

Research on Capital Structure Optimization: A Case Study of Jiaozuo Wanfang Aluminum Co., Ltd. and BBBY

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Abstract: The optimization of capital structure impacts a company's long-term development capabilities. This paper uses Jiaozuo Wanfang in manufacturing and BBBY in retail as case studies to explore the causes and optimization paths of dynamic imbalances in capital structures across different industries. Based on comparative analysis of these cases, combined with theories and financial statement data, this study systematically analyzes the characteristics of capital structures, the root causes of issues, and their governance impacts for both companies. It aims to reveal the interactive effects of industry characteristics and strategic decisions on capital structure. The research findings indicate that Jiaozuo Wanfang suffers from an excessively low asset liability ratio, an abnormally high proportion of current liabilities, and dispersed equity leading to insufficient leverage returns and low governance efficiency; BBBY, on the other hand, experienced a failure in digital transformation and increased reliance on debt, causing its asset liability ratio to soar, plunging it into a liquidity crisis. The core argument suggests that companies need to dynamically balance tax shield effects and financial risks, governance structures and strategic synergy are key to optimizing capital structure. The innovation of this paper lies in cross-industry dynamic comparisons and strategic-capital structure linkage analysis, addressing the shortcomings of static theories. Recommendations for investors are that they need to pay attention to the impact of industry cycle and governance efficiency on the stability of capital structure, and avoid enterprises with high liquid liabilities.

Keywords: Capital structure optimization, Debt Capital, Equity Capital, Corporate governance.

1. Introduction

Capital structure, as a pivotal topic in corporate financial management, directly influences financing efficiency, financial risks, and long-term sustainability. An optimal capital structure balances debt and equity financing costs and benefits while enhancing resource allocation and corporate value. However, enterprises across industries and development stages face distinct challenges in capital structure choices. This paper investigates Jiaozuo Wanfang and BBBY to analyze their capital structure characteristics, diagnose root causes, and propose tailored optimization strategies.

Jiaozuo Wanfang, a leader in China's aluminum smelting sector, grapples with low debt ratios, excessive reliance on short-term liabilities, and fragmented equity ownership—common issues in capital-intensive, cyclical industries. In contrast, BBBY's capital structure evolved from surplus cash

in 2002 to an 80.22% debt ratio by 2021, driven by failed digital transformation and aggressive debt reliance. By comparing these cases, this study highlights the interplay between industry dynamics, governance structures, and capital structure decisions, offering insights for optimizing financial leverage and mitigating risks.

2. Literature Review

Capital structure optimization has long been a focal point in academic and practical research. This section reviews theoretical developments, industry-specific studies, and governance-related literature to establish a foundation for case analysis.

2.1. Theoretical Evolution

Modigliani and Miller's theory posits that firm value is independent of capital structure under perfect markets. However, introducing taxes reveals debt's tax shield benefits. Trade-off theory emphasizes balancing tax shields against financial distress costs. Control rights theory highlights debt's role in curbing managerial excess [1], and the agency costs of equity dispersion [2]. Dynamic capital structure theory further advocates adjusting financing strategies based on macroeconomic cycles.

2.2. Industry-Specific Differences

There are significant differences in the capital structure characteristics of different industries. Capital-intensive industries like manufacturing rely on long-term debt for fixed assets [3]. For example, a study has found that the asset liability ratio of capital intensive industries is generally higher than that of light asset industries [4]. However, Excessive reliance on debt may lead to liquidity risk, especially during industry downturns [5]. Retail sectors, on the other hand, prioritize short-term debt or equity for flexibility, due to fast inventory turnover and large cash flow fluctuations [6]. In recent years, the rise of online retail has further changed the capital structure requirements of traditional retail industry. A study has found that failed digital transformations (e.g., BBBY) often lead to high debt burdens, whereas successful transitions (e.g., Amazon) reduce financial risks through asset-light models [7].

