The Effect of Financial Leverage on Risk Information Disclosure

Yu Qian*
University Malaysia Sabah, Malaysia[1], Chongqing Three Gorges University, China[2]
*Corresponding Author Email: YU_QIAN_DB21@iluv.ums.edu.my

Ag. Kaifah Riyard Bin Kifle
University Malaysia Sabah, Malaysia
Email: Agkaifah@ums.edu.my

Rasid Mail
University Malaysia Sabah, Malaysia
Email: rmail@ums.edu.my

Abstract
This paper takes A-share listed companies in China from 2013 to 2022 as the research sample and positivism analyzes the impact of financial leverage on the level of risk information disclosure of listed companies. Through text analysis, the risk information disclosure indicators in the annual reports of listed companies are constructed, and a multiple linear regression model is established. The research finds that the higher the financial leverage ratio of a company, the higher the level of risk information disclosure, indicating that highly indebted companies have the motivation to increase risk information disclosure to alleviate information asymmetry with creditors. Further analysis shows that this positive relationship is more significant in non-state-owned companies. This study provides new positivist evidence for understanding the interaction between corporate debt financing and information disclosure, and is of great significance for regulatory authorities to improve the information disclosure system and for investors to identify corporate risks. **Purpose:** The research objective of this paper is to analyse the relationship between financial leverage and risk disclosure of listed companies. It explores whether management chooses to disclose more risks or conceal risks when financial leverage rises. Thus, it aims to analyse the motives of risk disclosure of listed companies and the influence mechanism of financial leverage on risk disclosure, and then put forward suggestions for regulatory authorities to improve the risk disclosure system. **Design/methodology/approach:** This paper adopts a quantitative research design, selecting A-share listed companies in China from 2013 to 2022 as samples. The dependent variable is the level of risk information disclosure, measured by the proportion of risk-related keywords in the annual report to the total number of words. The

core independent variable is financial leverage, measured by the debt-to-asset ratio. Control variables include profitability, revenue growth rate, company size, and the shareholding ratio of the largest shareholder. The positivist part mainly uses a fixed effects regression model to reduce the impact of individual differences. Robustness tests are conducted through alternative variables, introducing lagged terms, and other methods. This research design can systematically examine the impact of financial leverage on corporate risk information disclosure. **Findings:** Research has found that among listed companies in China, Companies with higher risk asset holdings have higher disclosure levels, suggesting that highly indebted companies increase risk disclosure to mitigate information asymmetry with creditors. Further research has found that this positive relationship is even more significant among non-state-owned companies. It means that non-state-owned companies are more willing to proactively disclose risk information when their financial leverage is high. **Research limitations/implications:** This paper only considered the quantity aspect of risk disclosure, but has not taken into account the quality aspect of risk disclosure. Future research could explore risk disclosure and its economic consequences from aspects such as the tone of the text. **Practical implications:** The research results of this paper can provide a reference for creditors to assess corporate credit risk and investors to make investment decisions. And it can provide a reference for regulatory authorities to formulate differentiated and refined information disclosure regulatory policies. **Originality/value:** This paper enriches and expands the research on information disclosure based on agency theory and signalling theory, and links financial leverage with risk information disclosure. This study effectively integrates property rights theory, corporate governance theory and information disclosure.
Keywords: Risk Disclosure, Financial Leverage, State-Owned Companies, Non-State-Owned Companies

Introduction

In recent years, with the deepening of capital market reforms, information transparency has become the core of corporate governance. Risk information disclosure, as an important part of the information disclosure of listed companies, directly affects the decisions of investors and creditors. High-quality information disclosure can alleviate the information asymmetry within and outside the company, helping investors fully assess investment risks and returns, and thus making more rational decisions (Ettredge et al., 2002).

The prominent feature of risk information is that it is presented in textual form, providing detailed explanations of the known risks, unknown risks, and unexpected events and other uncertainties faced by the company. Compared to traditional quantitative information, risk information, as qualitative information, is difficult to obtain directly. Therefore, there were not many related studies before. In the past decade, with the development of computer technology, text analysis techniques have become increasingly mature. Research on the disclosure of risk information in the annual reports of listed companies has gradually increased.

