International Journal of Global Economics and Management
ISSN: 3005-9690 (Print), ISSN: 3005-8090 (Online) | Volume 3, Number 2, Year 2024
DOI: https://doi.org/10.62051/ijgem.v3n2.46
Journal homepage: https://wepub.org/index.php/IJGEM/index

Research on the Impact of Short Selling Mechanism on Corporate Violation Risks

--Based on the perspective of listed companies

Qiyou Miao

Tianjin University of Commerce, Tianjin, 300134, China
miuqiyou@stumail.tjcu.edu.cn

ABSTRACT

Taking the financing and securities financing system as the research background, this paper uses the method of OLY regression model to examine the inhibitory effect of the short selling mechanism on the violation of listed companies, using the violation data of A-share listed companies from 2010 to 2022 as the observations. The research results show that the short selling mechanism (financing and securities financing system) can have a significant inhibitory effect on the violation of listed companies.

KEYWORDS

Financing and securities financing; Short selling mechanism; Listed companies; Violation behaviour

1. INTRODUCTION

In recent years, the listing of Chinese stocks abroad has been repeatedly punished by the relevant regulatory authorities because of irregularities and malpractices, etc., and academics have carried out a wide range of research and discussion around the issue of capital market regulation. Due to the manifestation of the interests of market participants, the ecological environment of capital operation has undergone profound changes, and the past regulatory model relying on the equity separation-based regulation can no longer meet the development of the market [1]. As a result, these irregularities, which are difficult to be effectively regulated, have seriously frustrated investors' investment confidence and harmed shareholders' interests. In the long run, the endless violations have badly damaged the image of Chinese listed companies and threatened the healthy development of China's capital market. With the successive expansion of SMEs, GEMs and the New Third Board, the threshold limit of trading entities has been lowered, the number of listed enterprises has increased dramatically, and more trading entities are involved in the transfer of shares, which makes the object and difficulty of regulation steeply increased [2]. China's capital market regulatory model is in urgent need of innovation and optimisation.

The financing and securities financing system implemented by the Securities and Futures Commission (SFC) in March 2010 broke the pattern of 'one-sided market' of 'only long but not short', which is an important institutional innovation in the regulation of China's capital market. Xiao Hao and Kong Aiguo [3] based on Lee and Liu's 2011 study on the impact of noise trading on the idiosyncratic volatility of stock prices and found that financing and securities financing can effectively reduce the idiosyncratic volatility of the underlying stock securities by using the double-difference test model, and Vivian W. Fang et al. based on the U.S. stock market panel data and found that the system of financing and securities financing can play a role in suppressing surplus management behaviours, correcting fraudulent behaviours, and improving the efficiency and effectiveness of the system. management behaviours, correct fraudulent behaviours, and improve the efficiency of stock pricing [4].

Effectively restraining the irregularities of listed companies is an important guarantee to promote the healthy operation of the capital market, whereas exerting the motivation of the regulatory body is a fundamental way to enhance the effectiveness of regulation. Compared with government regulators and auditing firms, institutional investors, who have a large concentration of equity and are relatively independent, are more motivated to regulate listed companies [5]. As the short-selling mechanism allows investment institutions to short companies in the stock market based on negative information about the company and profit from the stock spread, short sellers have more incentives than other investors to track and uncover irregularities and malpractices in listed companies, which serves as a deterrent to management's tendency to violate the law [6]. Massa et al. found that short-selling operations showed that short selling can amplify the effect of ‘voting with one's feet’ and reinforce the exclusion of listed companies with misconduct [7].

Given that the phenomenon of listed company non-compliance and the short selling mechanism have been adequately discussed by previous authors respectively, this paper attempts to combine the two concepts, i.e., to explore the mechanism of short selling on the risk of non-compliance of listed companies based on their perspectives, and to conduct an empirical study by using relevant panel data of listed companies.

