

Empirical Study on the Discourse Power of Enterprises in the Industrial Chain Based on Their Innovation Ability

Yanxi Liu*

International Business College, Dongbei University of Finance and Economics, Dalian 116025, China.

* Corresponding author: Yanxi Liu (Email: nan1159955721@gmail.com)

Abstract: With the continuous evolution of the global industrial chain division of labor pattern, the position and influence of enterprises in the industrial chain has become an important indicator to measure their competitive advantages. Based on the panel data of Chinese A-share listed companies during the period of 2014-2023, this paper systematically analyzes the influence of corporate innovation ability on its discourse power in the industrial chain, and further reveals its path and regulating factors. By constructing a multi-dimensional index system and empirical model, the study finds that improving innovation capability significantly helps to enhance the dominant ability of enterprises in industrial chain coordination and decision-making, which is manifested in the enhancement of their voice in upstream and downstream cooperation, resource acquisition, and rule-making. Further group regression analysis shows that the location of enterprises in the supply chain significantly affects the marginal effect of innovation capability on voice, i.e., enterprises located in the core or key nodes have a more prominent positive effect of their innovations on voice. This study expands the existing theoretical knowledge on the relationship between enterprise innovation and industry chain governance, and provides systematic references and practical insights for constructing an efficient and synergistic industry chain ecology and optimizing enterprise strategic resource allocation.

Keywords: Innovation Capacity, Industry Chain, Voice, Control.

1. Introduction

Against the background of rapid development of global science and technology, technological innovation has become the core driving force for the reconstruction of enterprises' competitive advantages and upgrading of industrial structure. With the deepening of the new round of industrial change, the global industrial chain and value chain show the trend of accelerated reorganization, in which the structural position of enterprises and their dominant ability gradually become an important symbol to measure their comprehensive strength. In this process, the discourse competition in the industrial chain is more and more embodied as a comprehensive competition of technological control, innovation-driven capability and institutional influence, and enterprises are gradually changing their role position in the industrial network by mastering key core technologies and frontier intellectual property rights [1].

The discourse power in the industry chain reflects the dominant position of enterprises in upstream and downstream relationship coordination, rule design and resource allocation, etc., which is essentially a kind of structural power originated from the foundation of competence. Different from the traditional industrial control mode relying on scale, cost advantage or institutional protection, the competitive center of gravity of enterprises in the value chain is gradually shifting from external dependence to internal drive, i.e., realizing deep embedding and dominant reshaping of industrial ecology through continuous innovation investment [2].

Although studies have extensively explored the relationship between corporate innovation and financial performance [3], export capability [[4]], and market competitiveness [[5]], systematic theoretical explanations and

empirical analyses of how innovation capacity affects the power structure of firms in the industrial chain, especially in the dimension of "voice", which has the attribute of governance, are still scarce. Existing literature often ignores the dynamic and multidimensional nature of the position of enterprises in the industrial network, and the formation mechanism of voice is often affected by multiple factors, such as technological attributes of the industry, the stage of the life cycle, and the synergistic ability of enterprises. Therefore, it is difficult to analyze the innovation behavior of enterprises only from a single dimension to fully reveal the evolution logic of their position in the complex industrial system. Therefore, it is urgent to analyze the mechanism and boundary conditions of the influence of innovation capacity on the discourse power in the industrial chain from a more comprehensive perspective, combining micro enterprise behavior and macro system logic.

Based on this, this paper takes 2014-2023 listed companies on A-share stock as the research sample, combines the upstream and downstream positions of the industrial chain in which the enterprises are located, and uses multi-period panel data and econometric models to systematically examine the effect of corporate innovation ability on their industrial chain discourse power, with a view to effectively supplementing the existing literature in terms of theory and practice. The empirical analysis results demonstrate that, first and foremost, the baseline regression findings reveal that the innovation capability of listed firms plays a significant role in strengthening their discourse power within the industrial value chain; secondly, after the robustness test by eliminating the samples from the special period period, the conclusions of this paper are still significantly established; lastly, the results of the heterogeneity analysis show that, influenced by the supply chain location of the enterprises, there is a significant

difference in the innovation ability on the company's discourse power in the industry chain.