Chinese regulatory authorities have continuously strengthened the requirements for risk information disclosure. Since the China Securities Regulatory Commission revised "Principles for the Content and Format of Information Disclosure for Publicly Issued Securities - Part 2: Content and Format of Annual Reports" in 2012, the requirements for risk information disclosure have become more explicit, promoting the development of risk information

disclosure in Chinese listed companies' annual reports. However, there are still many problems with the disclosure of risk information by listed companies. The requirements for risk disclosure by listed companies are mandatory, but the disclosed content is selective (Yao Yi & Zhao Mei, 2016). There are problems of formalism, homogeneity and templateization in the risk disclosure of Chinese listed companies (Yang Mo, Dong Dayong, Xu Yong'an, 2022; Luo Juncheng, 2024).

Financial leverage, as an important indicator reflecting an enterprise's capital structure and risk-bearing capacity, may play a crucial role in the risk disclosure behavior of the enterprise. On one hand, a high leverage level may increase the financial pressure on the enterprise, forcing it to disclose risk information more cautiously to alleviate the concerns of creditors and investors; on the other hand, enterprises may also selectively conceal some risks based on the need for reputation maintenance or financing motives, resulting in insufficient disclosure. Exploring the relationship between financial leverage and risk disclosure not only helps to understand the motivation of enterprise risk disclosure but also provides positivist evidence for improving the risk disclosure regulatory system in China.

Literature Review
The main forms through which listed companies disclose risk information include annual reports, prospectuses, and interim reports. Annual reports serve as an important vehicle for managers to manipulate information (Zeng et al., 2018). Hodder er al (2001) expanded the scope of risk information disclosure to include management discussions and analysis in annual reports, as well as the notes to the financial statements, enabling investors to make appropriate risk assessments when collecting information.

Jensen and Meckling (1976) argued that a reasonable ownership and debt structure is conducive to alleviating adverse principal-agent behaviour. And it plays an important role in reducing self-interested behaviours of management and limiting the destruction of company value. Leftwich et al (1981) found that as the proportion of debt in the company's capital structure increases, the risk of financial failure of the company will significantly increase. To enhance the confidence of shareholders and creditors, companies will voluntarily provide more information about their financial health.

A study by Abraham and Cox (2007) looked at annual reports from UK FTSE 100 companies to see how corporate governance and company traits affect the amount of "descriptive risk information" they share. They found that companies with higher leverage tend to disclose more about risks.

However, in a study of 72 UK-listed firms, Elzahar & Hussainey (2012) explored the determinants affecting the disclosure of risk information within interim financial reports. Their analysis revealed a positive relationship between firm size and the extent of risk disclosure. In contrast, factors such as profitability, liquidity, leverage, and cross-listings were not found to exert a statistically significant influence.

Similarly, Eng and Mark (2003) examined voluntary disclosure practices among Singapore-listed companies, focusing on ownership structure and board composition. Their results

indicated that higher levels of corporate indebtedness are associated with lower quality of disclosure.

Khlif & Hussainey (2016) found that legal system, disclosure regulations, industry type, and leverage measurement influence the relationship between leverage and risk disclosure. This explains the discrepancies in the existing literature, where the results are "sometimes significant, sometimes not."

Huang Qingcheng (2024) systematically explored the influencing factors of risk information disclosure of Chinese A-share listed companies based on four dimensions: external regulatory environment, economic policy environment, industry competition environment, and internal governance environment. Luo Peng (2025) found that there is a significant industry peer effect in the risk disclosure of Chinese listed companies.

State-owned companies (SOCs) typically benefit from implicit state backing, which reduces the pressure from creditor oversight. Consequently, their incentive to disclose risk-related information may be weaker compared to non-SOCs. Studies such as Wang et al. (2017) suggest that SOCs exhibit lower motivation to enhance the quality of information disclosure, resulting in relatively poorer disclosure practices. Similarly, Wang et al. (2006) observed that listed companies under state control are often associated with more severe agency problems and a higher tendency toward financial misconduct, further contributing to lower disclosure quality.