2.3. Governance and Capital Structure Interactions

Equity structure has a profound impact on capital structure choices. Empirical studies have shown that companies with dispersed equity tend to adopt more conservative financing strategies to avoid diluting control, but this may come at the cost of tax shield benefits [8]. In contrast, companies with high equity concentration can strengthen the controlling shareholders power through debt financing [9], yet they may also harm minority shareholders' interests due to the "tunneling effect"[10]. Furthermore, the introduction of strategic investors has been proven effective in improving governance efficiency, such as by constraining management decisions through debt covenants [11].

2.4. Limitations of Existing Research and Contributions of this Paper

Despite the in-depth exploration of theoretical frameworks and industry differences in capital structure by existing literature, some limitations remain. For instance, cross-industry dynamic comparisons are insufficient; most studies focus on a single industry, lacking comparative analyses between manufacturing and retail sectors, particularly longitudinal studies examining the evolution from low to high debt levels. Furthermore, the synergistic effects of governance and strategy have not been adequately addressed. Current literature often discusses financing choices or governance mechanisms in isolation, overlooking the interplay between strategic failures (such as failed mergers and acquisitions) and imbalances in capital structure. Additionally, case studies from emerging

markets are scarce. There is limited research on the capital structure of Chinese manufacturing firms, especially strategies for optimization under the backdrop of dispersed equity and overlapping industry cycles.

This paper uses Jiaozuo Wanfang (manufacturing) and BBBY (retail) as comparative cases to reveal how industry characteristics shape capital structure features. It combines governance structures and strategic decisions to analyze the deep-seated causes of dynamic imbalances in capital structure. At the same time, it proposes dynamic optimization strategies adapted to industry cycles, addressing the shortcomings of static theories. The aim is to combine classic theories with real-world cases, providing new perspectives and empirical support for research on capital structure optimization.

3. Company Profile and Capital Structure Status

3.1. Company Introduction and Problem Points

3.1.1. Jiaozuo Wanfang Co., LTD

Jiaozuo Wanfang Company was established in 1993 and listed on the Shenzhen Stock Exchange in 1996. In 2000, Chinas first 280kA large aluminum electrolysis cell demonstration project series went into production. Through technological upgrades and capacity expansion, Jiaozuo Wanfang gradually developed into a leading domestic producer of aluminum products. In 2009, Jiaozuo Wanfang took a 30% stake in Zhao Gu Energy Co., Ltd., a subsidiary of Jiaomei Group, and initiated its alloy business. Today, the company continues to optimize its industrial structure and expand into high-value-added aluminum product markets.

Jiaozuo Wanfang is a large listed company that integrates electrolytic aluminum production, power generation, alloy processing, and overseas investment. Its main business involves aluminum smelting and rolling processing, complemented by thermal power generation. The primary products include molten electrolytic aluminum, aluminum ingots, and aluminum alloy products, which are widely used in construction, transportation, electronics and power, packaging, and other fields.

Table 1: The assets, liabilities and owners equity of Jiaozuo Wanfang in 2023 year

current assets	2,525,688,010.96
non-current assets	5,372,527,745.03
Total assets	7,898,215,755.99
current liabilities	1,875,014,161.28
non-current liability	221,550,887.45
Total liabilities	2,096,565,048.73
owners' equity	5,801,650,707.26
asset liability ratio	26.54%
current liability ratio	89.43%

Data source: Jiaozuo Wanfang Co., Ltd. 2023 annual financial statements

Table 1 shows that the asset liability ratio is 26.54%, and the current liabilities ratio is 89.43%. Studies have shown that for asset-intensive industries, the debt ratio can be appropriately increased to 50%-70% to leverage the scale effect of debt financing [4], and the reasonable range for the current liabilities ratio of manufacturing companies is 40%-60% [12].

