

The Impact of Internal Audit on Corporate Financialization—Empirical Evidence Based on Listed Companies Controlled by State-owned Enterprises in Beijing

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Abstract: Internal audit, an essential component of enterprise economic management, has gradually become a source of value for achieving the high-quality development of enterprises. We take state-owned enterprises holding listed companies in Beijing from 2017 to 2021 as the research object. It examines the impact of internal audit quality on the financialization of state-owned enterprises. We find that state-owned enterprises with higher internal audit quality have a higher degree of financialization. In addition, when the intensity of external supervision is higher, internal supervision and external supervision form a joint force, and the quality of internal audit has a stronger promoting effect on the degree of financialization of state-owned enterprises. Our results help to enrich the research on the economic consequences of internal auditing, expand the research on the influencing factors of enterprise financialization, and have particular reference significance for enterprises to improve financial asset management.

Keywords: Internal Audit; Enterprise Financialization; External Supervision

1. Introduction

After the 19th National Congress, internal audit was elevated to a new level of development, and together with national audit and social audit, it formed China's audit supervision system, becoming an essential component of the Party and state supervision system. In January 2018, the revised "Regulations of the National Audit Office on Internal Audit Work" (Order No. 11 of the National Audit Office) expanded the functions of internal audit, emphasizing the value of "advice and consultation" based on "supervision and evaluation," and emphasized the rectification and implementation of problems. Internal audit is no longer seen as a simple control method but gradually becomes a source of value for achieving high-quality development.

The motivation for enterprises to hold financial assets can be divided into preventive savings motivation (Opler et al., 1999; Theurillat et al., 2010; Ying et al., 2021) and speculative motivation (Tobin, 1965; Huang et al., 2019). The precautionary savings theory suggests that financial assets with high liquidity characteristics can help businesses cope with potential operational risks and prevent capital shortages. Enterprises hold more financial support to deal with liquidity risk caused by cash flow fluctuations. Speculative theory suggests that the financialization of enterprises is more reflected in actively injecting more resources into virtual assets based on arbitrage motivation to obtain excess returns instead of physical investments. The investment substitution motivation occupying the real economy's development resources is a short-sighted speculative behavior that pursues short-term returns (Orhangazi, 2008; Demir, 2009a). In the existing literature, sufficient exploration has been made on the influencing factors of corporate financialization. Existing research on the influencing factors of corporate financialization mainly focuses on economic uncertainty (Huang et al., 2019), stock market liberalization (Ying et al., 2021), labor costs (Hou et al., 2021), government subsidies (Qi et al., 2021), mixed ownership strength (Wang et al., 2021), investment return gap and uncertainty (Demir, 2009b), the ratio of fixed investment risk to total risk (Zhang and Zheng, 2020) and other aspects. There is little literature exploring the impact of internal auditing on corporate financialization. Based on this, this article selects listed companies controlled by state-owned enterprises in Beijing from 2019 to 2021 as research samples

to explore the impact of internal audits on the financialization of state-owned enterprises and the mechanism of their relationship.

The research contribution of this article is: firstly, it enriches the research on the economic consequences of internal auditing. The existing research on the economic consequences of internal audit mainly focuses on the impact of internal audit on corporate value and the corporate governance effect of internal audit. There is little literature on the impact of internal audit on corporate financialization. Secondly, research on the influencing factors of corporate financialization has been expanded. Exploring the path of the impact of internal audit quality on the financialization of state-owned enterprises and opening up the black box of the course of the effects of internal audit quality on the financialization of enterprises is of particular significance for the construction of the theoretical framework of the impact of internal audit on the financialization of enterprises. Thirdly, research has found that internal auditing promotes the degree of financialization of state-owned enterprises. More financial assets held by enterprises help to cope with the liquidity risk caused by cash flow fluctuations, which provides some evidence support for the optimization of internal audits.