However, contrasting evidence exists. For instance, research by Huang and Liu (2007) indicates a significant positive correlation between state ownership and the quality of information disclosure, suggesting that higher state shareholding may actually lead to improved transparency.

Hypothesis Development
Financial leverage reflects the degree debt of a company. The higher the financial leverage, the greater the degree of indebtedness. Generally speaking, companies with a higher financial leverage ratio have greater financial risks. In their annual reports, in addition to meeting the information disclosure needs of shareholders, companies must also meet the special requirements of creditors for relevant information such as the company's performance, operating conditions, and liquidity ratio.

Based on agency theory, a reasonable debt structure can help mitigate undesirable agency behaviour (Jensen and Meckling, 1976). Highly leveraged companies face greater pressure from creditors to monitor their performance. To reduce debt agency costs, gain creditor trust, and maintain financing opportunities, management has an incentive to fully disclose risk information. At the same time, excessive financial leverage can harm creditor interests, leading creditors to demand more information disclosure to strengthen oversight (Shleifer & Vishny, 1997). However, management may selectively disclose or withhold information out of opportunistic motives (Watts & Zimmerman, 1986). This suggests that financial leverage may have both a facilitating and a suppressive effect on risk disclosure.

From the perspective of signalling theory, voluntary disclosure of risk information by enterprises is an important means to convey the company's stability and transparency to the market (Spence, 1973). High-leverage enterprises may be more inclined to disclose risk information to external investors to convey their operational risks and debt-paying ability (Akerlof, 1970; Verrecchia, 2001). Therefore, from the perspective of signalling theory, financial leverage has a promoting effect on risk information disclosure.

Therefore, this paper proposes hypothesis 1.

H1: Financial leverage is positively correlated with the level of risk information disclosure.

State-owned companies usually have implicit government guarantees, which weakens the supervisory pressure on creditors, thereby reducing the motivation of high-leverage companies to disclose risks. However, high-leverage non-state-owned companies face significant market pressure. To maintain the confidence of creditors, ensure a continuous source of financing, and refinance at reasonable costs, the management has a strong incentive to actively alleviate information asymmetry through more comprehensive and transparent risk disclosure. Therefore, Hypothesis 2 is proposed.

H2: Compared with state-owned companies, the positive influence of financial leverage on risk disclosure is stronger in non-state-owned companies.

Methods

Data Source

Due to significant revisions made to the risk disclosure standards for Chinese listed companies in 2012, the rules for risk disclosure of Chinese listed companies gradually became more in line with international standards. Therefore, this paper selects A-share listed companies listed on the Shenzhen Stock Exchanges and Shanghai Stock Exchanges as sample data. Select the research period from 2013 to 2022.The data is processed as follows: (1) Remove abnormal operating samples such as ST, *ST, and PT. (2) Remove samples from financial industry companies. (3) Remove samples with missing variables. (4) Perform 1-99% closing processing on consecutive samples. After data processing, the final sample consists of 4,131 listed companies, with a total of 29,231 sample observations. The dependent variable of risk disclosure comes from the WinGo database, and other data are coming from the CSMAR database.

Variable Design

The dependent variable in this paper is risk disclosure. The frequency data of risk-related keywords in the future outlook section of the management discussion and analysis in the annual report is used as the indicator to measure risk disclosure. Referring to Hu Nan et al. (2021) and Kravet & Muslu (2013), the risk indicator from the Chinese financial text database (WinGo database) is selected as the measurement indicator for risk disclosure.

The independent variable is the debt-to-asset ratio. The higher the asset-liability ratio of a company is, the higher its financial leverage will be. The control variables are profitability, revenue growth rate, company size, and the proportion of the first major shareholder's shareholding.

All the variables selected in this study and their definitions are shown in Table 1.