The research contributes to this paper is mainly illustrated in the following aspects: first of all, it broadens the scope of research on short selling on the real economy, the main research on short selling mechanism in the past is focused on the level of stock pricing efficiency and surplus management, and it is only in the past ten years that we have started to focus on the mechanism of short selling mechanism's role in the internal governance and decision-making of the enterprise, as well as the quality of information disclosure [8]. Secondly, it enriches the literature studies on capital market regulation from the perspective of short-selling mechanism, most of which used to start from the frontline regulation of exchanges such as Liu Bai et al. and accounting level of Zhang Junmin et al. Thirdly, this paper updates the data for the study of short selling mechanism on corporate violations with more timeliness; the existing research literature mainly focuses on 2010-2017, while this paper expands the capacity of the sample data by updating the data on listed companies' securities financing to 2022. Based on this, the data on a number of control variables, such as company operation, equity structure, corporate governance and financial risk, are used to profoundly explore the correlation between the short selling mechanism and listed companies' violations.

The paper is structured as follows: the second part reviews the existing literature related to the research propositions and formulates the relevant research hypotheses; the third part is the specific research design; the fourth part presents and analyses the empirical results; the fifth part deals exclusively with the robustness tests; and finally, the whole paper is summarised and displays the relevant policy recommendations.

2. LITERATURE REVIEW AND RESEARCH HYPOTHESES

2.1. Literature Review of Corporate Violations

The research on listed company breach is mainly based on the fraud triangle theory proposed by W. Steve Albrecht, how to dissolve the three interrelated factors of pressure, excuse, and motivation has become the basic theoretical framework for scholars to delve into the issue. Ronald.C et al. proposed from the perspective of motivation that the institutions that have only an investment relationship with the listed company and have a low cost of supervision investors are able to actively intervene whether the listed company has default risk. Later, Lu Yao et al. found that institutional investors' shareholding ratio reduces the propensity of firms to commit violations and increases the likelihood that firms will be audited for violations by using the Bivariate Probit estimation method. Currently, the mainstream research idea is based on two perspectives, one is to explore the influence of internal corporate governance factors on corporate misconduct, such as board of directors' characteristics, corporate performance indicators and changes in the shareholding structure [9-11]; and the other is to analyse the inhibitory effect of external supervisory tools on misconduct with the help of external governance. Lennox and Pittman found that high-quality auditing can prevent corporate violations [12], and Chen Donghua et al. analysed the regulation of financial markets from the perspective of governmental and legal regulation, and found that the spillover of regulatory power can hardly inhibit the frequency of firms' occurrence of irregularities such as fraud. Zhou Kaiguo et al. study whether it can establish its monitoring role on listed companies' violations directly from the media perspective and find that media monitoring can reduce the risk from information asymmetry [13].

2.2. Literature Review on Short Selling Mechanism and Capital Market Regulation

Short selling mechanism is an significant part of the financial operation mechanism, is also an external mechanism for obtaining information, and short selling institutions can gain benefits by unearthing potential misconduct of companies. Relevant studies have shown that the introduction of short selling mechanism helps to increase the efficiency of the capital market and fulfil its price discovery function. Miller argues that restricting the operation of short selling prevents pessimistic investors from voicing their opinions in the capital market, which only makes optimistic investor's valuation appear in the market, resulting in the deviation of stock prices from the market's underlying value [14]. Li Ke and others also argue in the reverse direction from the perspective of short-selling restrictions that restricting short-selling bids leads to stock overvaluation [15]. Regarding China's capital market regulation, Qin Zhimin et al. argue that the existing ‘two-pronged’ mechanism (external auditing + government regulation) is difficult to cope with the endless irregularities, and that it is necessary to introduce a short-selling system to supplement the traditional regulatory tools, and argue that short-selling can lead to stock overvaluation from the perspective of the ‘conflict of interest’ theory [16]. From the theory of ‘conflict of interest’, it is argued that the short selling mechanism can play the effect of enriching the regulatory means in terms of motivation.

