

## *Original Paper*

# The Impact of Institutional Investors' Shareholding on the New Quality Productivity of “Specialized, Refined, Special, and New” Small and Medium-Sized Enterprises

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### ***Abstract***

*Based on the data of Chinese A-share listed “Specialized, Refined, Special, and New” (SRSN) small and medium-sized enterprises (SMEs) from 2011 to 2023, this study examines the relationship and mechanism between institutional investors’ shareholding and enterprises’ new quality productivity through theoretical analysis and empirical research. The results show that institutional investors’ shareholding significantly promotes the new quality productivity of SRSN SMEs, and this effect is achieved by alleviating enterprises’ financing constraints. Finally, this paper puts forward policy suggestions including optimizing the financial support system, strengthening institutional investors’ sense of responsibility, and promoting regional coordinated development.*

### ***Keywords***

*new quality productivity, institutional investors’ shareholding, “specialized, refined, special, and new” small and medium-sized enterprises, financing constraints*

## **1. Introduction**

In September 2023, the concept of “new quality productivity” was first proposed, emphasizing the qualitative leap of productivity driven by technological breakthroughs, innovative allocation of production factors, and in-depth industrial transformation and upgrading. As a key carrier of new quality productivity, the “Little Giant” enterprises recognized by the Ministry of Industry and Information Technology in 2024, with their “specialization, refinement, characteristic, and novelty” characteristics, naturally align with the “innovation-oriented, quality and efficiency priority” logic emphasized by new quality productivity. However, they face practical constraints such as long

innovation investment cycles, high technological transformation risks, and large capital gaps in digital transformation.

Meanwhile, profound changes are taking place in China's capital market ecosystem. In 2025, policies such as the "Opinions on Improving the Modern Enterprise System with Chinese Characteristics" and the "Implementation Plan for Promoting the Entry of Medium and Long-Term Funds into the Market" were intensively issued, promoting institutional investors to shift from short-term speculation to long-term value investment. Theoretically, institutional investors with professional capabilities, rich experience, and risk-bearing capacity can not only provide stable capital support but also help enterprises increase R&D investment and accelerate technological innovation and product upgrading through active corporate governance, forming a strategic fit with the long-term and high-risk characteristics of SRSN enterprises' innovation activities.

Existing studies lack in-depth exploration of this special group within the theoretical framework of new quality productivity. Therefore, exploring how institutional investors' shareholding affects the formation of new quality productivity of SRSN SMEs is not only helpful to clarify the micro-mechanism of financial capital serving the real economy but also of great significance for promoting the innovation-driven development strategy. This paper intends to analyze the action path and realization mechanism from both theoretical and empirical dimensions.

## 2. Literature Review

As an inheritance and development of Marxist productive forces theory, new quality productivity, essentially an advanced form of productive forces with technological innovation as the core, has increasingly become the core engine driving high-quality economic development (Guo & Chen, 2024). Institutional investors have become key subjects in the capital market, and their shareholding behavior exerts a complex impact on SRSN SMEs. Firstly, from the perspective of corporate governance, to protect their own interests, institutional investors will restrain managers' myopia through governance supervision, forcing them to operate standardizedly, thereby reducing earnings management (Tan, Liu, Li et al., 2024), strengthening internal control (Akamah & Shu, 2021), and alleviating the agency cost of R&D investment. However, some institutional investors may weaken their governance effectiveness or even exacerbate enterprises' strategic volatility due to their own agency problems and assessment pressures (Bebchuk, Cohen, & Hirst, 2017). Secondly, from the perspective of resource empowerment, relying on professional judgment capabilities and information advantages, institutional investors can guide innovative resources to high-potential areas, improving the quality and transformation efficiency of corporate innovation (Zhang, Zhou, & Wang, 2023). Specifically for SRSN SMEs, the supervision and governance role of institutional investors' shareholding helps alleviate financing constraints, provide guarantee for enterprises' innovation activities, and directly promote the upgrading of technical factors by optimizing the human capital structure (Zhan & Ma, 2024) and accelerating technological transformation (Tan, Liu, Li et al., 2024).