Table 1
Variable Definition Table

Variable Name	Variable Symbol	Definition
Risk Disclosure	**RD**	RD=risk1+risk2+risk3. risk1=The sum of the exact word frequencies corresponding to the risk keyword set divided by the total number of words in the annual report text； risk2=The sum of the exact word frequencies corresponding to the risk keyword set divided by the total number of words in the full text of the MD&A； risk3=The sum of the exact word frequencies corresponding to the risk keyword set divided by the total number of words in the future outlook text in the MD&A.
Asset-Liability Ratio	**lev**	Total Liabilities / Total Assets
Operating Income Growth Rate	**grow**	Current period operating income growth/base period operating income
Profitability	**ROE**	Net Profit / Shareholders' Equity Balance
Company Size	**lnsize**	Natural logarithm of the listed company's total assets.
Ownership Concentration	**top1**	Shareholding ratio of the largest shareholder
Nature of Property Rights	**PRN**	If the company is Non-SOC, it is 0. otherwise, If the company is SOC, it is 1.
Industry	**indus**	The industries are classified in accordance with the "Guidelines for the Classification of Industries of Listed Companies" issued by the China Securities Regulatory Commission in 2012.

Model Design
Based on the agency theory and following Wang Xiongyuan (2006), a multiple regression model was constructed to test Hypothesis 1 and Hypothesis 2:

$$RD_{it} = \alpha + \beta_1 \mathbf{lev}_{it} + \boldsymbol{\beta_2 grow}_{it} + \boldsymbol{\beta_3 ROE}_{it} + \boldsymbol{\beta_4 lnsize}_{it} + \boldsymbol{\beta_5 top1}_{it} + \boldsymbol{\varepsilon}_{it}$$

Findings
Table 2
Summary Statistics

VarName	Obs	Mean	Median	SD	Min	Max
RD	28926	0.037	0.035	0.016	0.004	0.134
lev	28926	0.410	0.400	0.200	0.057	0.870
ROE	28926	0.058	0.070	0.124	-0.656	0.313
grow	28926	0.351	0.131	0.883	-0.680	6.030
lnsize	28926	22.118	21.936	1.318	19.741	26.218
top1	28926	0.344	0.323	0.146	0.092	0.747

Table 2 presents a descriptive analysis of this study's dependent, independent, and control variables. As shown in Table 2, the dependent variable, risk disclosure (RD), has a mean of 0.037, a median of 0.035, a standard deviation of 0.016, and a maximum of 0.134. This

indicates that the overall proportion of risk information disclosed in the annual reports of Chinese listed companies is relatively low, with most companies' disclosures ranging between 3% and 4%, with little variation. This suggests that risk disclosure remains primarily focused on compliance and lacks depth and adequacy. The independent variable, financial leverage (lev), has a mean of 0.410, a median of 0.400, a standard deviation of 0.200, a maximum of 0.870, and a minimum of 0.057. This indicates that the overall leverage level of the sample companies is moderate, but there is significant variation. Some companies have leverage ratios approaching 90%, potentially indicating high financial risk.

Based on the multiple regression model constructed in this paper, it conducts a regression analysis, and the results are as follows.

Table 3
Results of Multiple Regression Analysis

	(1)	(2)
	RD	RD
lev	0.00524***	0.00278***
	(7.28)	(3.62)
ROE		-0.0108***
		(-17.04)
grow		-0.000142
		(-1.50)
lnsize		-0.000548***
		(-2.99)
top1		-0.00611***
		(-4.75)
_cons	0.0344***	0.0504***
	(114.15)	(12.59)
firm	yes	yes
year	yes	yes
N	28922	28922
F	53***	80***
r2	0.628	0.633
r2_a	0.566	0.572

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3 shows the regression results on the impact of debt ratio on risk disclosure. Column (1) presents only the results for debt ratio and risk disclosure, while column (2) includes control variables such as profitability, revenue growth rate, firm size, and the largest shareholder's ownership percentage. Both columns indicate that debt ratio has a positive effect on risk disclosure.

From the results in Column (2), which include control variables, it can be observed that the coefficient of the debt-to-asset ratio's impact on risk disclosure is 0.00278, and the significance level is 1%. This suggests that for every one-unit increase in the debt-to-asset ratio, the level of risk disclosure in listed companies increases by 0.00278 units. The debt-to-asset ratio has a significant positive impact on risk disclosure, thus supporting Research Hypothesis 1 of this study.

