_{t-1}| = \lambda_0 + \lambda (Vol_t / Vol_0 - 1)$$

The fundamental principle of the KV method lies in the fact that the higher the level of enterprise information disclosure is, the more intensely investors rely on this information. This subsequently reduces their reliance on trading volume information, thereby attenuating the impact of trading volume information on the rate of return. On the contrary, if the enterprise information disclosure is of poor quality, the impact of trading volume information will have a more significant impact on the rate of return. In light of this, this paper employs the KV index as a substitution variable to carry out a robustness test in order to guarantee the reliability of the research outcomes. The results are presented in the following figure. Column (1) shows the regression results after replacing the variable, and column (2) shows the regression results of the original model:

The robustness test results show that the influence of short selling (MK) remains significant under different model

Table 3 Robustness Test

	(1)	(2)
	KV	EQ
MK	0.046*** (8.25)	0.119*** (3.75)
ROA	0.712*** (24.00)	-2.941*** (-17.39)
TGROWTH	0.001 (1.22)	0.004 (1.63)
LEVEL	-0.188*** (-12.49)	1.041*** (12.04)
LNSIZE	0.051*** (22.37)	-0.303*** (-22.21)
TOP1	-0.000** (-2.22)	-0.010*** (-10.66)
CEO_SHARE	0.052*** (8.18)	-0.141*** (-3.88)
DDBhsh	-0.006*** (-7.68)	-0.016*** (-3.53)
_cons	-0.565*** (-12.53)	
N	8007	8007
R ²	0.188	-
Adj. R ²	0.19	-

settings. In the initial regression results, the regression coefficient of short selling is 0.119, indicating that companies with a higher short selling ratio are more likely to have better comprehensive performance. In the robustness test, the coefficient slightly decreased to 0.046, but it still remains at a significance level of 1%. This shows that even if the variables change, the positive correlation between short selling behavior and company performance remains stable, further confirming the research conclusion of this paper.

5 Research Conclusions and Implications

This paper finds that short selling transactions have the remarkable ability to bring about a substantial enhancement in the quality of enterprise information disclosure. Different from previous studies, few scholars have studied the relationship between the short selling mechanism and the quality of enterprise accounting information disclosure, and even if there are studies, they have not used the latest data.

Based on the aforementioned comprehensive and well-analyzed conclusions that have been reached through meticulous research and in-depth analysis, the following carefully considered and potentially valuable suggestions are earnestly put forward: First, the improvement of market value-related factors will promote the performance of enterprise-related dependent variables. If enterprises want to improve the performance of dependent variables, they can appropriately focus on improving market value-related factors, such as brand building, market expansion and other strategies to improve MK, but they should pay attention to balance and avoid neglecting other factors due to excessive attention to market value. Second, in the process of pursuing high return on assets, enterprises may have a negative impact on other factors studied in some aspects; enterprise scale expansion brings problems such as rising management costs and reduced efficiency, thus having a negative impact on enterprise operation or finance represented by dependent variables. Enterprises need to re-examine asset utilization efficiency and scale expansion strategies. For return on assets, it is necessary to analyze the factors that may bring negative impacts behind high returns and make adjustments; for scale expansion, it is necessary to carefully evaluate the negative effects of increased scale on other business indicators and consider refined management and other ways to reduce the adverse effects of scale expansion. Third, enterprises need to optimize their equity structure. For example, for the shareholding ratio of the largest shareholder (TOP1), reasonably adjust the concentration of equity to prevent the possible negative business consequences of one share being dominant; for CEO shareholding (CEO_SHARE), consider designing a more reasonable equity incentive mechanism to make changes in its shareholding ratio have a more favorable impact on enterprise operation.

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