2. Literature Review

2.1. Research on the Economic Consequences of Internal Audit

Strengthening internal audits is the need to promote the modernization of the national governance system and governance capacity and to promote high-quality economic development (Zejun Hu, 2018). Internal audit work has been elevated to the strategic level of the company (Xu et al., 2018; Shi et al., 2018; Fengchu Li, 2019). Previous research on the economic consequences of internal auditing has mainly focused on the impact of internal auditing on corporate value (Na Zhao, 2008; Deyun Liu, 2014; Chen et al., 2016), as well as the corporate governance effect of internal auditing (Prawitt et al., 2009; Wang et al., 2010; Vijayakumar and Nagaraja, 2012; Wang et al., 2014; Gros et al., 2017; Bajra and Cadez, 2018; Shihui Li, 2019).

2.1.1. Internal Audit and Corporate Value

Risk-oriented internal audit emphasizes the importance of risk management in internal audit activities (Liu, 2012; Zhang and Hou, 2015). Risk-oriented internal audit activities are more forward-looking and advisory (Xiaotong Yang, 2018), effectively identifying, evaluating, and preventing operational risks of enterprises (Gu et al., 2007), and planning and implementing corresponding audit activities to address unfavorable factors in enterprise operations, transforming potential risks, and achieving enterprise value appreciation from a comprehensive perspective (Zhongyun Xiao and Haiyun Yu, 2014; Wan et al., 2015).

Previous studies have found that internal auditing has a significant value-added role (Chen et al., 2016; Deyun Liu, 2014). Internal audit achieves enterprise value appreciation by participating in corporate governance, risk management, and strategic management through two forms of reasonable assurance and consulting (Na Zhao, 2008). At the same time, the positive interaction between internal audit and other governance mechanisms helps fully leverage the internal audit's role in promoting company value (Gramling et al., 2004, 2010; Hui Guo, 2009; Chen et al., 2016).

2.1.2. The Corporate Governance Effect of Internal Auditing

Firstly, internal audit has a supportive and supervisory role in internal control (Ying Zhang and Hongtao Zheng, 2010; Vijayakumar and Nagaraja, 2012; Zheng et al., 2014; Bing Wang and Liqin Zhang, 2015). Secondly, internal audit helps to improve the quality of financial reporting in companies (Prawitt et al., 2009; Cai et al., 2009; Wang et al., 2010; Xiaoquan Wei and Zhenchao Yuan, 2014; Gros et al., 2017; Bajra and Cadez, 2018), and the older and more educated the head of internal audit, the more able it is to suppress earnings management behavior in listed companies (Wang et al., 2014). Thirdly, internal auditing helps to suppress corporate violations (Li et al., 2019). Fourthly, internal audit is an important component of corporate governance and plays an important monitoring role in various company systems (Hermanson and Rittenberg, 2003). Coordination with other mechanisms can improve corporate governance (Gramling et al., 2004, 2010; Hui Guo, 2009; Chen et al., 2016; Xian Shi, 2003).

2.2. Research on the Influencing Factors of Financialization

The motivation for enterprises to hold financial assets can be divided into preventive savings motivation (Opler et al., 1999; Theurillat et al., 2010; Ying et al., 2021) and speculative motivation (Tobin,

1965; Huang et al., 2019). The precautionary savings theory suggests that financial assets with high liquidity characteristics can help businesses cope with potential operational risks and prevent capital shortages. Enterprises hold more financial support to deal with liquidity risk caused by cash flow fluctuations. Speculative theory suggests that the financialization of enterprises is more reflected in actively injecting more resources into virtual assets based on arbitrage motivation to obtain excess returns instead of physical investments. The investment substitution motivation occupying the real economy's development resources is a short-sighted speculative behavior that pursues short-term returns (Orhangazi, 2008; Demir, 2009a). In the existing literature, sufficient exploration has been made on the influencing factors of corporate financialization. Existing research on the influencing factors of corporate financialization mainly focuses on economic uncertainty (Huang et al., 2019), stock market liberalization (Ying et al., 2021), labor costs (Hou et al., 2021), government subsidies (Qi et al., 2021), mixed ownership strength (Wang et al., 2021), investment return gap and uncertainty (Demir, 2009b), the ratio of fixed investment risk to total risk (Zhang and Zheng, 2020) and other aspects.