Table 4
Group Regression Results

	(1) RD	(2) RD	(3) RD
lev	0.00278***	0.00382***	0.00517***
	(3.62)	(4.15)	(7.06)
ROE	-0.0108***	-0.0133***	-0.00954***
	(-17.04)	(-9.96)	(-9.97)
grow	-0.000142	-0.000966***	-0.00145***
	(-1.50)	(-6.41)	(-9.97)
lnsize	-0.000548***	0.000228*	0.000378***
	(-2.99)	(1.69)	(3.12)
top1	-0.00611***	0.00700***	0.00311***
	(-4.75)	(6.50)	(3.68)
_cons	0.0504***	0.0292***	0.0258***
	(12.59)	(10.42)	(10.25)
firm	yes	yes	yes
year	yes	yes	yes
N	28922	9644	19282
F	80***	47***	71***
r2	0.633	0.024	0.018
r2_a	0.572	0.023	0.018

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4 shows the results after conducting grouped regression on state-owned companies (SOCs) and non-state-owned companies(non-SOCs). Column (1) is the regression results for the entire sample, column (2) is the regression results for the impact of the asset-liability ratio of SOCs on risk disclosure, and column (3) represents the regression results for the influence of the asset-liability ratio of non-SOCs on risk disclosure. We can see in the table that the influence of the asset-liability ratio on risk disclosure is positively significant for both SOCs and non-SOCs. In SOCs, the impact coefficient of the asset-liability ratio on risk disclosure is 0.00382, and the significance level is 1%. While in non-SOCs, the influence coefficient is 0.00517, and the significance level is also 1%. The influence coefficient of non-state-owned companies is greater than that of state-owned companies.

It indicates that the impact of the asset-liability ratio on risk disclosure is more significant in non-state-owned companies, supporting Hypothesis 2 proposed in this paper.
In the regression results of the full sample, the R-squared value is 0.633 and the adjusted R-squared is 0.572, indicating that the model has a good explanatory effect and financial leverage has a strong explanatory power for risk disclosure. In the regression results of the state-owned company group, the R-squared value is 0.024 and the adjusted R-squared is 0.023. This value is relatively low, suggesting that in the state-owned enterprise group, the relationship between financial leverage and risk disclosure is relatively weak. In the regression results of the non-state-owned enterprise group, the R-squared value is 0.018 and the adjusted R-squared remains 0.018. This value is lower, indicating that in the non-state-owned enterprise group, the relationship between financial leverage and risk disclosure is also weak. This suggests that apart from the nature of enterprise property rights, there are other factors that also affect the relationship between financial leverage and risk disclosure.

This paper adds an industry classification to conduct a heterogeneity analysis on the impact of financial leverage on risk disclosure. Different economic activity patterns, value creation models, and capital participation degrees are taken into account. This paper selects representative manufacturing (C), wholesale and retail (F), and real estate (K) industries for group regression to analyse the impact of financial leverage on risk disclosure in different industries.

Table 5
Regression Results by Industry

	(1) RD	(2) RD	(3) RD
lev	0.00443***	0.00386	0.000231
	(6.00)	(1.39)	(0.07)
ROE	-0.0116***	-0.0328***	-0.0209***
	(-11.55)	(-7.89)	(-6.29)
grow	-0.00140***	-0.000220	0.000704***
	(-8.03)	(-0.35)	(3.07)
lnsize	0.000370***	-0.000599	-0.000539
	(3.30)	(-1.34)	(-1.29)
top1	0.00390***	0.0158***	-0.00325
	(4.71)	(5.01)	(-1.03)
_cons	0.0270***	0.0469***	0.0486***
	(11.69)	(5.07)	(5.58)
firm	yes	yes	yes
year	yes	yes	yes
N	19161	1369	984
F	72***	18***	11***
r2	0.018	0.061	0.053
r2_a	0.018	0.057	0.049

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5 presents the grouped regression results for the manufacturing industry, wholesale and retail trade, and the real estate industry. Column (1) shows the impact of the debt-to-asset ratio on risk disclosure in the manufacturing industry. The coefficient of the debt-to-asset ratio on risk disclosure is 0.00443, with a significance level of 1%. Column (2) shows the impact of the debt-to-asset ratio on risk disclosure in the wholesale and retail trade, with a coefficient of 0.00386, and the correlation is not significant. Column (3) shows the impact of the debt-to-asset ratio on risk disclosure in the real estate industry, with a coefficient of 0.000231, and the correlation is not significant. The regression results indicate that only in the manufacturing industry is there a significant positive relationship between financial leverage and risk disclosure. The other two industries are not significant. This suggests that there is a strong industry heterogeneity in the relationship between financial leverage and risk disclosure, providing a basis for studying the relationship between financial leverage and risk disclosure in different industries.