### 3. Theoretical Analysis and Research Hypotheses

#### 3.1 Institutional Investors' Shareholding and New Quality Productivity of SRSN SMEs

As independent investment institutions, institutional investors possess abundant capital, professional investment and research teams, and rich social resources. When holding shares of SRSN SMEs, they will intervene in enterprises' operations and development. Such supervision and governance can create a favorable internal environment for the improvement of enterprises' new quality productivity, help enterprises integrate resources more effectively, accurately allocate resources to R&D, innovation, and production links related to new quality productivity, and improve resource utilization efficiency. Therefore, the following hypothesis is proposed:

H1: Institutional investors' shareholding is conducive to the improvement of enterprises' new quality productivity.

#### 3.2 Mechanism of Institutional Investors' Shareholding on New Quality Productivity of SRSN SMEs

Financing constraint is one of the main problems faced by enterprises' innovation and development. When institutional investors hold shares of SRSN SMEs, they will actively participate in corporate governance and supervision, prompting enterprises to improve operational efficiency and management level. Effective corporate governance can reduce enterprises' agency costs, enhance their credibility, make them more attractive in the financing market, attract more capital support from other investors, and enable enterprises to carry out R&D and innovation activities more smoothly. Based on the above analysis, the following hypothesis is proposed:

H2: Institutional investors' shareholding can alleviate enterprises' financing constraints, thereby promoting the development of enterprises' new quality productivity.

### 4. Research Design

#### 4.1 Sample Selection and Data Sources

This study selects the sixth batch of A-share listed SRSN SMEs announced by the Ministry of Industry and Information Technology of the People's Republic of China in 2024 as the research sample. Considering data availability and research content, the research period is set from 2011 to 2023.

#### 4.2 Model Design

##### 4.2.1 Benchmark regression model

To explore the impact of institutional investors' shareholding on the new quality productivity of SRSN SMEs, this paper constructs the following multiple linear regression model, taking new quality productivity as the dependent variable, institutional investors' shareholding ratio as the core independent variable, and controlling for year and industry fixed effects with standard errors clustered at the firm level (Tan, Liu, Li et al., 2024):

$$Npro_{i,t} = \alpha_0 + \alpha_1 Inst_{i,t} + \alpha_2 X_{i,t} + Y_E + I_E + \varepsilon_{i,t} \quad (1)$$

#### 4.2.2 Mediating Effect Model

To verify Hypothesis H2, the following mediating effect model is constructed with financing constraint as the mediating variable:

$$M_{i,t} = \beta_0 + \beta_1 Inst_{i,t} + \beta_2 X_{i,t} + Y_E + I_E + \varepsilon_{i,t} \quad (2)$$

$$Npro_{i,t} = \delta_0 + \delta_1 Inst_{i,t} + \delta_2 M_{i,t} + \delta_3 X_{i,t} + Y_E + I_E + \varepsilon_{i,t} \quad (3)$$

#### 4.3 Variable Definitions

##### 4.3.1 Dependent Variable

New quality productivity (Npro): Following the definition of new quality productivity involving laborers, means of labor, objects of labor and their optimal combination, this paper constructs a comprehensive evaluation system and calculates Npro using the entropy method, including three dimensions: new-quality laborers, new-quality objects of labor, and new-quality means of labor (Song, Zhang, & Pan, 2024; Li, Tian, & Chang, 2024). Specific indicators and explanations are shown in Table 1.

**Table 1. Comprehensive Evaluation System for Measuring Enterprises' New Quality Productivity**

<i>Factor</i>	<i>Sub-factor</i>	<i>Indicator</i>
New-quality laborers	Employee quality	R&D personnel ratio
		Highly educated personnel ratio
	Management quality	Executives' green cognition
		Executives' cross-border experience
New-quality objects of labor	Ecological environment	Environmental governance score
	Future development	Fixed asset ratio
		Capital accumulation rate
New-quality means of labor	Technological means of labor	Innovation level
	Digital means of labor	Digitalization degree
		Intangible asset ratio
	Green means of labor	Green technology level
		Green patent ratio

##### 4.3.2 Core independent Variable

Institutional investors' shareholding (Inst): Referring to Li and Lu (Li & Lu, 2015), this variable is measured as the proportion of total shares held by all institutional investors to the total shares of listed companies, with data sourced from the CSMAR database.