Huang et al. (2019) found that economic policy uncertainty can reduce the degree of financialization of enterprises, especially for companies with fewer financial constraints. This research result supports the speculative motivation theory. Ying et al. (2021) used the generalized double difference model to study the impact of stock market liberalization realized by the Chinese Mainland and Hong Kong Stock Connectivity (CHSC) project on the financialization of listed companies in the Chinese Mainland. The empirical results show that implementing the CHSC project significantly reduces the financialization of listed companies in the Chinese Mainland by alleviating internal agency conflicts and strengthening external supervision. Hou et al. (2021) used the introduction of China's Labor Contract Law as an exogenous increase in labor costs to examine the impact of labor costs on the financialization of physical enterprises. Research has found that after the introduction of the Labor Contract Law, the increase in labor costs has prompted physical enterprises to shift from physical capital to financial capital, accelerating the financialization of physical enterprises. Qi et al. (2021) divided government subsidies into productive government subsidies (subsidies provided by the government to encourage enterprises to maintain or expand production scale) and interest-based government subsidies (subsidies offered by the government to pay all or part of the interest on loans to specific enterprises). They investigated the impact of these two types of government subsidies on the financialization of Chinese manufacturing enterprises. Research has found that productive government subsidies promote the financialization of enterprises by encouraging them to increase operating expenses and reduce their primary business income; For companies that lack capital or are sensitive to financial risks, interest-based government subsidies may suppress their financialization by increasing debt. Wang et al. (2021) used mixed ownership data from non-financial listed state-owned enterprises in China's A-share market from 2003 to 2018 to empirically test the impact of mixed ownership intensity on the financialization of state-owned enterprises. Research has found that the greater the intensity of mixed ownership, the lower the degree of financialization of non-financial state-owned enterprises, and this impact is more significant in eastern China enterprises and local government-controlled enterprises. Demir (2009a) used the Panel data of three emerging market companies in Argentina, Mexico, and Türkiye to analyze the impact of the difference between financial and fixed investment returns on actual investment performance under uncertainty. Research has found that the increase in investment return gap and uncertainty significantly reduces fixed investment and increases financial investment. Zhang and Zheng (2020) used the company-level Panel data of listed non-financial companies in China from 2006 to 2016. They found that the ratio of fixed investment risk to total risk dominates the financial investment decisions of non-financial companies. The above research provides a rich experience and perspective inspiration for understanding the motivations and mechanisms of corporate financialization from different perspectives.

In summary, specific achievements have been made in the research on internal audit and corporate financialization, laying a theoretical foundation for this study. However, existing research on the economic consequences of internal audit mainly focuses on the impact of internal audit on corporate value and the corporate governance effect of internal audit. There is little literature exploring the impact of internal auditing on corporate financialization.

3. Theoretical Analysis and Hypothesis Development

Based on signal transmission theory, some companies will help investors more efficiently identify high-quality enterprises and demand lower investment returns by improving their reputation and releasing good signals. The higher the quality of internal auditing in state-owned enterprises, the better the signal it can send to investors and creditors. This will improve their enterprise evaluation and help state-owned enterprises obtain more financial assets. On the one hand, due to the function of internal

audit in detecting errors and correcting defects in the financial statements of state-owned enterprises, when the quality of internal audit is higher, the financial information quality of state-owned enterprises is also higher, which can more truthfully and timely reflect the economic benefits, financial status, and cash flow situation of the enterprise, thereby helping management decision-making and improving investment efficiency. The improvement of investment efficiency will reduce the number of inefficient investments of state-owned enterprises, enable state-owned enterprises to respond flexibly to risks brought about by changes in the market economy (Song et al., 2019). On the other hand, when capital is abundant, state-owned enterprises hold more financial assets; When money is scarce, they often sell or reduce their financial investments. The state-owned enterprises with high internal audit quality can better solve the internal principal-agent problem of enterprises, so state-owned enterprises have strong risk resistance and higher credit qualifications. This can send a good signal to the outside world, making it easier for investors and creditors to recognize and trust to ensure the smooth completion of financial asset business. The above two aspects enable state-owned enterprises with higher internal audit quality to prevent and control market investment risks, improve investment efficiency, and obtain more financial assets, which enhances the degree of financialization of state-owned enterprises. Therefore, our hypothesis is as follows:

Ceteris paribus, the higher the internal audit quality, the higher the degree of financialization of state-owned enterprises.

