

National Audit and Value Creation in State-Owned Enterprises—A Case Study of Xi'an XD

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Abstract: Value creation by state-owned enterprises plays a significant role in economic development. Given the unique nature of state-owned enterprises, national audits carry the responsibility of overseeing and evaluating the process and outcomes of their value creation. This paper aims to explore the impact and role of national audits on the value creation of state-owned enterprises. Based on existing literature, the pathways to corporate value creation are reviewed, and Xi'an XD, a listed state-owned enterprise in China, is used as a case study to analyze the influence of national audits on corporate value. Suggestions on how national audits can promote and optimize the value creation of state-owned enterprises are proposed.

1. Introduction

At the State-Owned Assets Supervision and Administration Commission (SASAC) meeting held on March 3, 2023, mobilization and deployment were made on how to transform state-owned enterprises into world-class entities focusing on value creation, emphasizing that state-owned enterprises should prioritize value creation to achieve high-quality development. National audit plays a crucial role in the development of the national economy, with auditing of state-owned enterprises being a significant part of national audits, serving essential functions in risk prevention, detection, and mitigation[1].

Following the public disclosure of audit results of state-owned enterprises by the Audit Office, issues related to accounting, financial management, execution of national economic policies, major economic decisions, and internal management were revealed, potentially enhancing corporate value. Currently, the specific role and impact of national audits on corporate value creation have not reached a consensus. To obtain more practically meaningful conclusions, many scholars have employed empirical research methods to study how state-owned enterprises create value, primarily suggesting that national audits promote value creation by curbing inefficient investment behaviors and by fostering asset preservation and appreciation in enterprises. However, literature on the impact of national audits on state-owned enterprises using case study and event study methods is relatively scarce. Therefore, this paper uses these methods to explore whether audit interventions by state-owned enterprises can promote growth in corporate value.

2. Literature Review

2.1. Studies on the Governance Effects of National Audits

National audit refers to the financial and performance audits conducted by government audit departments on the public sector and state-owned enterprises, primarily aimed at ensuring the rational allocation and use of public resources to enhance the efficiency of policy implementation. First, national audits can increase the transparency of governments and state-owned enterprises, reducing asymmetric information behaviors (Shi Qingmei et al., 2022). Second, national audits can prevent corruption by identifying and rectifying overt corrupt practices such as abuse of power and embezzlement[2], thus having a deterrent effect and reducing potential hidden corruption (Hu Zhiying et al., 2019). Lastly, national audits can improve the efficiency of public resource management, ensuring resources are allocated according to established plans and budgets, thus reducing waste (Zheng Weihong et al., 2019).

2.2. Studies on the Pathways Through Which National Audits Promote Value Creation in State-Owned Enterprises

Firstly, from the perspective of the impact pathways of national audits, on one hand, timely disclosure of corporate misconduct by national audits (Wang Huijin et al., 2017) allows for the timely detection of potential hazards and the development of mitigation measures, enhancing corporate risk prevention capabilities. On the other hand, through economic supervision, evaluation, and attestation functions, national audits issue standard audit opinions that increase corporate transparency, reduce financing costs, alleviate issues of information asymmetry, and increase stakeholder trust (Li Yiqiu, 2023).

Secondly, in terms of value creation by state-owned enterprises, national audits can enhance the quality of corporate innovation and bolster market confidence, thereby promoting an increase in corporate value (Li Dandan et al., 2023). Moreover, Zhu Zunhong (2023) noted a negative correlation between corporate value and excessive investment by enterprises; national audits can suppress inefficient investments that would otherwise diminish corporate value [3]. As shown in Figure 1.

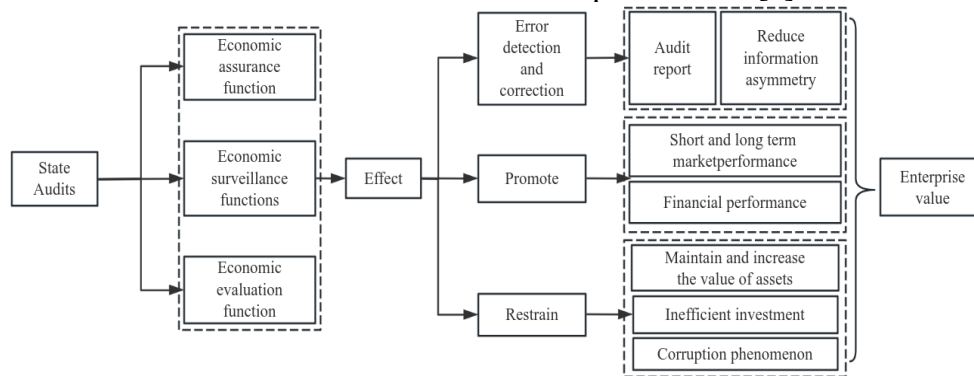


Figure 1: Mechanisms of National Audit in Enhancing the Value of State-Owned Enterprises