### 4.3.3 Control Variables

To control the potential impact of other enterprise characteristics, the following control variables are introduced with reference to Tan et al. (2024): asset-liability ratio (Lev), firm growth (Growth), cash flow ratio (Cashflow), Tobin's Q (TobinQ), management shareholding ratio (Mshare), and listing age (ListAge).

### 4.3.4 Mediating Variable

Financing constraint (FC): Following Hadlock and Pierce (2010) and Gu et al. (2020), the FC index is constructed to measure financing constraints.

## 5. Empirical Results Analysis

### 5.1 Descriptive Statistics

Table 2 presents the descriptive statistics of main variables. With 9070 observations during the sample period, the mean value of *Npro* is 0.159, with a minimum of 0.028 and a maximum of 0.427, indicating differences in new quality productivity among enterprises. The mean value of *Inst* is 0.319 with a standard deviation of 0.238, and the large gap between the minimum and maximum values shows significant differences in institutional investors' shareholding levels across samples. The distribution of other control variables is within a reasonable range.

**Table 2. Descriptive Statistics of Main Variables**

Variable	Observation	Mean	Std. Dev.	Min	Max
<i>Npro</i>	9070	0.159	0.083	0.028	0.427
<i>Inst</i>	9070	0.319	0.238	0.001	0.856
<i>Lev</i>	9070	0.316	0.168	0.043	0.738
<i>Growth</i>	9070	0.162	0.323	-0.481	1.609
<i>Cashflow</i>	9070	0.045	0.062	-0.124	0.221
<i>TobinQ</i>	9070	2.184	1.166	1.012	7.650
<i>Mshare</i>	9070	25.20	21.31	0	70.59
<i>ListAge</i>	9070	1.540	0.790	0	3.091

### 5.2 Benchmark Regression

Table 3 reports the benchmark regression results. Model (1) and Model (2) show that the coefficients of *Inst* are significantly positive at the 5% and 1% levels respectively, indicating that institutional investors' shareholding significantly promotes the new quality productivity of SRSN SMEs, verifying Hypothesis H1. After introducing control variables (Model 3) and further controlling for industry and year fixed effects (Model 4), the coefficients of *Inst* remain significantly positive at the 10% and 1% levels, and the explanatory power of the models is improved, further confirming Hypothesis H1.

**Table 3. Benchmark Regression Results**

	(1)	(2)	(3)	(4)
	<i>Npro</i>	<i>Npro</i>	<i>Npro</i>	<i>Npro</i>
<i>Inst</i>	0.019** (2.436)	0.028*** (4.100)	0.017* (1.713)	0.035*** (3.881)
<i>Lev</i>			0.038*** (3.441)	0.024** (2.446)
<i>Cashflow</i>			-0.047** (-2.350)	0.000 (0.023)
<i>Growth</i>			0.008*** (2.748)	0.008*** (3.134)
<i>Mshare</i>			-0.000 (-0.045)	0.000 (0.979)
<i>ListAge</i>			0.002 (0.885)	0.007*** (3.103)
<i>TobinQ</i>			0.003*** (2.759)	0.000 (0.307)
<i>Constant</i>	0.153*** (50.176)	0.150*** (57.503)	0.132*** (15.117)	0.125*** (15.646)
<i>Industry fixed effects</i>	No	Yes	No	Yes
<i>Year fixed effects</i>	No	Yes	No	Yes
<i>Observation</i>	9070	9070	9070	9070
<i>R<sup>2</sup></i>	0.003	0.201	0.014	0.209

Note. \*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels respectively. Values in parentheses are t-statistics, with standard errors clustered at the firm level. The same applies to the following tables.

### 5.3 Mechanism Test

To verify Hypothesis H2, the mediating effect model is used, and the results are shown in Table 4. Model (1) indicates that the coefficient of *Inst* on *FC* is -0.194, significant at the 1% level, suggesting that institutional investors' shareholding can effectively alleviate enterprises' financing constraints. Model (2) shows that after introducing *FC*, the coefficient of *Inst* remains significantly positive at 0.023 (1% level), and the coefficient of *FC* is significantly negative at the 1% level. This indicates that reducing financing constraints can significantly improve the new quality productivity of SRSN SMEs, verifying Hypothesis H2.