The marginal contribution of this paper is mainly reflected in the following aspects: first, it expands the research perspective of the relationship between enterprise innovation ability and industrial chain control, and enriches the research content in the cross-cutting field of enterprise innovation behavior and industrial organization structure from the meso-level of "discourse power", which is seldom explored in depth. Secondly, it provides empirical support for the development of the theory of industrial chain governance and value chain upgrading by combining the upstream and downstream positions of enterprises in the industrial chain with their innovation ability level.

2. Theoretical analysis based on innovation and industry chain discourse power

The power of industrial chain discourse refers to the influence and dominance of enterprises in the process of upstream and downstream resource allocation, institutional arrangement and value distribution, the core of which is reflected in the dimensions of pricing power, standard-setting power, technological control power and institutional construction capacity. Under the background of deepening division of labor in the global value chain and increasingly complex supply chain system, the dominant position of enterprises in the industrial chain no longer relies solely on their market scale or channel control ability, but increasingly shifts to a capability-based advantage based on technological innovation. Innovation capability, especially the integration of technological research and development capability and system construction capability, has become a key variable in whether enterprises can realize the transformation from "participant" to "leader" in the industrial network.

2.1. Analysis based on resource-based theory

Starting from the Resource-Based View (RBV) theory, the innovation capability of an enterprise, as a strategic resource that is scarce, difficult to replicate and characterized by path dependence, can provide a long-term competitive advantage for an enterprise. This theory emphasizes that the heterogeneity and immobility of enterprise resources constitute the fundamental source of differences in competitive positions among enterprises. As a core element, the role of innovation capability at the industry chain level is mainly reflected in the following three aspects:

First, in the technology dominance path, enterprises rely on independent research and development and breakthroughs in key core technologies to realize the occupation of high value-added links in the industrial chain, and further play a dominant role in the formulation of technical standards and the construction of industrial rules. This technological dominance not only makes enterprises irreplaceable in the chain, but also enhances their control over the operation of the entire value chain.

Secondly, through the product differentiation path, innovation-driven enterprises continuously launch products and services with unique value, strengthen brand recognition and customer stickiness, and then improve their screening power over upstream suppliers and bargaining power over downstream customers [6]. This mechanism helps enterprises to form a stable dominant power of resource allocation in the

industrial chain and realize the continuous improvement of value-acquisition ability.

Again, in the path of institutionalization, enterprises with strong innovative capacity are more inclined to actively participate in or even dominate the process of setting industrial rules through patent alliances, industry standard setting, intellectual property cooperation and other forms. Institutional embedding not only enhances the stability of enterprises' discourse power, but also strengthens their strategic position in the chain ecosystem [7].

2.2. Analysis based on dynamic capabilities theory

Further, from the perspective of dynamic capabilities theory, an enterprise's innovation capability should not be understood only as a static ability to accumulate technology, but also as a collection of capabilities to respond to environmental changes, allocate resources and reconfigure the competitive landscape. Dynamic capability theory emphasizes that the firm's ability of sensing, seizing and reconfiguring in the rapidly changing external environment determines whether it can break through the original path dependence and achieve value capture and status leap in the process of emerging technology or industry chain reconfiguration.

Therefore, in the current context of high uncertainty in the external environment and frequent adjustments in the global value chain, if enterprises can combine technological innovation capability with strategic flexibility, they are more likely to take the lead in the complex game, thus enhancing their control and influence of rules in the industrial chain, and realizing multi-dimensional dominance of discourse power. This logic provides a theoretical basis for understanding how enterprises shape their external network position through endogenous capabilities, and also lays the mechanism foundation for the subsequent empirical analysis [8].

3. Research design on the impact of innovation on DPC

3.1. Sample selection and data sources

This paper takes Chinese A-share listed companies as the research object during the period of 2014-2023, and systematically examines the impact of corporate innovation ability on their discourse power in the industry chain. Compared with other types of enterprises, A-share listed companies not only have a more standardized information disclosure system and strong data availability, but also have more representative resource allocation, technological input and governance structure in their respective industrial chains, which makes them suitable as research samples for empirical analyses at the micro level.

The financial data and corporate governance-related variables involved in this study are mainly from the Cathay Pacific (CSMAR) database. This database is widely used in China's capital market research and has the advantages of comprehensive data coverage, timely updating and clear structure, which can better meet the needs of dynamic analysis at the enterprise level. It is worth noting that the institutional requirements for enterprises to disclose specific information about their top five suppliers and their procurement amount and percentage in their annual reports have been gradually standardized since 2014, and the data coverage and reliability have been significantly improved.