Currently, there are relatively few studies on the impact of short selling mechanism on firms ‘violation risk, and the more relevant study to this paper is Meng Qingbin et al. who find that the introduction of short selling mechanism reduces firms’ tendency to violate the law and increases the probability of violations being audited [17]. Based on the institutional change of short selling deregulation, Lei Xiao et al. argue that the short selling mechanism, as an effective external governance mechanism, can inhibit listed companies ‘breach of contract [18]; while Meng Fanjin et al., based on the evolutionary game perspective, show that short selling institutions objectively increase the degree of disclosure of listed companies’ breaches driven by profit-seeking motives [19].

2.3. Theoretical Analysis and Research Hypotheses

Based on the theory of information asymmetry, internal managers have more comprehensive and detailed information, compared with external investors in the information acquisition advantage, in the self-interested motivation, it will prompt the listed enterprise executives in violation of the rules of the circumstances of the seizure of excessive benefits. For example, exaggerating the sticky relationship between performance and executive compensation [20], and whitewashing financial statements ring to ease the pressure on firms in financials [21]. Similarly, corporate violations are subject to violation costs. The ‘Cost and Benefit Model of Corporate Violation’ suggests that the cost of violation is equal to the probability of being audited multiplied by the cost to the firm of the exposure to the violation [22]. The short-selling mechanism can effectively contribute to the two key multipliers of the model; on the one hand, the introduction of the short-selling mechanism allows negative information to be incorporated into stock price fluctuations in a timely manner, thus increasing the transparency of market information and reducing analysts' forecasting quasi-biases [23], and the abnormalities of listed companies' stock prices can be effectively identified by the regulator, making it steeply difficult to conceal the violations. On the other hand, the revelation of negative information about the company will cause the share price to fall, resulting in the shrinkage of the market value of the enterprise [24], short sellers because of the profit motive to actively dig the negative information of the shorted company and further release it to the market; the company's share price because of the impact of the negative information fell off a cliff, and shareholders holding a large number of shares by the liquidity constraints and the impact of the right of control can not sell their shares in a timely manner, the loss of share price can only be caused by shareholders. The shareholders could not sell their shares in a timely manner due to liquidity constraints and control, and the loss of the falling share price could only be borne by them. With the establishment of short selling mechanism, shareholders will be more proactive in monitoring and restraining management's tendency to violate the law after weighing the cost and benefit of violation [25].

In view of the above textual analyses, this paper proposes the following hypotheses:

H1: The violation behaviour of listed companies will be suppressed after entering the list of financing and financing securities targets.

3. RESEARCH DESIGN

3.1. Data Source and Sample Selection

This paper takes A-share listed companies on the Shenzhen and Shanghai stock exchanges during the period of 2010-2022 as the research object, and the data used in the empirical analysis are all from the CSMAR database. Before conducting the empirical analysis, this paper carries out certain elimination and screening of the original sample data to reduce the interference of the empirical results, which are handled as follows: (1) eliminating all companies in the financial industry and real estate; (2) eliminating all ST companies; (3) eliminating the data samples with missing variables; and (4) in order to avoid the influence of the outliers, the continuous variables are subjected to a 1% shrinkage treatment (Winsor). Finally, 29,243 sample observations were obtained.

3.2. Design of Variable Models

3.2.1. Measurement of violation risk

This thesis adopts on the research method of Quan Xiaofeng et al., i.e., applying CSMAR database of listed violation data for dummy variable treatment. The data on corporate violations are collated by hand: if the sample has a fraud violation in the current year and is penalised by the SEC, SEBI or other regulatory bodies in the following year, the corporate violation (VIO) takes the value of 1, otherwise it is 0 [26].

3.2.2. Measurement of short selling

This paper refers to the study of Li Chuntao, the dummy variable treatment of whether the current year into the financing and financing list, the entry of 1, otherwise 0 [27]. Alternative explanatory variables refer to the methodology adopted by Li Zhisheng et al. intuitively use the ratio of the balance of the securities financing (securities financing sales - securities financing repayment) and the market value of the outstanding shares (annual individual stock return) SSP as the main body of short-selling measurement of the data; where the The larger the value of SSP, the stronger the short selling power.