**Table 4. Mechanism Test Results**

	(1)	(2)
	<i>FC</i>	<i>Npro</i>
<i>Inst</i>	-0.194*** (-8.562)	0.023*** (2.595)
<i>FC</i>		-0.059*** (-7.172)
<i>InnoEff</i>		
<i>Lev</i>	-0.496*** (-20.089)	-0.005 (-0.471)
<i>Cashflow</i>	-0.237*** (-5.724)	-0.014 (-0.719)
<i>Growth</i>	-0.031*** (-4.821)	0.007** (2.506)
<i>Mshare</i>	-0.001*** (-2.590)	0.000 (0.626)
<i>ListAge</i>	-0.102*** (-16.969)	0.001 (0.440)
<i>TobinQ</i>	0.005 (1.403)	0.001 (0.543)
<i>Constant</i>	1.082*** (55.713)	0.188*** (16.023)
<i>Industry fixed effects</i>	<i>Yes</i>	<i>Yes</i>
<i>Year fixed effects</i>	<i>Yes</i>	<i>Yes</i>
<i>Observation</i>	9070	9070
<i>R<sup>2</sup></i>	0.432	0.222

## 6. Conclusion

This study selects Chinese A-share listed SRSN SMEs from 2011 to 2023 as the research sample, focusing on institutional investors' shareholding to examine its impact and mechanism on enterprises' new quality productivity. The empirical results show that the increase in institutional investors' shareholding can significantly promote the new quality productivity of SRSN SMEs, and this conclusion remains robust after a series of robustness tests. Mechanism analysis reveals that institutional investors' shareholding significantly promotes enterprises' new quality productivity by alleviating financing constraints. Further heterogeneity analysis shows that the promotion effect of

institutional investors' shareholding on the new quality productivity of SRSN SMEs is significant in non-state-owned enterprises and eastern regional enterprises, but not in state-owned enterprises and central and western regional enterprises. Based on the above research conclusions, policy suggestions are proposed as follows:

Firstly, optimize the financial support system and guide institutional investors to support SMEs' innovation. Given the significant driving effect of institutional investors' shareholding on the development of new quality productivity of SRSN SMEs, policymakers should focus on optimizing the financial support system and actively guide institutional investors to pay more attention to SRSN SMEs. On the one hand, the government can reduce the investment cost and risk of institutional investors participating in SMEs through inclusive financial policies such as tax reduction and fee reduction and special subsidies. On the other hand, encourage financial institutions to innovate financial products and service models, and tailor diversified financing solutions according to the characteristics and needs of SRSN SMEs, so that finance can accurately support these innovative and growing enterprises.

Secondly, strengthen institutional investors' sense of responsibility and improve corporate governance effectiveness. Regulatory authorities should actively play a guiding role to help institutional investors strengthen their sense of responsibility and focus on long-term value creation. At the same time, improving the information disclosure system is crucial. Institutional investors should be required to regularly disclose their participation results in corporate governance to accept comprehensive market scrutiny and effective public supervision. In addition, an efficient communication bridge should be built between institutional investors, enterprise management, and technical teams to reduce information asymmetry, promote all parties to work together to solve various problems in enterprise development, and comprehensively improve corporate governance effectiveness and innovation capabilities.

Thirdly, promote regional coordinated development and narrow the gap in new quality productivity between regions. Faced with significant differences in the impact of institutional investors' shareholding on SRSN SMEs in different regions, the government should act as a promoter of regional coordinated development. For central and western regions with relatively scarce financial resources and weak innovation foundations, the government needs to increase policy tilt, cultivate and expand the local capital market by establishing regional industrial development funds and introducing high-end financial talents, and improve the ability of financial institutions to serve SMEs. Meanwhile, break regional administrative barriers, strengthen inter-regional industrial cooperation and transfer, encourage SRSN SMEs in eastern regions to carry out technical cooperation and industrial chain co-construction projects with enterprises in central and western regions, promote the rational flow and sharing of innovative factors between regions, gradually narrow the gap in the development level of new quality productivity between regions, and realize the balanced development of SRSN SMEs nationwide.



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