Considering the possible endogeneity issue, this paper uses the asset-liability ratio of the previous period for regression. The regression results show that the coefficient between the asset-liability ratio and risk disclosure is 0.0042, with a significance level of 1%. This indicates

that the asset-liability ratio has a significant positive impact on risk information disclosure, consistent with the original test results, and there is no endogeneity issue. In terms of robustness tests, this paper changes the asset-liability ratio to the interest-bearing debt ratio, and the regression results remain significant.

Discussion and Conclusion

This study utilizes data from A-share listed companies on the Shenzhen Stock Exchange and the Shanghai Stock Exchange to systematically examine the impact of financial leverage on company risk disclosure. The main conclusions can be summarized as follows.

Firstly, the positivist results robustly indicate that there is a significant positive correlation between financial leverage and the level of risk disclosure by companies. This finding supports the core hypotheses based on signal transmission theory and agency theory. It suggests that companies with high debt levels, motivated by alleviating information asymmetry with creditors, reducing debt agency costs, and conveying positive governance signals to the market, inclining to disclose more detailed risk information in their annual reports. This is an active and strategic form of disclosure, aiming to maintain creditor confidence, ensure financing channels, and avoid potential financial difficulties.

Secondly, this study further reveals the differences in the above relationship between SOCs and non-SOCs. The governance effect of financial leverage is not the same in all companies. It is jointly influenced by both the internal governance structure of listed companies and the external institutional environment. Specifically, in non-state-owned companies, the creditor pressure caused by high leverage is more direct and intense, so their motivation to enhance risk disclosure in exchange for market trust is also more prominent.

This indicates that during the process of China's institutional environment transitioning from "government-led" to "market-led", due to the increased market pressure, listed companies, especially those with high debt ratios, have shifted from passive and selective risk disclosure to proactive and comprehensive risk communication.

Theoretical Implications

This paper emphasizes the governance role that creditors play as key stakeholders of the company. The positivist results show that debt financing is not only a source of capital for listed companies, but also an important external governance mechanism. It can make the information disclosure of listed companies more transparent, which enriches the understanding of the debt governance effect and provides new evidence from the dimension of risk information disclosure.

This paper effectively integrates corporate governance theory with information disclosure, revealing how the governance effect of financial leverage influences the risk information disclosure of listed companies. It also analyses the impact of property rights nature and industry nature on the relationship between financial leverage and risk disclosure. This indicates that in emerging markets like China, it is insufficient to merely examine the linear relationship between financial variables and information disclosure; it is necessary to interpret them within a complex institutional context. Therefore, this study not only enriches the literature on the economic consequences of corporate debt financing but also provides

an analytical framework for understanding the heterogeneity of risk disclosure behaviour among companies with different governance structures, which has a promoting effect on information disclosure in emerging markets.

Practical and Social Implications

For investors and creditors, this study provides a new perspective for assessing the true risks of companies. For highly leveraged companies, investors should carefully examine the content of their risk disclosure and view it as an important indicator reflecting the integrity of the management and the risk management capabilities of the company. Especially for non-state-owned companies, detailed risk disclosure may be a signal that they are actively responding to debt pressure and actively managing risks. Creditors can more accurately assess risks and formulate loan constraints clauses. Conversely, if a highly leveraged company is reticent about its risk information, it may be a strong warning sign.

For the management of listed companies, this study confirms that proactive and transparent risk disclosure is an effective non-price competitive means, especially in alleviating financing constraints. This study reminds the management that instead of trying to conceal risks, they should actively shape the market image through candid, comprehensive risk disclosure and clear risk response strategies, in order to win the trust of creditors and investors. Companies should elevate information disclosure to the strategic management level and establish a sound risk identification and disclosure mechanism.