Table 2: Comparison of asset liability ratio and current liability ratio in the same industry in 2023

	Zijin Mining	Alcoa	Aluminum of China
current liabilities	84,182,433,105	303,000,000	58,705,772
Total liabilities	204,642,909,694	8,310,000,000	112,866,670
asset liability ratio	59.66%	58.70%	51.61%
current liability ratio	41.13%	36.46%	52.01%

According to the data from Table 2, it's easy to understand that the industry's average debt-to-asset ratio is between 50% and 60%, while the current liability ratio is between 40% and 70%. In comparison, it is evident that Jiaozuo Wanfang has issues with an excessively low debt-to-asset ratio and a relatively high current liability ratio. An overly low debt-to-asset ratio indicates that the company's own funds account for a large proportion, but this may not fully leverage the financial leverage effect, leading to inefficient use of capital; at the same time, moderate debt can increase shareholder returns, so a too low debt ratio might limit shareholder earnings. A high current liability ratio means that the proportion of short-term debts in total liabilities is disproportionately high. This could put significant pressure on the company's cash flow management; moreover, a high current liability ratio makes the company's capital chain more susceptible to market fluctuations, increasing operational risks.

Table 3: Jiaozuo Wanfang's top 10 shareholders shareholding situation in 2023

Name of shareholder	nature of shareholders	shareholding ratio
Zhangshu City and Tai an Cheng Investment Management Center (Limited partnership)	Domestic non-state-owned legal person	17.30%
Ningbo Zhongman Technology Management Co., LTD	Domestic non-state-owned legal person	11.87%
Jiaozuo Wanfang Group Co., LTD	State-owned legal person	5.22%
Ningbo Meishan Bonded Port Area Yuchu Kun Gang Investment Management Partnership (Limited partnership)	Domestic non-state-owned legal person	3.21%
Haitai Life Insurance Co., LTD. -traditional insurance products	other	2.19%
Changlexin Investment Management Partnership (Limited partnership), Meishan Bonded Port Area, Ningbo	Domestic non-state-owned legal person	1.70%
Hong Kong Central Clearing Company Limited	Foreign legal person	1.36%
Hu Bowen	Natural persons within the territory	0.78%
Wang Pengfei	Natural persons within the territory	0.70%
Qin Yan	Natural persons within the territory	0.57%

Data source: Jiaozuo Wanfang Co., Ltd. 2023 annual financial statements

As shown in Table 3, it is evident that the company suffers from high equity dispersion. The company has a large number of shareholders with low shareholding ratios; only two shareholders hold more than 10%, and the majority have holdings below 5%. Moreover, there is no single controlling shareholder holding over 50%. Among the top ten shareholders, there are individual investors, institutional investors, domestic investors, and international investors, indicating a diversified shareholder base. High equity dispersion can lead to issues such as low decision-making

efficiency and high corporate governance costs. For instance, significant decisions often require extensive discussions and voting at general meetings or board meetings, necessitating communication and coordination with numerous shareholders. This increases communication costs and management complexity, potentially making the decision-making process lengthy and intricate.

3.1.2. BBY (Bed Bath & Beyond)

BBY was founded in 1971 by Warren Eisenberg and Leonard Feinstein, initially as a home goods store based in New York. In 1992, the company listed on NASDAQ. In 2002, BBY expanded its business through acquisitions but faced increased market competition and challenges from online retail. Starting in the 2010s, the company began transitioning to an online business, which proved ineffective. Ultimately, due to financial difficulties and poor management, the company filed for bankruptcy protection in 2022.

BBY is a well-known home goods retailer, mainly selling bedding, bathroom products, kitchen products, decorations and so on. The company sells its products through physical stores and online platforms. It was once one of the largest home goods retailers in the United States.

Table 4: BBY Assets, liabilities and owners' equity

	2002	2021
current assets	1,226,717	3,620,045
non-current assets	420,800	2,836,885
Total assets	1,647,517	6,456,930
current liabilities	511,278	2,294,921
non-current liability	41,889	2,885,073
Total liabilities	553,167	5,179,994
owners' equity	1,094,350	1,276,936
asset liability ratio	33.58%	80.22%

Data source: BBY2002, 2021 annual financial statements

As shown in Table 4, BBY had the same issue of low asset liability ratio as Jiaozuo Wanfang in 2002, but by 2021, it faced an excessively high asset-liability ratio. An overly high asset liability ratio indicates that a company heavily relies on debt financing, with a high level of financial leverage, which increases its financial risks. It can also lead to a lack of sufficient own funds to cope with risks during economic downturns or poor management, potentially resulting in short-term debt repayment pressures. Companies with high debt ratios are more sensitive to changes in the macroeconomic environment and are more vulnerable to shocks during economic downturns or industry fluctuations.