Lastly, the involvement of state-owned enterprise audits positively impacts high-quality corporate development (Dong Zhiyuan, 2021). National audits play a key role in preserving and appreciating corporate assets (Guo Mengnan et al., 2021) and in improving corporate social responsibility performance, which helps strengthen the public trusteeship awareness of enterprises, urging state-owned enterprises to fulfill their social responsibilities, enhancing public trust, and promoting market performance (Pan Xiaozhen, 2020). The intervention of national audits is crucial in identifying and curbing corrupt practices, helping maintain transparency and efficiency in corporate operations, and

thereby fostering healthy corporate development (Chen Lingyun, 2021).

3. Case Introduction

3.1. Overview of Xi'an XD

Founded in 1959, Xi'an XD is a comprehensive manufacturing enterprise specializing in power transmission and related electrical equipment. The National Audit Office conducted an audit of the company in 2016 and announced the results in 2018. The audit identified several issues, such as insufficient offsetting of related transactions, delayed recognition of sales revenue, and non-compliance with decision-making procedures, which the company took seriously and improved upon. Overall, the impact of the national audit on Xi'an XD was dual: on the one hand, it confirmed the company's strengths and achievements in management and operations, and on the other hand, it highlighted areas in need of improvement.

3.2. Results of National Audit on Xi'an XD

Xi'an XD faced issues in accounting and financial activities, including delayed accrual of impairment, insufficient transaction offsets, non-compliant expense categories, and delayed revenue recognition[4], which resulted in inaccurate profit calculations. In terms of investment project management, due to lax internal management, there were failures to follow procedures, insufficient investigations, and incomplete risk assessments, leading to excessive and inefficient investments and significant losses. Additionally, inadequate management of subsidiaries led to 16 instances of regulatory and legal violations between 2010 and 2016, negatively impacting the company.

3.3. Analysis of the Impact of National Audit on Corporate Value Creation

3.3.1. Comprehensive Financial Performance Index

This paper uses representative indicators from the four major financial abilities and employs the entropy method to calculate a comprehensive score representing financial performance. By selecting data from Xi'an XD from 2014 to 2022, 15 financial indicators were analyzed, including return on assets, return on equity, net profit margin on total assets, return on equity, current ratio, quick ratio, debt to asset ratio, accounts receivable turnover, inventory turnover, working capital turnover, total asset turnover, capital preservation and appreciation rate, net profit growth rate, total asset growth rate, and sustainable growth rate.

The resulting comprehensive scores for financial performance are shown in Table 1. The scores began to decline in 2014, saw a recovery in 2016—coinciding with the timing of the national audit intervention—indicating an improvement in Xi'an XD's financial performance following the audit. From 2016 to 2019, the scores continued to rise, reaching a peak of 0.67 in 2019, suggesting that the measures taken by Xi'an XD after the national audit were effective in enhancing performance [5]. Starting in 2020, the scores began to decline, aligning with the timeline of the global pandemic's impact, which had a negative effect on business operations. However, the average financial performance from 2020 to 2022 remains higher than before the national audit, indicating a positive impact of the national audit on the company's financial performance.

Table 1: Comprehensive Financial Performance Scores 2014-2022

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Score	0.52	0.46	0.28	0.48	0.61	0.67	0.65	0.54	0.42

3.3.2. Market Response Analysis Indicators

For state-owned enterprises, national audits play a role in supervision, regulation, and deterrence. Auditing agencies communicate information to the public through audit announcements, influencing the governance and value creation of state-owned enterprises' stock prices.

(1) Short-term Market Reaction

This paper intends to use the event study method to analyze the market's reaction to the audit results announced by the Audit Office in 2018, to determine if the audit announcement can attract external attention and thus improve investment in state-owned enterprises. The study focuses on the stock price data of Xi'an XD, analyzing the short-term market reaction to Xi'an XD by comparing the cumulative abnormal returns (CAR) before and after the national audit.

