

# The causes and consequences of the Tus-Est credit rating downgrade

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**Abstract:** *This paper conducts in-depth research and discussion on the difficulties faced by Tus-Est in recent years in terms of business operation, financial status and credit crisis, such as credit rating downgrade, large scale of equity pledge, internal control defects, market reputation damage, and deepening of overall credit crisis. And targeted a series of coping strategies, for Tus-Est out of the dilemma, reshaping the strategy to provide reference suggestions.*

**Keywords:** *Equity pledge; Credit crisis; Financial risk; Development strategy*

## 1. Introduction

In recent years, the frequent occurrence of bond defaults in China has brought serious impact on the stable operation of the capital market. Among them, Tus-Est Technology Development Co., LTD., due to continued losses, tight capital chain and other issues, eventually led to the main body and bond credit ratings being downgraded to a lower level by rating agencies in 2022, causing widespread concern. As one of the leading environmental integrated service providers in China, Tus-Est's rating downgrade not only caused significant losses for the company itself, but also had a profound impact on the entire environmental industry and the bond market. This paper will comprehensively analyze the antecedents and consequences of Tus-Est credit rating downgrade, and put forward suggestions to prevent similar risks in response to such incidents, so as to provide references for listed companies to do a good job in risk management and control.

## 2. Literature review

In recent years, scholars have conducted extensive analysis on the possible impact of equity pledge enterprises. Some scholars believe that the equity pledge of controlling shareholders will lead to the increase of corporate credit spreads, the increase of financing costs, the increase of default risk, the increase of earnings management motivation, and the decline of the quality of financial information disclosure. Hu Haifeng et al. (2023)<sup>[1]</sup> found that digital finance can significantly inhibit the hollowing behavior of controlling shareholders after equity pledge. Zhou Shaofu and Ye Ning (2023)<sup>[2]</sup> found that equity pledge by controlling shareholders would lead to higher credit spreads of debt financing instruments issued by companies. Niu Yuhao et al. (2023)<sup>[3]</sup> pointed out that the greater the pressure of the controlling shareholder's pledge, the higher the risk of enterprise default. The research of Zou Shaohui and Wu Fan (2023)<sup>[4]</sup> shows that equity pledge will increase the financial risk of enterprises, thereby increasing earnings management motivation and reducing the quality of financial information disclosure. Tus-Est has been engaged in equity pledge financing since 2014, and exploring whether equity pledge is related to its 2022 credit rating downgrade will help in-depth analysis of the causes and consequences of this event.

## 3. Case study

### 3.1 Company profile

Tus-Est was founded in October 1993 and listed on the Shenzhen Stock Exchange in February 1998. The main business covers the whole industrial chain of solid waste collection and disposal, and the comprehensive management of water ecology. The core business segments include digital sanitation, water ecology, zero-carbon energy, solid waste and renewable resources, organic solid waste, new energy, etc. It has more than 600 patent achievements, such as more than 200 invention patents.

not only works with a number of universities to promote the collaborative development of technology and industry. International development involves high-tech product development, information technology services, goods import and export and technology import and export, and set investment, research and development, consulting, design, engineering construction and system integration, equipment manufacturing, operation and maintenance in one, can provide a comprehensive "one-stop" service and environmental overall solution, follow the "industry + technology + capital" development model, in the environmental protection industry for 30 years.

### 3.2 Major crises and risks

Tus-Est has faced a series of operational management and reputational risk issues in recent years. In 2020, its subsidiary Baotou Lucheng Water was subject to administrative punishment for illegal construction. The company's total foreign guarantees reached 13.339 billion yuan, accounting for 88.59% of net assets, exceeding the appropriate proportion. From 2017 to 2019, net profit showed negative growth, gross margin decreased, and the scale of accounts receivable and liabilities increased. In 2020, the company's projects have problems such as unpaid wages for migrant workers. The process of major asset restructuring in 2022 is affected by the filing investigation, and there is uncertainty. The company sold most of the solid waste projects, the scale of hand-operated projects decreased significantly, and the future revenue scale will decrease. According to the data at the end of March 2022, the company has 39 solid waste projects in operation, including 7 waste incineration power generation (5,900 tons/day), 1 landfill power generation (12.5 million KWH/year), 11 landfill (3,283 tons/day), 15 kitchen waste (3,500 tons/day), and 5 medical waste (950,000 tons/day). In order to meet regulatory requirements or avoid compliance issues, the company may exit certain businesses, and this strategic contraction may have short-term negative effects.