3.2. Causes of the problem

3.2.1. Jiaozuo Wanfang

Jiaozuo Wanfang belongs to the aluminum smelting and processing industry, which is characterized by capital intensity, requiring substantial investment in fixed assets (such as electrolytic aluminum production lines, plant equipment, etc.). The high proportion of fixed assets leads to poor liquidity of corporate assets, making it difficult for them to be quickly converted into cash. On the other hand, this industry experiences cyclical fluctuations. The aluminum industry is a crucial foundational sector for the country, closely linked with transportation, construction, power, and many other industries, exhibiting significant cyclical patterns. When the macroeconomic environment is unfavorable,

demand from downstream industries decreases, leading to a decline in aluminum prices, which can result in overcapacity and low asset utilization rates for companies.

From the perspective of business strategy, Jiaozuo Wanfangs operations and investment activities have been relatively cautious. In August 2014, Jiaozuo Wanfang planned to acquire 100% equity in Wanjie Energy from Jiogao Investment with its own funds of 1.7 billion yuan. By acquiring Wanjie Energy, Jiaozuo Wanfang could quickly enter the oil and gas resource development sector, leveraging its exploration and production sharing rights in oil and gas blocks in Mongolia and the Kingdom of Morocco to rapidly expand its business scale. This rapid expansion approach is more efficient compared to gradual internal development, helping the company seize market opportunities in the new energy sector. At the same time, this acquisition indicates that when making large-scale investments, the company prioritizes using its own funds rather than relying on external financing, reflecting its prudent investment strategy.

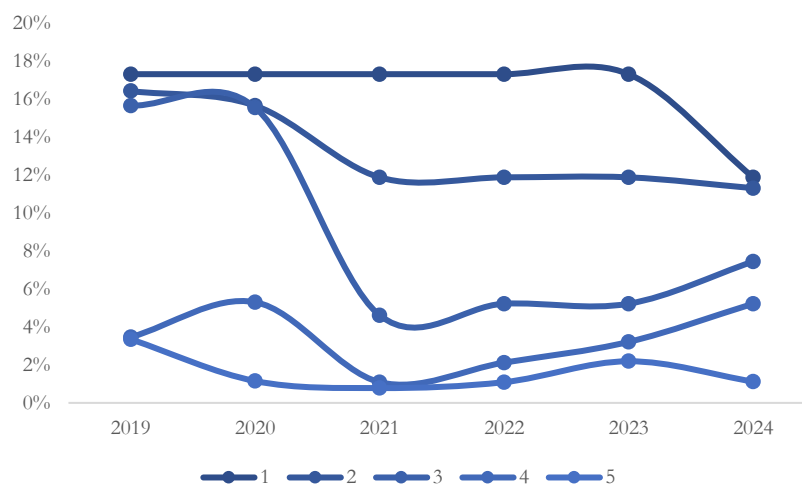


Figure 1: 2019-2024 Changes in the shareholding ratio of the top 5 shareholders of Jiaozuo Wanfang

Data source: Jiaozuo Wanfang annual report 2019-2024

Photo credit: Original

As shown in the changes in the shareholding ratios of the top 10 shareholders, the shareholding ratios of the top 3 shareholders have been declining year by year, while the shareholding ratios of minority shareholders between 1% and 5% have shown an upward trend, leading to a gradually dispersed equity structure. Research indicates that when equity is highly dispersed, minority shareholders lack motivation to supervise management, which may lead to governance failure [13]. Moreover, if a company with dispersed equity lacks endorsement from major shareholders, investors trust in its financial information decreases, potentially increasing stock price volatility [14].

3.2.2. BBBY

Around 2002, BBBY held a conservative financial strategy and was cautious about debt financing. After acquiring CTS in a fully cash transaction in June 2003, BBBY immediately paid down its debt, maintaining a \$125 million credit line with no outstanding borrowings under these lines.