Therefore, this paper sets the sample period from 2014 to 2023 to ensure the data quality of the core explanatory variables and the robustness of the analytical results. At the same time, this time window covers the key stages of transformation and upgrading of China's manufacturing industry and the accelerated restructuring of the industrial chain structure, which helps to dynamically capture the role mechanism and path characteristics of corporate innovation capacity in the evolution of discourse power.

In order to ensure the validity of the sample data and the robustness of the research results, this paper carries out the following treatments on the basis of the initial sample: (1) exclude the sample of financial firms, which may interfere with the interpretation of the results due to the strong specificity of their financial structure and regulatory system; (2) exclude annual data of companies that have been delisted, the year of the IPO, and the year before that, in order to avoid the impact of life-cycle heterogeneity on the analytical results;

(3) delete the observations with missing key financial indicators or corporate governance variables; (4) exclude the annual samples of companies that have been subjected to special treatment (ST or *ST) in order to control systematic bias due to operational anomalies. After the above steps, a total of 19,547 firm-year observations are finally obtained as valid samples for empirical analysis.

In addition, in order to attenuate the possible disturbing effects of extreme values, this paper applies a two-sided 1% shrinkage to all continuous variables. In the process of regression estimation, considering that individual effects at the firm level may lead to clustering of the error term, this paper adjusts the standard errors for clustered at firm level (clustered at firm level) to enhance the robustness and credibility of parameter estimation. The definitions and calculations of the variables used in this paper are detailed in Table 1.

Table 1. Measurement of research variables

Type	Variable Name	Symbol	Variable Metric
Construed Variant Explanatory Variable	industrial chain discourse power	DPC	(Accounts payable + notes payable + accounts receivable - accounts receivable - notes receivable - prepayments) / total assets
	innovation capacity	Innov	Natural logarithm of the number of patents in the enterprise plus one
	Return on Assets	ROA	Net profit/ total assets
	Growth Rate	Growth	(Operating income this year - operating income last year) / operating income last year
	Tangible Assets Ratio	Tan	Total tangible assets /total assets
	Fixed Asset Ratio	Fix	Total fixed assets /total assets
	Shareholding Concentration	TOP1	Shareholding ratio of the largest shareholder
	Board Size	Board	Logarithm of board members number + 1
	Independent Directors Proportion	Indep	Independent directors number /total number
	Two Jobs In One	Dual	Assigned value of 1 when the chairman and general manager are both appointed, otherwise 0
Control Variable	Industry Fixed Effect	Industry	Industry dummy variable, assigned a value of 1 if it belongs to the industry, otherwise 0
	Time Fixed Effect	Year	Year dummy variable, assigned a value of 1 if it belongs to the year, otherwise 0

3.2. Modeling

In order to test the relationship between innovation ability and the discourse power of enterprises in the industrial chain, this paper sets the benchmark regression model as follows:

$$DPC_{i,t} = \alpha_1 + \alpha_2 Innov_{i,t} + \alpha_3 Controls_{i,t} + \mu_i + \varepsilon_{i,t} \quad (1)$$

where i and t denote the enterprise and year respectively, DPC denotes the enterprise's voice in the industry chain, $Innov$ denotes the enterprise's innovation capability, $Controls$ denotes the control variables, μ denotes the individual fixed effect at the enterprise level, and ε denotes the random error

term.

3.3. Descriptive statistics

The descriptive statistics of the main variables are shown in Fig. 1. As can be seen from Fig. 1, the mean value of enterprises' voice in the industry chain is -0.0325, and the median is -0.0307, which indicates that there is no obvious bias in the data; the mean value of innovation ability is 4.3891, and the standard deviation is 1.5016, which indicates that there is a large difference in the innovation ability of enterprises. The statistical characteristics of all other control variables are similar to those of previous studies.