### 3.3 Financial risk analysis

#### 3.3.1 Potential financial risks arising from equity pledge

Table 1 Details of announced equity pledges

trade date	Pledge ratio (%)	Number of shares pledged(shr)	Pledged market value(CNY)	Number of pledges	Unlimited number of shares pledged(shr)	Number of shares pledged for restricted sale(shr)	In the past year, stocks rose and fell(%)
2018-12-28	16.53	2.36B	24.56B	65	1.87B	49200k	-55.54
2019-12-27	27.33	3.91B	35.31B	22	3.42 亿	49200k	-12.60
2020-12-31	21.00	3B	20.31B	21	3B	0	-26.84
2021-12-31	27.95	4B	17.79B	21	4B	0	-34.17
2022-12-30	19.25	2.75B	9.72B	7	2.75B	0	-18.29
2023-12-29	19.32	2.75B	7.87B	7	2.75B	0	-18.98
2024-04-30	18.96	2.7B	5.89B	6	2.7B	0	-30.79

Data source: Eastmoney.com

This paper lists the data of the past five years(As shown in Table 1), the pledge ratio is up to 27.33%(in 2019, 391 million shares), and the pledged market value is up to 3.531 billion yuan (in 2019). In 2022 and 2023, the proportion of pledged shares decreased but remained at around 275 million shares. There were more pledges in 2018 and 2019, with 65 and 22 pledges respectively. The number of unlimited shares pledged increased from 187 million in 2018 to 275 million in 2023. During the same period, TusHoldings' share price continued to fall sharply, from -55.54% in 2018 to -18.98% in 2023, which may have intensified the company's financial risk, especially in the case of the need to liquidate the pledged shares. Large-scale equity pledge may lead to adverse effects such as changes in controlling shares, decline in market confidence, stock price fluctuations, increase in financial risks, and damage to reputation. The company has also released its pledge at some point in time to respond to market changes and capital needs.

#### 3.3.2 A credit rating downgrade reveals a financial crisis

According to the Tus-Est 2022 Annual Tracking Rating Report issued by ccxi, the subject credit rating of Tus-Est 2022 has been downgraded from A- to BBB, the rating outlook is negative, and the credit rating of the relevant bonds has also been downgraded from A- to BBB. The main reasons for the downgrade include: the company's total profit continued to lose; Accounts receivable occupy working capital, short-term debt repayment and liquidity pressure; There are outstanding litigation and debt issues; Subject to investigation by regulators, the quality of financial information is doubtful; There is no actual controller in internal governance, and there is uncertainty in major asset reorganization; The

sale of most solid waste projects may exacerbate asset management risks.ccxI expects that the environmental credit level of TUS may decline further in the next 12-18 months.

### 3.3.3 Specific financial risk identification

Originwater was selected as the benchmark for Tus-Est's financial data analysis because both companies are active in the environmental sector and belong to the same industry classification. Although the business segments are different, the two companies both attach importance to the application of technological innovation in the field of environmental protection, and are comparable in terms of R&D investment and technological achievements. The two companies have certain similarities in the operation mode (such as project management and cost control) in the field of environmental protection, which makes the comparative analysis of financial data valuable for reference. In order to ensure the integrity and reliability of industry mean data, relevant financial data from 2019 to 2023 were selected for comparative analysis.

#### (1)Comparative analysis of solvency

Table 2 Relevant indicators of solvency

name	date	liquidity ratio	Quick ratio	Asset-liability ratio
Tus-Est	2023-12-31	0.85	0.79	64.54%
	2022-12-31	1.01	0.96	61.08%
	2021-12-31	0.88	0.83	65.18%
	2020-12-31	0.73	0.68	63.34%
	2019-12-31	0.82	0.77	62.20%
Originwater	2023-12-31	0.86	0.8	61.54%
	2022-12-31	1.01	1	59.47%
	2021-12-31	1.13	1.12	60.29%
	2020-12-31	0.99	0.98	65.61%
	2019-12-31	0.81	0.7	65.70%
Whole industry	2023-12-31	2.08	1.91	50.85%
	2022-12-31	1.86	1.72	54.02%
	2021-12-31	1.95	1.81	51.69%
	2020-12-31	1.85	1.72	51.33%
	2019-12-31	1.41	1.1	54.63%

Data source: Sina Finance

According to the data in Table 2, the liquidity of Tus-Est is tight, and the horizontal comparison shows that the current ratio and quick ratio are generally low, lower than Originwater and the industry average, and the short-term solvency is weak, facing certain liquidity risks. The asset-liability ratio is high, both above 60%, significantly higher than the industry average and Originwater, and the use of financial leverage is excessive, and the debt risk is greater.From the vertical comparative analysis, the short-term debt repayment indicators of enterprises, such as current ratio and quick ratio, have declined to varying degrees in recent years, reflecting the gradual weakening of short-term debt repayment ability and the gradual increase of financial risk.