Table 5: BBBY, Williams-Sonoma, Wayfair, Home Depot annual revenue(M)

	BBBY	Williams-Sonoma	Wayfair	Home Depot
2018	12.35	5,671.60	6,779.20	108,203.00
2019	12.03	5,898.00	9,127.10	110,225.00

During the 2010s, BBY faced increased competitive pressure from online retail in traditional retail. Williams-Sonoma, Wayfair, and Home Depot are all home goods retailers that operate both online and offline. Among them, Williams-Sonoma expanded its online platform, attracting a large number of consumers seeking high-quality home products, directly competing with BBY. Its brand positioning and customer base overlap significantly with BBY's, making BBY face greater challenges in market competition. As Table 5 can understand, BBY failed to transform and break free from the competition between traditional and online retail, suffering a blow and subsequently experiencing a decline in annual revenue.

To alleviate the crisis, BBY attempted to enhance competitiveness through acquisitions, but with limited success. In 2017, BBY acquired Decorist, an online interior design company, aiming to improve customer experience through its online design services. However, after the acquisition, BBY failed to effectively integrate Decorist's online design services with its own business, resulting in a lack of synergies. Meanwhile, as consumer demand for home design services rapidly evolved, Decorist's service model failed to adapt in time, gradually losing market competitiveness. Ultimately, Decorist announced the closure of its operations in September 2022, and BBY did not achieve the expected business growth or improvement in customer experience from this acquisition.

On the other hand, in the 2010s, BBY was long dependent on debt financing, and the cash generated by operating activities was not enough to maintain operations, resulting in improper capital turnover and gradually increasing the asset liability ratio.

3.3. Comparative analysis

Jiaozuo Wanfang has a low asset liability ratio, indicating the company's low reliance on debt financing. From the perspective of debt capital, this capital structure advantage lies in reducing financial risks caused by insufficient cash flow. However, a low asset liability ratio also means that the company has not fully utilized the tax shield effect of debt financing. Moreover, although the overall debt level is low, its current liabilities are relatively high, which may bring short-term repayment pressure. From the perspective of equity capital, Jiaozuo Wanfang has a high degree of equity dispersion, suggesting that the company prefers to support long-term development through equity financing. However, equity dispersion can also lead to diluted control, putting more pressure on management from shareholders, making the corporate governance structure complex and decision-making efficiency lower. At the same time, equity capital is significantly affected by market fluctuations, and stock price volatility may impact the company's financing capabilities. Additionally, shareholders demand for returns may influence the company's profit distribution and reinvestment strategies.

In contrast, BBY's capital structure around 2002 was similar to that of Jiaozuo Wanfang, both suffering from low debt-to-asset ratios. However, this trend reversed around 2021. In 2021, BBY had a higher asset liability ratio. From the perspective of debt capital, the company effectively utilized the tax shield effect, and since creditors only received fixed interest payments without participating in management decisions, the company retained control. However, this also indicates that the company may have failed to manage its current assets and liabilities effectively, relying too heavily on debt financing and facing liquidity issues, which increased financial risks. From the perspective of equity capital, BBY generated insufficient cash from operating activities to sustain operations, and its cash reserves were inadequate. This could make it difficult for the company to implement long-term strategic plans, hindering future development.

4. Conclusion

4.1. Key Findings

4.1.1. Capital Structure Characteristics and Problems of Jiaozuo Wanfang

The asset liability ratio is low, and financial leverage is insufficient. In 2023, Jiaozuo Wanfang's asset liability ratio was only 26.54%, far below the industry average. Although a low debt ratio reduces financial risks, the company has failed to fully utilize the tax shield effect of debt financing, limiting shareholder returns. Additionally, the company's current liabilities account for as high as 89.43%, indicating significant short-term debt repayment pressure and low capital turnover efficiency.

Among the top ten shareholders, there is no absolute controlling shareholder (with the highest holding at 17.30%), and the proportion of minority shareholders has been increasing year by year, leading to dispersed equity and low governance efficiency. The dispersion of equity exacerbates decision-making coordination costs and undermines strategic execution efficiency. Moreover, industry characteristics intensify asset liquidity risks. The aluminum smelting industry has a high proportion of fixed assets and weak asset liquidity, further amplifying the risk associated with an excessively high ratio of current liabilities.