Specifically, the following model is used to test the hypotheses:

$$Pr\,o\,(VIO) = \lambda_0 + \lambda_1 short + \lambda_2 growth + \lambda_3 hold + \lambda_4 big4 + \lambda_5 Lev + \lambda_7 gearing + \lambda_5 ROA + \Sigma year + \Sigma industry + \varepsilon_{i,j} \quad (1)$$

Drawing on Chen et.al, we control for firm vintage and firm fixed effects in our research design [28], and the list of specific variable definitions is shown in Table 1.

Table 1. Definition and interpretation of specific variables

Definition and interpretation of specific variables	
growth	Tobin's Q = Market Capitalisation/Total Assets
Hold	Shareholding concentration, percentage of shares held by the largest shareholder
Big4	1 if the audit firm is a Big 4, 0 otherwise
ROA	return on total assets
Gearing	Level of corporate financial leverage
Lev	Corporate gearing

In this paper, we select the equity shareholding ratio (hold) and whether it is a Big4 as the control variables in terms of corporate governance and audit quality; and the Tobin's Q value of the outturned investment opportunity (Growth), the return on total assets (ROA), the level of firm's financial leverage (Gearing) and the firm's balance sheet ratio (Lev) as the control variables of the firm's financial risk.

3.2.3. Descriptive statistics of variables

Table 2 reflects the descriptive statistics of the relevant variables, in which the mean value is 0.23, indicating that 23% of the annual observations are in violation during the 12-year period, and the standardisation of the capital market needs to be improved. The mean value of the short selling measure is only 37.6%, which is mainly due to the fact that the list of underlying stocks for financing and bond financing is very small, and the vast majority of stocks are not available for short selling operations. In addition, it is worth paying attention to the average value of 0.0472, accounting for only 4.72% of the total sample capacity, while non-Big 4 audits are more tolerant of more surplus levels than the Big 4, and empirical evidence shows that the Big 4 audit clients are more tolerant of more surplus levels than the Big 4, and empirical evidence shows that the Big 4 audit clients are more tolerant of more surplus levels than the Big 4. The empirical evidence suggests that Big Four clients are less likely to find financial statement irregularities and fraud [29].

Table 2. Descriptive statistics of main variables (Sample size: 29243)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
vio	29,244	0.230	0.421	0	1
short	29,243	0.376	0.484	0	1
growth	29,243	2.070	1.362	0.837	8.775
hold	29,243	35.16	14.77	7.240	74.02
big4	29,243	0.0472	0.212	0	1
gearing	29,243	0.440	0.202	0.0624	0.901
roa	29,243	0.0280	0.468	-48.32	22.01
lev	29,243	0.445	1.104	0.00752	178.3

4. EMPIRICAL ANALYSIS

4.1. Analysis of Regression Results

Table 3 presents the regression results of short selling mechanism and irregularities. The results show that short selling mechanism (Short) is negatively related to violations (VIO) at 1% significance level, indicating that the introduction of short selling mechanism inhibits violations of listed companies. It provides strong data support for the hypothesis of this paper, and the results of the original hypothesis are basically valid. Meanwhile, the audit quality of the company is negatively correlated at the 1% significance level, indicating that the higher the audit quality, the less likely the company is to have violations.

Table 3. Short Selling Mechanisms and Violations

VARIABLES	VIO
short	-0.032***(-6.28)
growth	0.011***(-5.76)
hold	-0.000*(-1.78)
big4	-0.057***(-4.89)
gearing	0.147***(-11.57)
lev	-0.003(-1.35)
ROA	0.003(-0.62)
Constant	0.169***(-16.79)
Observations	29,243
R-squared	0.007

Note: *, **, *** indicate significance levels of 10 per cent, 5 per cent and 1 per cent, respectively, with t-statistics in parentheses below.