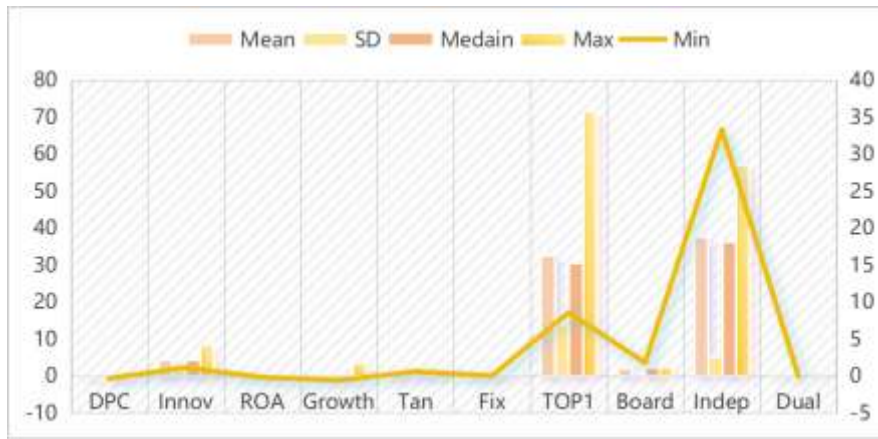


Fig 1. Descriptive statistics

4. Empirical analysis of the impact of innovation on DPC

4.1. Benchmark regression results and analysis

Since the data in this paper belongs to the unbalanced panel, in order to determine the appropriate panel data regression model, Hausman test was first conducted to determine the optimal estimation model. The chi-square value of Hausman

test is, corresponding to the P-value <0.01 , which strongly rejects the original hypothesis, so this paper should be tested with the fixed effect model. The results of the joint significance test for the yearly dummy variables showed a P value <0.01 , indicating that time effects should be included in the model. Therefore, the hypotheses are tested using a two-way fixed effects model and the regression results are shown in Fig. 2.

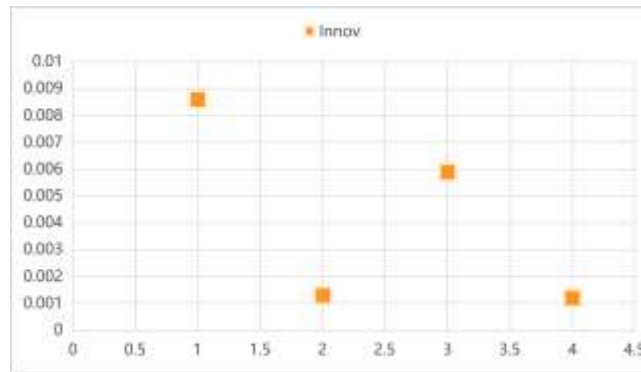


Fig 2. Benchmark regression results

In this paper, the first regression of equation (1) is conducted, and the test results are shown in columns (1)-(4) of Table 2. Column (1) is the result of the test that does not control the individual and year fixed effects, column (2) is the result of controlling the individual and year fixed effects, but no control variables, column (3) is the result of putting in the control variables and controlling the individual fixed effects, but not controlling the year, column (4) is the result of putting in the control variables and simultaneously (3) is the result of

putting in control variables and controlling individual fixed effects and year fixed effects, and column (4) is the result of putting in control variables and controlling both individual fixed effects and year fixed effects. The explanatory variables of innovation ability (Innov) and the discourse power of enterprises in the industrial chain (DPC) are both significantly and positively correlated, which indicates that the innovation ability of enterprises will increase their discourse power in the industrial chain.

Table 2. Benchmark regression results

Variables	(1) DPC	(2) DPC	(3) DPC	(4) DPC
DPC	0.0086*** (0.0005)	0.0013* (0.0007)	0.0059*** (0.0006)	0.0012* (0.0007)
Constant term	-0.1585*** (0.0225)	-0.0641*** (0.0046)	-0.0393 (0.0260)	-0.0795*** (0.0265)
Observations	15947	15947	15947	15947
R-squared	0.0178	0.0522	0.0254	0.0568
Individual fixed effects	Uncontrolled	Control	Control	Control
Year fixed effects	Uncontrolled	Controlled	Uncontrolled	Controlled

Note: t-statistics in parentheses, *, **, (***) indicate that the coefficients are significant at the 10%, 5%, and 1% significance levels, respectively, as in the table below.