4. Research Design

4.1. Sample Selection and Data Sources

As of 2021, there are a total of 69 listed companies in the Beijing State-owned Assets Supervision and Administration Commission system. We selected state-owned enterprise-controlled listed companies in Beijing from 2017 to 2021 as the research sample, with 345 sample observations. Internal audit data mainly comes from internal audit systems, internal control evaluation reports, and annual reports of enterprises, while other data involved is obtained from the China Stock Market and Accounting Research Database (CSMAR database). All continuous variables are winsorized at 1% and 99% percentile to eliminate the influence of extreme values.

4.2. Regression Model and Variable Definition

We construct model (1) to test the impact of the internal audit quality on financialization:

$$Fin = \alpha_0 + \alpha_1 \ln IAQ + \alpha_2 Size + \alpha_3 Lev + \alpha_4 Roa + \alpha_5 Cash + \alpha_6 Exp + \alpha_7 Growth + \sum Industry + \sum Year + \varepsilon \quad (1)$$

Following Xiaoquan Wei and Zhenchao Yuan (2014), we calculate the internal audit quality (lnIAQ) through model (2). The higher the value of lnIAQ, the higher the internal audit quality of the enterprise. Among them, the IAModel is the affiliation mode of the internal audit department. When the affiliation mode of the company's internal audit department is the dual leadership of the board of directors and the management, subordinate to the board of supervisors, subordinate to the board of directors, or the audit committee, the IAModel is assigned a value of 1. When the internal audit department is subordinate to the management or the finance department, the IAModel is assigned a value of 0. IADuty is the scope of responsibility of the internal audit department. The IADuty is calculated by dividing the total number of special audits, financial audits, internal control evaluation, and consulting responsibilities of the internal audit department by three. Dual refers to whether the chairman and the general manager were concurrently held. When the chairman and the general manager are separated, dual is assigned a value of 1. Otherwise, it is 0. Big10 is whether to audit by the top ten accounting firms. If the company hires the top ten accounting firms to audit, Big10 is assigned a value of 1. Otherwise, it is 0.

$$\ln IAQ = \ln(IAModel + IADuty + Dual + Big10) \quad (2)$$

Following Du et al. (2017; 2019), we use the ratio of financial assets to total assets as an indicator to measure the degree of corporate financialization. Among them, financial assets include available-for-sale financial assets, trading financial assets, loans and advances, derivative financial assets, held-to-maturity investments, and investment real estate. It should be noted that the financial assets defined above differ from the accounting standards for enterprises: firstly, they do not include monetary funds, which are closely related to the daily production and operation of the company and have a relatively small impact on capital appreciation (Du et al., 2019). The second is to include the value of real estate investment, as the investment of physical companies in real estate is more for speculative profits than production and

operation (Du et al., 2017).

Referring to prior studies (see, e.g., Yao Wang and Xianhuan Huang, 2020), we also control the following factors: company size measured by natural logarithm of total assets (Size); asset-liability ratio measured by total assets divided by total liabilities (Lev); return on assets calculated by net profit divided by total assets (Roa); cash holding level measured by net cash flow from operating activities divided by total assets (Cash); capital expenditure calculated by fixed assets divided by total assets (Exp); and enterprise development capability measured by the growth rate of enterprise operating revenue (Growth). In addition, we also include year-fixed effect (Year) and industry-fixed effect (Industry) in the regression model. Definitions for all variables are provided in Table 1.

Table 1 Variables definitions.