4.1.2. Dynamic Evolution and Crisis of BBBY Capital Structure

In 2002, BBBY's asset liability ratio was only 33.58%, and its cash reserves were sufficient but inefficient in utilization, failing to improve shareholder returns through investment or dividends; by 2021, the asset liability ratio soared to 80.22%, liquidity problems emerged, and short-term debt repayment ability deteriorated.

Strategic errors and the vicious cycle of financing dependency. In the 2010s, BBBY failed to effectively integrate its online business during the digital transformation (such as the failed acquisition of Decorist), leading to market share erosion by competitors like Williams-Sonoma. To maintain operations, the company relied excessively on debt financing, but operating cash flow was insufficient to cover the cost of debt, ultimately plunging it into financial distress. The home retail industry has been significantly impacted by the shift towards online sales. Under the dual pressures of industry competition and external shocks, BBBY failed to timely adjust its business model, further weakening its risk resistance capabilities amid high debt levels.

4.1.3. Common Implications of Comparative Analysis

Both companies failed to effectively balance the tax shield effect with financial risks. Jiaozuo Wanfang sacrificed leverage benefits due to over-reliance on equity financing, while BBBY triggered a liquidity crisis through aggressive borrowing. Both companies should adapt to different industry characteristics when making decisions. Capital-intensive Jiaozuo Wanfang needs to focus on long-term debt as an alternative to short-term liabilities, whereas retail-focused BBBY must strengthen cash flow management and business transformation. This highlights the importance of governance structures and strategic alignment. Dispersed ownership or strategic missteps can exacerbate capital structure imbalances, and companies need to improve capital allocation efficiency through governance optimization (such as introducing strategic investors) and strategic focus (such as digital transformation).

4.2. Optimization Strategies and Suggestions

4.2.1. Jiaozuoo Wanfang

Jiaozuo Wanfang's low asset liability ratio indicates that the company has not fully utilized the tax shield effect and financial leverage of debt financing. The company can moderately increase long-term debt financing within a controllable risk range through methods such as issuing bonds or bank loans, to improve asset utilization efficiency. This can also replace some high-cost current liabilities, reducing short-term debt repayment pressure. Expanding investment scale through debt financing can enhance asset utilization efficiency and support business expansion or technological upgrades. Increasing retained earnings by improving profitability and optimizing operational efficiency can also reduce reliance on external short-term financing, alleviating the issue of high current liability levels.

High equity dispersion may lead to low decision-making efficiency or the risk of control disputes. It is recommended to increase equity diversity and moderately concentrate the equity structure by introducing strategic investors, implementing share buybacks, or encouraging major shareholders to increase their holdings. This will enhance governance stability. At the same time, improve shareholder communication mechanisms to balance the interests of small and medium shareholders with management decision-making power, reduce agency costs, and improve governance efficiency.

In addition to traditional bank loans and bond issuance, enterprises can also explore new financing tools such as green bonds and convertible bonds to reduce their dependence on a single financing channel. Diversified financing channels help to spread risks, reduce financing costs and optimize capital structure.

4.2.2. BBBY

BBBY had an excess of cash reserves in 2002, which could lead to idle capital and reduced returns. It is recommended to optimize cash allocation and improve the return on capital through methods such as increasing shareholder dividends, stock buybacks, or strategic investments (like mergers and acquisitions, R&D investment). Additionally, debt financing can be moderately increased. Under the premise of maintaining necessary liquidity, low-interest debt can replace part of the equity capital, leveraging the tax shield effect to reduce taxes while avoiding excessive dilution of shareholder equity.

In 2021, BBBY had a high asset liability ratio and faced liquidity risks. It needs to optimize its debt structure and reduce the proportion of short-term debt. Measures include extending loan terms, lowering interest rates, or issuing low-interest bonds to replace high-interest debts, thereby reducing the debt burden and lowering interest expenses while avoiding concentrated repayment risks. To reduce reliance on external financing, the company should enhance its profitability and internal financing capabilities. This can be achieved by improving operational efficiency (such as optimizing inventory management and cost control), business innovation (such as expanding online channels), and streamlining business processes to boost profitability and increase operating cash flow.

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