4.2. Robustness test excluding special time samples

Table 3. Robustness test results

Variable	Excluding special time	
	(1) DPC	(2) DPC
Innov	0.0015* (0.0008)	0.0014* (0.0008)
Constant term	-0.0650*** (0.0050)	-0.0656** (0.0312)
Observations	12171	12171
R-squared	0.0609	0.0654
Control Variables	Uncontrolled	Control
Individual fixed effects	Control	Control
Year fixed effects	Control	Control

Considering the significant impact that the outbreak of the new crown epidemic in 2020 may have on the business credit level of enterprises, in order to avoid the interference of macroeconomic factors on the relationship between innovation capacity and the discourse power of enterprises in the industrial chain, this paper refers to the practice of the relevant literature , and then re-conducts the benchmark regression analysis after eliminating the samples in 2020 and 2021 [10]. As the results in Table 3 show, the regression coefficient is 0.0014 at 10% significance level, indicating that the impact of enterprise innovation ability on its voice in the industry chain is robust under different macroeconomic environments.

5. Heterogeneity analysis of the influence of innovation ability on the discourse power in the industry chain

Drawing on the findings of existing literature on the influence of the position of enterprises in different links of the industry chain on their strategic behavior and power structure [10], the sample enterprises are divided into upstream, midstream and downstream according to the CSI industry classification standard. Subsequently, this paper conducts regression analysis in the subsamples of the three types of enterprises respectively, and uses the Bootstrap method (with the sampling number set to 1000) to conduct the Fisher's combination test on the differences of regression coefficients between groups to ensure the robustness and significance of the results. The relevant results are shown in columns (1)-(3) of Table 4.

Table 4. Mid-macro heterogeneity test

Variant	Supply Chain Location		
	Upstream	Middle	Downstream
	(1) DPC	(2) DPC	(3) DPC
Innov	-0.0050* (-2.3932)	0.0017* (2.2777)	-0.0037 (-1.3244)
_cons	-0.1891* (-2.2385)	-0.0567 (-1.8904)	-0.0846 (-0.7009)
Observations	1417	12927	965
R-squared	0.0615	0.0704	0.0691
Individual	Control	Control	Control
Year	Control	Control	Control

The regression results show that enterprise innovation ability has a significant negative effect on the discourse power of upstream enterprises in the industry chain, with a regression coefficient of -0.0050, which passes the test at the 5% significance level. This result suggests that in the upstream link, enhancing innovation capability does not effectively enhance the discourse position of enterprises in the industry chain, but may instead bring about the effect of weakening power. One possible explanation is that upstream firms, despite possessing a certain amount of technological

accumulation, have limited bargaining power because their products or services tend to be oriented to a few strong customers, which makes it difficult to effectively transform their innovative capacity into institutional dominant power , but instead, they may bring about cost pressures due to technological inputs and aggravate the degree of dependence on their core customers [11].

In contrast, as shown in Figure 3, the regression results for midstream firms exhibit a positive and significant coefficient of 0.0017 with a significance level of 1%. This finding

suggests that in the middle segment of the industry chain, the innovation capacity of enterprises significantly contributes to the enhancement of their discourse power. Midstream enterprises usually undertake the key functions of industrial processing and technology integration, and their technological innovation is more likely to be transformed into the coordination and domination ability of upstream and downstream. At the same time, midstream enterprises play the role of a bridge between raw materials and end markets, and their enhanced innovation ability helps them play a leading role in industrial chain synergy, thus occupying a more favorable position in the cooperation network. In contrast,

among downstream enterprises, the impact of enterprise innovation ability on discourse power does not show statistical significance. This may be due to the fact that downstream enterprises are directly facing final consumers, their industry chain embedded characteristics are relatively weak, and their right to speak is more dependent on brand influence, channel control and terminal market reaction speed [12]. In this context, even if enterprises have certain innovation ability, it is difficult to form a significant institutional influence at the industry chain level, resulting in the impact of innovations on the industry chain's voice is not effectively reflected.



Fig 3. Heterogeneity test results

To summarize, the influence of enterprise innovation capacity on the discourse power of the industrial chain shows obvious heterogeneity in different industrial chain segments. Policy makers and enterprise strategy makers should fully consider the specific position of enterprises in the industry chain, promote the "differentiated and focused" innovation guidance mechanism, enhance the technological dominant ability of enterprises in the midstream key links, alleviate the problem of innovation transformation blocked by upstream enterprises due to the bargaining disadvantage, and encourage downstream enterprises to expand the spillover effect and institutional influence path of innovation, so as to realize more efficient overall synergy and discourse system construction of the industry chain. It also encourages downstream enterprises to expand the spillover effect and institutional influence paths of innovation, so as to realize more efficient synergy of the industrial chain as a whole and the construction of the discourse system.