Variables	Definitions
<i>Fin</i>	the ratio of financial assets to total assets
<i>lnIAQ</i>	Following Xiaoquan Wei and Zhenchao Yuan (2014), and calculate according to the model: $\ln IAQ = \ln(IAModel + IADuty + Dual + Big10)$
<i>ES</i>	number of annual analysts tracked by the enterprise
<i>Size</i>	natural logarithm of total assets
<i>Lev</i>	the ratio of total liabilities to total assets
<i>Roa</i>	return on assets, calculated by net profit divided by total assets
<i>Cash</i>	the ratio of net cash flow from operating activities to total assets
<i>Exp</i>	the ratio of fixed assets to total assets
<i>Growth</i>	the growth rate of enterprise operating revenue
<i>Industry</i>	industry dummies
<i>Year</i>	year dummies

5. Analysis of Empirical Results

5.1. Descriptive Statistics

Table 2 presents the descriptive statistics of the variables included in our paper. Table 2 shows that the standard deviation of financialization (Fin) is 0.060, and the minimum and maximum values are 0.000 and 0.586, respectively. This indicates a significant difference in the degree of financialization among the sample companies. The average internal audit quality (lnIAQ) value is 0.702, with a standard deviation of 0.510, a minimum value of 0, and a maximum value of 1.386. This indicates that the internal audit quality of the sample companies is relatively high, but there are significant differences in the internal audit quality of the sample companies. Some listed companies still need to strengthen the construction and optimization of their internal audits to fully play internal audits' supervisory and advisory roles in their daily operations.

Table 2 Descriptive statistics.

variable	mean	median	sd	minimum	maximum
<i>Fin</i>	0.024	0.003	0.060	0.000	0.586
<i>lnIAQ</i>	0.702	0.693	0.510	0.000	1.386
<i>ES</i>	0.403	0.000	0.491	0.000	1.000
<i>Size</i>	22.308	22.079	1.321	18.975	27.011
<i>Lev</i>	0.474	0.472	0.213	0.051	0.996
<i>Roa</i>	0.032	0.029	0.063	-0.326	0.236
<i>Cash</i>	0.043	0.041	0.071	-0.211	0.263
<i>Exp</i>	0.235	0.204	0.174	0.001	0.719
<i>Growth</i>	0.134	0.038	0.567	-0.677	3.866

The minimum value of the asset-liability ratio (Lev) is 0.051, the maximum value is 0.996, and the average value is 0.474. This indicates a significant difference in the asset-liability ratio of state-owned enterprise holding companies in Beijing, with a minimum of 5.1%, a maximum of 99.6%, and an average of 47.4%. The minimum value of Return on Assets (Roa) is -0.326, the maximum value is 0.236, and the average value is 0.032. This indicates a significant difference in the asset return of state-owned enterprise holding companies in Beijing, with the minimum being -32.6%, the maximum being 23.6%, and the

average being 3.2%. The minimum value of the cash holding level (Cash) is -0.211, the maximum value is 0.263, and the average value is 0.043. This indicates significant differences in the cash holding levels of state-owned enterprise holding companies in Beijing, with the minimum being -21.1%, the maximum being 26.3%, and the average being 4.3%. The minimum value of capital expenditure (Exp) is 0.001, the maximum value is 0.719, and the average value is 0.235. This indicates that there is a significant difference in the capital expenditure of state-owned enterprise holding companies in Beijing, with a minimum of 0.1%, a maximum of 71.9%, and an average of 23.5%. The minimum value of enterprise development capability (Growth) is -0.677, the maximum value is 3.866, and the average value is 0.134. This indicates significant differences in operating revenue growth rates among different state-owned enterprise holding companies in Beijing, with an average growth rate of 13.4%.

5.2. Empirical Regressions

To investigate whether state-owned enterprises with high internal audit quality have a high level of financialization, we perform OLS regression results in Table 3 according to Equation (1). Table 3 reports the regression results of the impact of internal audit quality (lnIAQ) on corporate financialization (Fin). The coefficient on internal audit quality (lnIAQ) is positive and significant at the 5% level (0.004, $t=2.00$). The result indicates that state-owned enterprises with high internal audit quality have a high level of financialization, which supports our hypothesis. Ceteris paribus, the higher the internal audit quality, the higher the degree of financialization of state-owned enterprises.