4.2. Robustness Test

In order to test the robustness of the previous findings, this paper conducts a robustness test by replacing the explanatory variables, i.e., the ratio of the balance of securities financing to the market capitalisation of outstanding shares, SSP, is added as a proxy variable to the test model. to further identify the causal relationship between violation risk and short selling power. The test results find that the alternative explanatory variable, SSP, is significant at the 1% level and irregularities (VIO) are negatively correlated with short selling power (SSP). It indicates that the greater the short selling power the lower the likelihood of violations. All the above robustness tests yielded consistent conclusions from the previous section.

Table 4. Robustness results

	VIO	
short	-0.032***(-6.2822)	
growth	0.011***(-5.7604)	0.011***(-5.6526)
hold	-0.000*(-1.7835)	-0.000*(-1.7130)
big4	-0.057***(-4.8866)	-0.059***(-5.0583)
gearing	0.147***(-11.5738)	0.139***(-10.9945)
roa	0.003(-0.6248)	0.003(-0.6182)
lev	-0.003(-1.3453)	-0.003(-1.4659)
ssp		-0.030***(-13.0931)
cons	0.169***(-16.7886)	0.161***(-16.0754)
N	29243	29243
r2_a	0.006	0.005

5. RESEARCH SUMMARY AND IMPLICATIONS

This paper uses China's financing and securities financing system since 2010 as the policy background for the study, and constructs the OLY test model, which finds that the violations of listed companies entering the list of securities financing targets are controlled after establishing the regressivity analysis of relevant variables, i.e., the short-selling mechanism is able to inhibit the violations of listed companies. This paper further uses the short selling power (SSP), which is the ratio of the securities financing balance and the market value of outstanding shares, as a short selling measure, and finds that the short selling power has a deterrent effect on the violation of listed companies, and it will promote the enterprises to gradually improve the awareness and level of prevention of violation.

The research in this paper provides a broader perspective and empirical evidence for the corporate governance of short selling mechanism, and enriches the research results in the area of violation behaviour and short selling mechanism. At the same time, this paper also obtains the following insights in the study; (1) short selling mechanism, as a financial tool, has the effect of suppressing violations in addition to improving the efficiency of stock price pricing; the space for management to profit from violations is constantly compressed; (2) the number of violations of listed companies after entering the list of the underlying of the securities financing is significantly reduced, so the scope of the underlying of the securities financing should be appropriately expanded in the future to reduce the financing and securities financing transaction threshold and expand its market share.

REFERENCES

[1] Zhang, Y. (2006) Regulation, Innovation and Market Development in the Post-Equity Separation Era.. Securities Market Herald, 07:22-35.

[2] Wu, Z., Jin, J. (2017) Development Status, Trend and Regulation of China's New Third Board Market - A Review of a Decade. Modern Economic Discussion, 01:49-54.

[3] Xiao, H., Kong, A. (2014) Research on the mechanism of the impact of financing and financing securities on the idiosyncratic volatility of stock prices: A test based on the double difference model[J]. Management World, 08:30-43+187-188.

[4] Vivian, W.F., Allen H.H., & Jonathan, M.K. (2016) Short Selling and Earnings Management: A Controlled Experiment. The Journal of Finance, LXXI, 3.

[5] Andrei, S., Robert, W., Vishny. (1986) Large Shareholders and Corporate Control. Journal of Political Economy, 94(3):461-488.

[6] Karpoff, J.M., Lou, X. (2010) Short Sellers and Financial Misconduct. Journal of Finance, 65(5):1879- 1913.

[7] Massa, M., Zhang, B., Zhang, H. (2015) The Invisible and of Short Selling: Does Short Selling Discipline Earnings Management?. The Review of Financial Studies, 28(6): 1701- 1736.

[8] Li, Z., Chen, C., Lin, B. (2015) Does the short-selling mechanism improve the pricing efficiency of the Chinese stock market? --Evidence based on natural experiments. Economic Research, 50(04):165-177.