Firstly, the event day is defined as the date of the audit announcement, June 20, 2018. Next, the event window is selected; this paper chooses [-2, 2], [-5, 5], and [-10, 10] to analyze the market reactions to the national audit announcement. The estimation window selected is [-130, -11], which covers from 130 to 11 trading days before the announcement, totaling 129 trading days.

This paper selects the market model to estimate the normal return rates of the companies in the sample within the event window, comparing these with the actual observed return rates of the company's stock price during the event window to determine the impact of the event on the stock price[6]. The basic formula is $R_{it} = \alpha_i + \beta_i R_{mt}$, where R_{it} represents the daily return rate of Xi'an XD on day t, and R_{mt} is the daily composite return rate of the Shanghai Composite Index. From this, the regression equation for Xi'an XD is derived: $R_{it} = -0.001 + 0.8112R_{mt}$.

The calculation of Xi'an XD's Cumulative Abnormal Returns (CAR) during the window period is shown in Table 1. Xi'an XD's stock price showed positive CARs across various event windows on the event day, indicating that the national audit announcement had a positive impact, creating short-term wealth for shareholders. As shown in Table 2.

Table 2: Short-term Cumulative Abnormal Returns for the 2018 National Audit Announcement

Event Day	[-2,2]	[-5,5]	[-10,10]
2018-6-20	0.34%	1.13%	1.52%

(2) Long-term Market Reaction

Due to the delayed nature of the audit announcement and the investment nature of the capital market, using only short-term Cumulative Abnormal Returns (CAR) to measure the market performance of Xi'an XD is insufficient. Therefore, this paper also uses Buy-and-Hold Abnormal Returns (BHAR) as an indicator to measure the long-term market performance of Xi'an XD following the audit announcement. The BHAR calculation formula is: $BHAR = \prod_{t=0}^T (1 + R_{it}) - \prod_{t=0}^T (1 + R_{mt})$, where R_{it} is the monthly return rate of Xi'an XD, and R_{mt} is the monthly composite return rate of the Shanghai Stock Exchange Index.

As shown in Figure 2, aside from the negative BHAR of the Shanghai Stock Exchange Index in the first five months following the audit announcement, the investment returns obtained by Xi'an XD subsequently exceeded the returns of the comprehensive Shanghai Stock Exchange Index. This indicates a positive effect on the long-term market value of Xi'an XD[7].

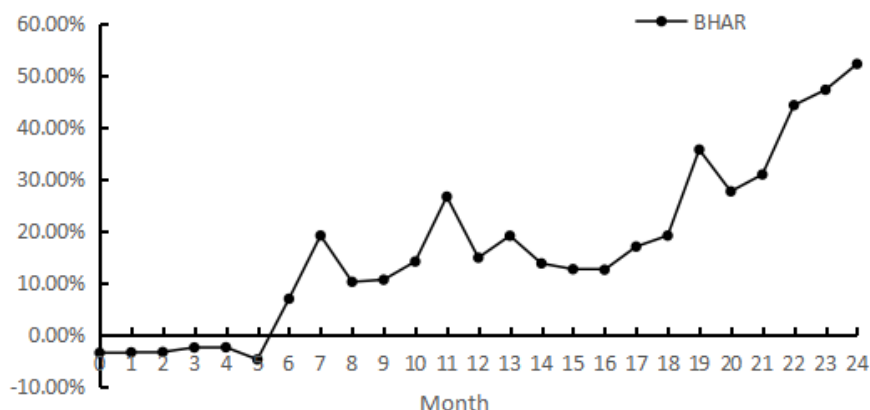


Figure 2: Buy-and-Hold Abnormal Returns for the 2018 Audit Announcement Event

(3) Corporate Value Indicators Analysis

Tobin's Q and Economic Value Added (EVA) are widely used as important indicators to measure corporate value. By comparing their trends, the correlation between national audits and corporate value can be analyzed, as shown in Table 3. After the national audit, although the EVA remained negative, it exhibited a slow upward trend. This suggests that the national audit has had a promotional effect on the economic addition for Xi'an XD. Additionally, the Tobin's Q of Xi'an XD has generally been greater than 1, showing no significant changes before and after the audit announcement, indicating high asset utilization and good growth prospects. After the release of the 2018 audit announcement, Tobin's Q also showed a slow upward trend, indicating that the national audit announcement had a positive impact on the corporate value of Xi'an XD.