A significant positive correlation exists between enterprise size (Size) and enterprise financialization (Fin) at the 1% level, indicating that larger state-owned enterprises have a higher degree of financialization. The asset-liability ratio (Lev) is significantly negatively correlated with corporate financialization (Fin) at the 1% level, indicating that state-owned enterprises with high asset-liability ratios have lower levels of financialization. This may be because state-owned enterprises are less likely to use borrowed funds to purchase financial assets. There is a significant negative correlation between capital expenditure (Exp) and corporate financialization (Fin) at the 1% level, indicating that state-owned enterprises with high capital expenditure have lower levels of financialization. This may be because state-owned enterprises with high capital expenditures spend more of their cash flow on fixed assets and less on financial assets. There is a significant negative correlation between enterprise development capability (Growth) and enterprise financialization (Fin) at the 1% level, indicating that state-owned enterprises with higher development capability have lower levels of financialization. This may be due to state-owned enterprises with increased development capabilities, whose cash flows are more used to develop business operations and less invested in financial assets.

Table 3 Internal audit quality and the corporate financialization

variable	Fin	
	coefficient	T-value
lnIAQ	0.004**	2.00
Size	0.004***	3.92
Lev	-0.033***	-5.61
Roa	-0.029	-1.42
Cash	-0.012	-0.80
Exp	-0.040***	-6.20
Growth	-0.005***	-2.64
Constant	0.030	1.50
Year	yes	
Industry	yes	
Observations	345	
R-squared	0.083	

Note: ***, **, * indicate significant at the 1%, 5%, and 10% levels, respectively (when $1.65 < |t| < 1.96$, $p < 0.10$; when $1.96 < |t| < 2.58$, $p < 0.05$; and when $|t| > 2.58$, $p < 0.01$).

6. Robust Tests

6.1. Change the Measurement Method of Financialization

According to statistical data, although the data on corporate financialization is roughly continuously distributed on positive values, there is still a certain number of corporate financialization concentrated on the number 0. Therefore, the sample data in this article also applies to the censored regression model,

namely the Tobit model. We have changed the original OLS regression model to the Tobit model. Table 4 presents the regression results of the Tobit model. The coefficient on internal audit quality (lnIAQ) is positive and significant at the 5% level (0.007, $t=2.08$). The result indicate that the higher the internal audit quality, the higher the degree of financialization of state-owned enterprises, which also supports our hypothesis.

A significant positive correlation exists between enterprise size (Size) and enterprise financialization (Fin) at the 1% level, indicating that larger state-owned enterprises have a higher degree of financialization. The asset-liability ratio (Lev) is significantly negatively correlated with corporate financialization (Fin) at the 1% level, indicating that state-owned enterprises with high asset-liability ratios have lower levels of financialization. This may be because state-owned enterprises are less likely to use borrowed funds to purchase financial assets. There is a significant negative correlation between capital expenditure (Exp) and corporate financialization (Fin) at the 1% level, indicating that state-owned enterprises with high capital expenditure have lower levels of financialization. This may be because state-owned enterprises with high capital expenditures spend more of their cash flow on fixed assets and less on financial assets. There is a significant negative correlation between enterprise development capability (Growth) and enterprise financialization (Fin) at the 1% level, indicating that state-owned enterprises with higher development capability have lower levels of financialization. This may be due to state-owned enterprises with increased development capabilities, whose cash flows are more used to develop business operations and less invested in financial assets.

Table 4 Internal audit quality and the corporate financialization

variable	Fin	
	coefficient	T-value
lnIAQ	0.007**	2.08
Size	0.013***	8.6
Lev	-0.045***	-4.61
Roa	-0.066**	-1.97
Cash	-0.01	-0.40
Exp	-0.071***	-6.71
Growth	-0.010***	-3.06
Constant	-0.192***	-6.04
Year	yes	
Industry	yes	
Observations	345	

Note: ***, **, * indicate significant at the 1%, 5%, and 10% levels, respectively (when $1.65 < |t| < 1.96$, $p < 0.10$; when $1.96 < |t| < 2.58$, $p < 0.05$; and when $|t| > 2.58$, $p < 0.01$).