[9] Cai, Z., Wu, S. (2007) An empirical study on the influence of board characteristics on violation behaviour of listed companies. Nankai Management Review, 06:62-68+92.

[10] Chen, G., Lin, H., Wang, L. (2005) Analysis of Corporate Governance, Reputation Mechanism and Illegal and Illegal Behaviour of Listed Companies.. Nankai Management Review, 06:35-40.

[11] Zhang, C., Wu, J. (2020) Do Major Shareholders' Equity Pledges Exacerbate Corporate Disclosure Violations?.. Foreign Economy and Management, 42(05):29-41.

[12] Lennox C., Pittman J. A. (2010) Big Five Audits and Accounting Fraud.. Contemporary Accounting Research, 27(1): 209- 247.

[13] Zhou, K., Ying, Q., and Zhong, C. (2016) Can media monitoring play the role of external governance? --Evidence from irregularities in Chinese listed companies. Financial Research, 06:193-206.

[14] Miller, E. M. (1977) Risk, Uncertainty and Divergence of Opinion. The Journal of Finance, 32(4): 1151-1168.

[15] Li, K., Xu, L., Zhu, W. (2014) Short-selling restrictions and stock mispricing-evidence from a financing and securities financing system. Economic Research, 49(10):165-178.

[16] Qin, Z., Yu, P. (2021) Research on the suppression of financial fraud of Ruixing Coffee based on short-selling mechanism. Accounting and Control Review, 02:224-245.

[17] Meng, Q., Zou, Y., Hou, D. (2019) Can Short Selling Mechanism Curb Violations by Listed Companies?. Economic Research, 54(06):89-105.

[18] Lei, X., Tang, X., Zheng, Y. (2019) Can short selling deregulation curb violations by listed companies. Contemporary Finance and Economics, 04:119-130.

[19] Meng, F., Wang, Y. (2020) Research on short-selling sniping and violation governance of listed companies--Based on evolutionary game perspective. Industrial Technology and Economics, 40(08):52-61.

[20] Fang, J. (2009) Is There Stickiness in the Remuneration of Executives of Listed Companies in China?. Economic Research, 44(03):110-124.

[21] Bentley, K.A., Omer, T. C., Sharp, N.Y. (2013) Business strategy, financial reporting irregularities, and audit effort.Contemporary Accounting Research, 2013, 30 (2) :780-817.

[22] Correia, M.M. (2009) Political connections, SEC enforcement and accounting quality. Working Paper, Stanford University.

[23] Huang, J., Huang, C., Yiu, H., et al. (2018) Does the short selling mechanism improve the quality of analysts' surplus forecasts - Empirical evidence based on the financing and securities financing system. Nankai Management Review, 21(02):135-148.

[24] Han, H., Liu, S., Ru, W., et al. (2020) Analysis of the shorting industry chain based on the Ruixing incident--The perspective of information disclosure. Finance and Accounting Monthly, 08:3-8.

[25] Xu, X., Zhan, H., Li, W. (2021) Short selling mechanism, dual governance and corporate violations - an empirical test based on the market-based governance perspective. Financial Research, 10:190-206.

[26] Quan, X., Lu, Z. (2016) Does investor relationship management affect auditor decision-making? --A comprehensive survey based on investor relations management of A-share listed companies. Accounting Research, 02:73-80+96.

[27] Li. C., Liu, B., Zhou, P. (2017) Short selling and disclosure: Evidence from a quasi-natural experiment on securities financing. Financial Research, 09:130-145.

[28] Chen, Q., Chen, K., Schipper, Y., et al. (2012) The sensitivity of corporate governance. Review of Financial Studies, 25:3610-3644

[29] DeFond, M., Jiambalvo, J. (1993) Factors Related to Auditor—Client Disagreements over Income—Increasing Accounting Methods. Contemporary Accounting Research, Spring.