For regulatory authorities, the findings of this study provide empirical evidence for implementing differentiated and refined information disclosure regulatory policies. While the regulatory authorities continue to strengthen the overall requirements for risk disclosure, they should also notice the differences in the motives behind the disclosure behaviours of companies. The research conclusion indicates that companies with low financial leverage may lack the motivation to fully disclose risks due to the lack of market pressure. Therefore, regulatory resources should be focused, and supervision of the "adequacy" of information disclosure for such companies should be strengthened.

Limitations and Suggestions for Future Research

This paper only considered the quantity aspect of risk disclosure, but has not taken into account the quality aspect of risk disclosure. Future research can explore risk disclosure and its economic consequences from aspects such as the tone of the text.

Also, this study only considered the impact of property rights nature on financial leverage and risk disclosure. In the future, more external environmental mechanisms can be considered to examine their influence on the relationship between financial leverage and risk disclosure. For example, institutional investors.

Acknowledgement

References

Abraham, S., & Cox, P. (2007). Analysing the determinants of narrative risk information in UK FTSE 100 annual reports. The British Accounting Review, 39(3), 227–248. https://doi.org/10.1016/j.bar.2007.06.002

Elzahar, H., & Hussainey, K. (2012). Determinants of narrative risk disclosures in UK interim reports. The Journal of Risk Finance, 13(2), 133–147. https://doi.org/10.1108/15265941211203189

Eng, L. L., & Mak, Y. T. (2003). Corporate governance and voluntary disclosure. Journal of Accounting and Public Policy, 22(4), 325–345. https://doi.org/10.1016/S0278-4254(03)00037-1

Ettredge, M., Richardson, V. J., & Scholz, S. (2002). Dissemination of information for investors at corporate Web sites. Journal of Accounting and Public Policy, 21(4–5), 357–369. https://doi.org/10.1016/S0278-4254(02)00066-2

Hodder, L., Koonce, L., & McAnally, M. L. (2001). SEC market risk disclosures: Implications for judgment and decision making. Accounting Horizons, 15(1), 49–70. https://doi.org/10.2308/acch.2001.15.1.49

Huang, F., & Liu, Z. (2007). Ownership structure, corporate governance, financial status, and information disclosure quality of listed companies. Communication of Finance and Accounting (Academic Edition), 6, 26–28, 34.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Khlif, H., & Hussainey, K. (2016). The association between risk disclosure and firm characteristics in non-financial institutions: A meta-analysis. Journal of Risk Research, 19(2), 181–211. https://doi.org/10.1080/13669877.2014.961514

Leftwich, R. W., Watts, R. L., & Zimmerman, J. L. (1981). Voluntary corporate disclosure: The case of interim reporting. Journal of Accounting Research, 19(Supplement), 50–77. https://doi.org/10.2307/2490986

Luo, P. (2025). Does corporate risk disclosure have a peer effect? Communication of Finance and Accounting, (3), 77-82. https://doi.org/10.16144/j.cnki.issn1002-8072.2025.03.019

Luo, J. C. (2024). Characteristics of risk text disclosure in annual reports and corporate financing costs (Doctoral dissertation, Jilin University). https://doi.org/10.27162/d.cnki.gjlin.2024.007796

Wang, X., & Guan, K. (2006). An empirical study on the characteristics of audit committees and the quality of information disclosure. Audit Research, (6), 42–49.

Wang, X., Li, Y., & Xiao, M. (2017). Does annual report risk information disclosure help improve analyst forecast accuracy? Accounting Research, (10), 37–43, 96.

Yao, Y., & Zhao, M. (2016). Chinese-style risk disclosure, disclosure level and market reaction. Economic Research Journal, (7), 158-172. doi: CNKI:SUN:JJYJ.0.2016-07-013.

Zeng, Q., Zhou, B., & Zhang, C. (2018). Annual report tone and insider trading: "Consistency" or "Contradiction"? Management World, 34(9), 143–160.