#### (2)Operational efficiency analysis

Table 3 Analysis of business operation indicators

name	date	turnover of account receivable	rate of stock turnover	velocity of liquid assets	turnover of fixed assets	circulating rate of total assets
Tus-Est	2023-12-31	1.26	12.28	0.82	2.74	0.23
	2022-12-31	1.63	12.25	0.88	3.28	0.27
	2021-12-31	1.4	13.38	0.76	2.57	0.27
	2020-12-31	1.54	9.04	0.78	2.72	0.21
	2019-12-31	1.47	10.4	0.78	3.27	0.23
Originwater	2023-12-31	0.79	29.07	0.36	11.81	0.12
	2022-12-31	0.91	31.88	0.37	14.01	0.12
	2021-12-31	0.98	20.82	0.39	14.75	0.13
	2020-12-31	1.28	20.78	0.41	14.11	0.14
	2019-12-31	1.72	3.69	0.57	17.61	0.18
Whole industry	2023-12-31	1.7	16.44	0.42	9.18	0.28
	2022-12-31	0.92	11.56	0.27	5.97	0.17
	2021-12-31	1.05	42.9	0.34	6.97	0.18
	2020-12-31	1.61	44.83	0.46	15.83	0.24
	2019-12-31	2.4	7.25	0.55	12.31	0.28

Data source: Sina Finance

As shown in Table 3, the turnover of account receivable of enterprises in recent years fluctuates between 1.26 and 1.63, higher than that of Originwater, and relatively stable; inventory turnover of enterprises ranges from 9.04 to 13.38, which is significantly lower than the average value of the industry and the receivable value of enterprises. It shows that the overall action efficiency of enterprises from production to sales is slow. The velocity of liquid assets is relatively high, which may also be caused by the low proportion of current assets in total assets, and the turnover of fixed assets is significantly lower than the industry average and benchmark enterprises. The circulating rate of total assets is roughly the same among the three sets of data, indicating that Tus-Est is a relatively asset-heavy operation, with weak asset liquidity and a proportion of fixed assets, leading to greater asset impairment risk and potential debt repayment risk.

(3) Comparative analysis of profitability

Table 4 Profitability related indicators

name	date	gross profit rate	net profit margin on sales	rate of return on total assets	ROE
Tus-Est	2023-12-31	19%	-30%	-7%	-19%
	2022-12-31	24.61%	-13.57%	0.15%	-12.82%
	2021-12-31	0.59%	-53.53%	-10.06%	-52.84%
	2020-12-31	18.42%	-18.03%	-1.85%	-12.00%
	2019-12-31	25.73%	3.53%	3.05%	2.39%
Originwater	2023-12-31	29%	9%	1%	3%
	2022-12-31	29.84%	8.15%	2.88%	2.65%
	2021-12-31	29.18%	6.11%	2.67%	2.31%
	2020-12-31	29.83%	11.89%	3.84%	5.51%
	2019-12-31	30.87%	11.27%	4.15%	6.86%
Whole industry	2023-12-31	21%	-25%	3%	-10%
	2022-12-31	23.86%	-11.16%	1.82%	-6.23%
	2021-12-31	21.68%	-18.16%	3.50%	0.50%
	2020-12-31	31.82%	8.45%	6.31%	-3.89%
	2019-12-31	32.68%	1.52%	8.19%	13.49%

Data source: Sina Finance

According to the data in Table 4, Tus-Est's gross profit rate has improved somewhat in recent years, but the overall gross profit rate is significantly lower than Originwater of the benchmark enterprise and the average of the industry as a whole. Meanwhile, the enterprise's expense management is weak. As a result, although the gross profit rate is positive, the net profit in the past five years is basically negative, which is far from the standard enterprises. Considering the downturn in the economic environment during the epidemic period, the overall profitability of the industry has recovered after the end of the epidemic, but the profit loss of Tus-Est is more serious. It reveals that the sustainable ability of enterprises is seriously damaged and the operating risk continues to intensify.

(4) Comparative analysis of market ratio

Table 5 Market ratio data for the last five years

name	date	P/E ratio	P/B ratio	P/S ratio
Tus-Est	2023	-4.43	0.64	0.82
	2022	-3.89	0.56	0.59
	2021	-1.4	0.74	0.75
	2020	-5.97	0.72	1.12
	2019	43.51	0.87	1.29
Originwater	2023	24.22	0.63	2.07
	2022	24.35	0.66	2.03
	2021	37.84	1.03	2.73
	2020	21.25	1.17	2.52
	2019	16.89	1.19	1.96

Data source: Sina Finance

According to the performance of the market ratio of Tus-Est and Originwater in Table 5, the market's assessment of Tus-Est's future development is not optimistic: the P/E ratio for 2020-2023 is negative, mainly due to the company's continued losses. The price-to-book ratio has been in a continuous downward trend since 2019, reflecting the market's lower assessment of the value of the company's assets. P/S ratio has a downward trend, which is lower than Originwater in the same industry, indicating that the market value growth lags behind the revenue growth. The continuous deterioration

of the performance has led to a sharp decline in net assets and a gloomy profit outlook, which is the main reason for the market to give a lower valuation. Compared with Originwater, Tus-Est lagged significantly in P/E ratio, P/B ratio, P/S ratio and other indicators, reflecting the market's cautious evaluation of its value.