Table 3: Changes in Tobin's Q and EVA from 2014 to 2022

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
EVA	-241.12	-616.31	131.5	-235.51	-622.13	-847.63	-896	-651.4	-640.35
TobinQ	1.58	1.41	1.25	1.06	0.90	0.94	1.08	1.16	1.02

(4) Hidden Corruption and Inefficient Investments

Following the national audit, Xi'an XD initiated corrective actions, conducting strict investigations into corruption and inefficient investments, and penalizing non-compliant executives. After these corrections, there was a noticeable improvement in inefficient investments and corruption within the company. As shown in Table 4, since the initiation of the national audit in 2017, both hidden corruption and inefficient investments have shown a downward trend, demonstrating the deterrent effect of national audits on improper corporate behavior, especially in the short term.

Table 4: Changes in the Level of Hidden Corruption and Inefficient Investments from 2014 to 2022

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Corrupt	0.12	0.12	0.13	0.14	0.10	0.08	0.08	0.08	0.07
Non-efficiency-investment	0.03	0.02	0.01	0.04	0.02	0.03	0.02	0.01	0.01

4. Conclusion and Recommendations

Whether national audits can effectively leverage their functions to enhance corporate value has always been a focal point of interest. From a theoretical analysis, government audits can promote corporate restructuring and reduce issues such as information asymmetry by performing supervisory,

evaluative, and attestation functions, thereby enhancing the value of state-owned enterprises. From a case study perspective, this paper focuses on the 2018 national audit announcement of Xi'an XD to analyze the relationship between national audits and corporate value, further studying Xi'an XD's financial performance, market behavior, Tobin's Q, and EVA trends. The study shows: (1) Xi'an XD had several errors in accounting and major investment project management leading to misreporting and inefficient investments, which were rectified following the national audit, resulting in controlled inefficient investment behavior and improved corruption situations; (2) Xi'an XD's financial performance showed a noticeable improvement trend following the national audit announcement, although the positive impact of the national audit on financial performance decreased after 2020 due to the pandemic; (3) The short and long-term market reactions to Xi'an XD's national audit announcement were positive, indicating that the national audit created value for the enterprise; (4) Analysis of Xi'an XD's Tobin's Q and EVA values showed a slow upward trend following the announcement of national audit results, further demonstrating the significant impact of national audits on corporate value creation.

Based on the findings of this study, the following recommendations are made: (1) In auditing state-owned enterprises, the supervisory and governance roles of national audits should be fully utilized to avoid corrupt practices and promote corporate rectification of non-compliant activities; (2) National audits should focus on the investment behaviors of state-owned enterprises, distinguishing between overinvestment and underinvestment, leveraging the characteristics of financial audits and economic responsibility audits to curb excessive and insufficient investment behaviors; (3) The government should place high importance on national audits, promote comprehensive coverage of national audits, and be mindful of their impact on corporate value to make audits more efficient and targeted, thereby promoting sustainable development of enterprises.

References

- [1] Chen Yun. *Content and pathways of value creation in state-owned enterprises [J]. State-Owned Assets Management*, 2023, (06): 13-17.
- [2] Guo Mengnan, Wu Qiusheng. *Synergistic mechanisms of national audits and media attention based on the preservation and appreciation of state-owned assets [J]. Management Science*, 2021, 34(06): 127-141.
- [3] Shi Qingmei, Sun Mengna, Xie Xiangbing. *Disclosure of key audit matters and the quality of corporate innovation – From the perspective of financing constraints under information asymmetry [J]. Accounting and Economic Research*, 2022, 36(04): 19-40.
- [4] Zheng Weihong, Li Xiao, Zhang Ting et al. *Fraud in financial reports of listed companies and audit revelations – Based on the analysis of administrative penalty decisions by the CSRC [J]. Finance and Accounting Communications*, 2019, (22): 19-25.
- [5] Wang Huijin, Ma Xiulin. *Government transparency, media supervision, and government audit performance – Based on empirical research using provincial panel data [J]. Journal of Nanjing Audit University*, 2017, 14(03): 86-94.
- [6] Zhu Zunhong, Fang Yifeng. *Government audits and overinvestment in state-owned enterprises [J]. Modern Economic Discussion*, 2023, (08): 25-39.
- [7] Dong Zhiyuan, Zhang Zenglian. *The impact of government audits on high-quality corporate development – Based on empirical analysis of audit results announcements by the National Audit Office [J]. Audit and Economic Research*, 2021, 36(01): 1-10.