6.2. Adjusting the Sample Period

To avoid the systematic impact of global COVID-19 in 2020 on the allocation of corporate financial assets, we have revised the sample range from 2017-2021 to 2017-2019. Table 5 presents the regression results of the impact of internal audit on the financialization of state-owned enterprises after adjusting the sample interval. The coefficient on internal audit quality (lnIAQ) is positive and significant at the 5% level (0.004, $t=1.99$). The result indicates that state-owned enterprises with high internal audit quality have a high level of financialization, which proves that the regression results are still robust after excluding sample data that may have a systematic impact on the allocation of corporate financial assets.

A significant positive correlation exists between enterprise size (Size) and enterprise financialization (Fin) at the 1% level, indicating that larger state-owned enterprises have a higher degree of financialization. The asset-liability ratio (Lev) is significantly negatively correlated with corporate financialization (Fin) at the 1% level, indicating that state-owned enterprises with high asset-liability ratios have lower levels of financialization. This may be because state-owned enterprises are less likely to use borrowed funds to purchase financial assets. There is a significant negative correlation between capital expenditure (Exp) and corporate financialization (Fin) at the 1% level, indicating that state-owned enterprises with high capital expenditure have lower levels of financialization. This may be because state-owned enterprises with high capital expenditures spend more of their cash flow on fixed assets and less on financial assets. There is a significant negative correlation between enterprise development capability (Growth) and enterprise financialization (Fin) at the 1% level, indicating that state-owned enterprises with higher development capability have lower levels of financialization. This may be due to state-owned enterprises with increased development capabilities, whose cash flows are more used to develop business operations and less invested in financial assets.

Table 5 Internal audit quality and the corporate financialization

variable	Fin	
	coefficient	T-value
<i>lnIAQ</i>	0.004**	1.99
<i>Size</i>	0.004***	3.91
<i>Lev</i>	-0.033***	-5.6
<i>Roa</i>	-0.029	-1.42
<i>Cash</i>	-0.012	-0.82
<i>Exp</i>	-0.040***	-6.2
<i>Growth</i>	-0.005***	-2.65
<i>Constant</i>	0.03	1.51
<i>Year</i>	yes	
<i>Industry</i>	yes	
<i>Observations</i>	207	

Note: ***, **, * indicate significant at the 1%, 5%, and 10% levels, respectively (when $1.65 < |t| < 1.96$, $p < 0.10$; when $1.96 < |t| < 2.58$, $p < 0.05$; and when $|t| > 2.58$, $p < 0.01$).

7. Further Analyses: The Impact of External Supervision on the Relationship Between Internal Audit Quality and Corporate Financialization

The strength of external supervision affects the impact of internal audits on the financialization of enterprises. For example, the higher the level of attention a company receives, the easier it is for external regulatory forces, such as analysts, to comprehensively understand the company's decisions, leading to broader and deeper regulation. At the same time, it is also easier to reduce information asymmetry between investors and invested enterprises and improve the company's information environment (Pan et al., 2020). In enterprises with stronger external supervision, the combination of internal audit and external supervision has a more substantial promoting effect on the financialization of enterprises. Based on this, the higher the intensity of external supervision, the stronger the promoting effect of internal audit quality on the degree of corporate financialization.

The number of analysts tracking reflects the market's attention to the company's operating performance and management decisions, and the more analysts tracking, the higher the level of market attention the company receives. Therefore, this article draws on the research of Zhai et al. (2021) to measure the external supervision intensity faced by enterprises through the annual analyst tracking number (ES).

We construct model (3) to test the above predictions:

$$Fin = \beta_0 + \beta_1 \ln IAQ + \beta_2 \ln IAQ \times ES + \beta_3 ES + \beta_4 Size + \beta_5 Lev + \beta_6 Roa + \beta_7 Cash + \beta_8 Exp + \beta_9 Growth + \sum Industry + \sum Year + \varepsilon \quad (3)$$

Table 6 reports the regression results of external supervision intensity, internal audit quality, and the degree of corporate financialization. As expected, the coefficients of the interaction term $\ln IAQ \times ES$ are significantly positive at the 1% level (0.007, $t=3.26$), providing support to our prediction that the higher the intensity of external supervision, the stronger the promoting effect of internal audit quality on the degree of corporate financialization.