6. Conclusions

Based on the data of listed companies in China, this paper systematically examines the effect of enterprise innovation ability on its discourse power in the industrial chain, and finds that: the stronger the enterprise's innovation ability is, the stronger its discourse power in the industrial chain is. Technological progress, product differentiation and accumulation of intellectual property rights help enterprises strengthen their control and coordination of upstream and downstream resources, thus enhancing their position and bargaining power in the industry chain. Heterogeneity analysis reveals that the structural position of enterprises in the industry chain significantly moderates the relationship between innovation ability and voice power. The innovation ability of midstream enterprises can be more easily transformed into actual control and institutional influence,

and the effect of voice enhancement is the most significant; while upstream enterprises may experience the unfavorable situation of "enhanced innovation ability but weakened voice" due to their reliance on customer relationships, relatively weak bargaining power, and restricted paths for transformation of innovation achievements; and downstream enterprises may experience the unfavorable situation of "enhanced innovation ability but weakened voice" because they are oriented to the end market and have a high degree of embeddedness in the chain. The downstream enterprises have limited embeddedness in the chain due to their orientation towards the end market, and the impact of their innovation ability on the discourse power of the industry chain is not significant. In conclusion, this paper reveals the intrinsic connection between micro-innovation ability and industrial chain discourse structure, expands the theoretical research in the cross-cutting field of enterprise innovation and industrial organization, and provides a theoretical basis for the construction of a more dynamic and structural industrial chain governance system.

References

- [1] Cao Wei, Wu Di, Deng Guichuan. Exchange rate changes, firm innovation and the position of China's manufacturing global value chain [J]. China Industrial Economy, 2025, (03):60-77.
- [2] Gu Cheng, Shi Xinxu, Wang Wei. Optimization of tax business environment, enterprise digital transformation and improvement of innovation ability[J]. Zhejiang Social Science, 2025, (03): 4-20+155.
- [3] Ren Zhicheng, Chen Yiming. Institutional openness and corporate innovation capacity[J]. Economic Issues, 2024, (11): 10-19.
- [4] Li Yang, Xu Qingrui. Explanatory Differences and Bridging Perspectives of Different Institutional Theory Schools on the Development of Firms' Innovative Capabilities--A Framework

- for an Integrative Synthesis[J]. Science and Technology Progress and Countermeasures, 2025, 42(06):151-160.
- [5] Huang Xianhuan, Jia Min, Wang Yao. Discourse in the industry chain and financial investment of non-financial firms - A perspective based on the level of commercial credit in the industry chain[J]. Accounting Research, 2022, (05): 118-130.
 - [6] Guo Ye, Yao Ruoqi. Supply Chain Linkages and SME Financing-Based on Supply Chain Finance and Commercial Credit Perspectives[J]. Economics(Quarterly), 2024, 24(04): 1173-1190.
 - [7] Song Hua, Chen Sijie. Evolution of supply chain finance and internet supply chain finance: a theoretical framework[J]. Journal of Renmin University of China, 2016, 30(05): 95-104.
 - [8] Wang Haihua, Wang Ying, Li Shujie. Can the strategy of specialization and innovation promote the "increase in quantity and quality" of enterprise innovation? [J]. Journal of Systems Management, 2025, 34(02):494-508.
 - [9] Dong Wenting, Zhang Jingjia, Wang Weinan, et al. Research on the interrelationship between R&D investment and innovation capability of enterprises under complementary effect[J]. Research Management, 2024, 45(09): 155-165.
 - [10] Xing Shuangmei, Wang Zhixin, Han Chengbin. Industry chain efficiency and high-quality development of corporate OFDI: empirical evidence from China[J]. World Economic Research, 2024, (10):106-120+137.
 - [11] Zeng Huixiang, Liu Chenyun, Zhou Qiong, et al. Can local industrial chain policy innovation realize "economic-environmental" win-win situation for enterprises: A quasi-natural experiment based on the "chain leader system" of industrial chain[J/OL]. Financial Research, 2025(04):1-14.
 - [12] Yu Dianfan, Li Xin, Zhang Yu. Corporate ESG performance and supply chain risk[J]. Contemporary Finance and Economics, 2024(12): 153-164.