#### **4. Risk summary and coping strategy**

##### **4.1 Enterprise risk summary**

###### **4.1.1 Business risk**

In recent years, the risks of business operation have been increasing, which are mainly manifested as follows: On the one hand, the company has violated the rules in the process of project implementation, and the subsidiary has been subjected to administrative penalties for illegal construction; The proportion of the total amount of foreign guarantees is too large, and compliance problems such as unpaid wages of migrant workers lead to penalties. In response to regulatory requirements, the company is forced to sell most of the solid waste projects, the scale of existing operating projects is significantly reduced, and future revenue may be significantly compressed; At the same time, the company's major assets restructuring process is stalled by the impact of the investigation. What is more serious is that Tus-Est has been heavily sued in recent years, which has seriously damaged the company's market credibility and put great pressure on its sustainable development.

###### **4.1.2 Financial risk**

Tus-Est's financial position has continued to deteriorate in recent years and its financial risks have increased. On the one hand, the asset-liability ratio has remained at a high level for a long time, far exceeding the industry average, the use of financial leverage is excessive, and the debt pressure is heavy. On the other hand, the company's operating efficiency is low, and the quality of its operations is concerning. Its receivables turnover, inventory turnover rate, and fixed assets turnover are significantly below the industry average and those of industry benchmark enterprises. The return on assets and ROE are negative, asset liquidity is weak, and the company relies frequently on equity pledge financing to maintain cash flow, which has significantly impaired its debt repayment ability. In recent years, the net profit is basically negative, and the degree of loss continues to increase, which further erodes the profitability and sustainable operation ability of enterprises.

###### **4.1.3 Credit crisis**

On the credit front, Tus-Est is also in trouble. First, the credit rating of corporate entities and bonds has been significantly downgraded in 2022, the risk of default has increased, and the confidence of creditors and investors has been damaged. Secondly, the controlling shareholder of Tuokefu pledged the company's equity financing on a large scale for a long time, and the scale and proportion of equity pledge remained at a high level for a long time. Once the risk of liquidation occurs, the company faces the risk of passive transfer of control rights, which further aggravates the credit crisis. In recent years, the regulatory penalties and litigation disputes faced by the company have seriously affected the company's external image and market reputation, and aggravated the overall credit crisis. In general, the aggravation of debt risk, the hidden danger of equity pledge, the defects of internal control, the loss of market reputation, etc., these problems are gradually pushing Tus-Est into the abyss of a more serious credit crisis.

#### **4.2 Coping strategy**

##### **4.2.1 Optimize the asset structure and reduce financing risks**

We will reduce the proportion of equity pledges, increase financing channels and methods, replenish liquidity through asset disposal and issuance of medium - and long-term bonds, and improve the high asset-liability ratio and actively negotiate with creditors for extension or debt restructuring to ease short-term debt repayment pressure. The company may consider introducing strategic investors, obtaining equity financing, enhancing capital strength, fundamentally improving the structure of assets and liabilities, and reducing financial risks. For equity pledge, we should establish a risk early warning mechanism, control the scale and proportion of pledge, and agree on a release plan to reduce the risk of passive liquidation.

#### **4.2.2 Reshape business strategy and improve business quality**

First of all, we should speed up the collection progress of accounts receivable, optimize inventory management, improve the efficiency of asset operation, and enhance cash inflow. Then compress non-core business and inefficient projects and concentrate resources on the main areas of strength. And while maintaining the competitiveness of the existing business, we should increase investment in research and development, enhance technological innovation ability, and cultivate new profit growth points. Finally, strict cost control, reduce operating costs and expenses, and then improve the overall profit level, turn losses into profits.

#### **4.2.3 Strengthen the construction of internal control**

Tus-Est should attach importance to internal management, establish and improve various internal control systems, strengthen risk prevention and control, standardize information disclosure, eliminate previous violations, improve corporate governance structure, clarify rights and responsibilities, and eliminate hidden dangers of internal control defects. The most important thing is that Tus-Es should maintain good communication with the regulatory authorities, actively rectify problems, properly resolve litigation disputes, maintain the company's reputation and market image, and restore market confidence.

#### **4.2.4 Rectify the business chain and reshape the development strategy**

We will sort out the existing business chain, completely strip away inefficient and unpromising businesses, and focus on the core areas of environmental protection. It is necessary to lay out emerging tracks such as digital environmental protection and embrace the opportunities of digital transformation. We will for the stalled major asset restructuring, optimize the integration plan, complete the capital operation, achieve strategic transformation, open up a new development path, and increase the profit source of the enterprise.

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