A significant positive correlation exists between enterprise size (*Size*) and enterprise financialization (*Fin*) at the 1% level, indicating that larger state-owned enterprises have a higher degree of financialization. The asset-liability ratio (*Lev*) is significantly negatively correlated with corporate financialization (*Fin*) at the 1% level, indicating that state-owned enterprises with high asset-liability ratios have lower levels of financialization. This may be because state-owned enterprises are less likely to use borrowed funds to purchase financial assets. There is a significant negative correlation between capital expenditure (*Exp*) and corporate financialization (*Fin*) at the 1% level, indicating that state-owned enterprises with high capital expenditure have lower levels of financialization. This may be because state-owned enterprises with high capital expenditures spend more of their cash flow on fixed assets and less on financial assets. There is a significant negative correlation between enterprise development capability (*Growth*) and enterprise financialization (*Fin*) at the 1% level, indicating that state-owned enterprises with higher development capability have lower levels of financialization. This may be due to state-owned enterprises with increased development capabilities, whose cash flows are more used to develop business operations and less invested in financial assets.

Table 6 External supervision, Internal audit quality and the corporate financialization

variable	Fin	
	coefficient	T-value
<i>lnIAQ</i> × <i>ES</i>	0.007***	3.26
<i>lnIAQ</i>	0.004**	2.54
<i>ES</i>	-0.017***	-8.17
<i>Size</i>	0.005***	8.95
<i>Lev</i>	-0.038***	-10.84
<i>Roa</i>	0.013	1.11
<i>Cash</i>	-0.008	-0.89
<i>Exp</i>	-0.054***	-14.02
<i>Growth</i>	-0.010***	-9.35
<i>Constant</i>	-0.004	-0.29
<i>Year</i>	yes	
<i>Industry</i>	yes	
<i>Observations</i>	345	
<i>R-squared</i>	0.084	

Note: ***, **, * indicate significant at the 1%, 5%, and 10% levels, respectively (when $1.65 < |t| < 1.96$, $p < 0.10$; when $1.96 < |t| < 2.58$, $p < 0.05$; and when $|t| > 2.58$, $p < 0.01$).

8. Conclusions and Policy Recommendations

We examined the impact of internal audit quality on the financialization of state-owned enterprises, using listed companies controlled by state-owned enterprises in Beijing from 2017 to 2021 as research samples. We found that state-owned enterprises with high internal audit quality have a high level of financialization. In other words, the higher the internal audit quality, the higher the degree of financialization of state-owned enterprises. In addition, when the intensity of external supervision is higher, internal and external supervision form a joint force, and the internal audit quality has a more substantial promoting effect on the degree of financialization of state-owned enterprises.

The policy inspiration of this article lies in the following: firstly, state-owned enterprises should continuously improve the quality of internal auditing, improve the construction of internal auditing systems, and fully leverage the supervisory and advisory role of internal auditing. We found that improving internal audit quality in state-owned enterprises contributes to enhancing the degree of enterprise financialization while holding more financial assets in state-owned enterprises helps to cope with liquidity risks caused by cash flow fluctuations. Therefore, state-owned enterprises should continuously optimize their internal audit construction to fully play the critical role of internal audit in risk prevention. Secondly, improve the external supervision mechanism of state-owned enterprises and form a joint force of internal and external supervision over state-owned enterprises. We found that when the intensity of external supervision is higher, internal and external supervision form a joint force, and the internal audit quality has a more substantial promoting effect on the degree of financialization of state-owned enterprises. Therefore, external supervision of state-owned enterprises should be strengthened to form a joint force between internal and external supervision, fully leveraging the synergistic effect of internal and external supervision, thus ensuring the high-quality development of state-owned enterprises.

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