

Case Study on the Spin-off of China Railway Construction Corporation

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Abstract

This paper takes the spin-off of China Railway Construction Corporation's (CRCC) subsidiary, China Railway Construction Heavy Industry Co. Ltd. (CRCHI), as a case study to analyze the motivations for the spin-off, its effects, and the comparison between its actual outcomes and driving factors. The spin-off of CRCHI aimed to optimize information transparency, capital flow, and financial conditions. After the spin-off, CRCHI improved its financing capabilities, enhanced financial metrics, saw steady growth in overseas markets, and increased its R&D investment. The spin-off had a positive impact, and effectively expanded both domestic and international markets of CRCC.

Keywords

CRCHI; Spin-off; Spin-off Motivations; China Railway Construction Corporation.

1. Introduction

In 2022, the China Securities Regulatory Commission (CSRC) issued the "Spin-off Rules for Listed Companies (Trial)", which defines a spin-off as the action where a listed company publicly issues share for the first time through a subsidiary that it controls, either directly or indirectly, on domestic or overseas securities markets, or achieves a reorganization listing. The economic consequences of corporate spin offs are a concern for both the theoretical and practical communities[1]. This paper specifically selects the case of CRCC's spin-off listing of CRCHI as a study subject because CRCHI is the first leading company to successfully spin off and list on the STAR Market (Shanghai's Science and Technology Innovation Board), making its case highly representative and of significant reference value[2]. From the formulation of CRCHI's spin-off listing plan to its eventual successful listing, valuable experience has been accumulated, and studying these experiences will allow other companies in emerging strategic industries that meet spin-off conditions to learn from and apply these practices.

2. Case Background

China Railway Construction Corporation (CRCC) was established in Beijing on November 5, 2007, originating from the Railway Corps of the People's Liberation Army of China. In December 2019, the company's management approved the proposal for the spin-off of its subsidiary, China Railway Construction Heavy Industry Co. Ltd, for a listing on the STAR Market. In April 2020, CRCC formally released the revised proposal, receiving compliance confirmation from Beijing DeHeng Law Offices. In May 2021, CRCHI's application for listing on the STAR Market was approved by the CSRC and the Shanghai Stock Exchange, marking the company's eligibility for a public offering on the STAR Market. In June, CRCHI released a series of announcements related to its listing, including issuance arrangements, preliminary inquiries, prospectus, and issuance notices, with an online roadshow held on June 8, followed by subscription on June 9. The company successfully listed on the STAR Market of the Shanghai Stock Exchange on June 22, 2021.

3. Case Overview

CRCC was officially established in Beijing in 2007 and quickly rose to prominence, achieving a successful A+H share listing in 2008. The company's operations span a wide range of fields, including engineering contracting, surveying and design, equipment manufacturing, and real estate development, with engineering contracting being a major strength in China's infrastructure sector. CRCC occupies more than 80% of the market share in the rail equipment manufacturing industry, with leading brand influence and market share. The company focuses on both domestic and international market expansion, with a well-established railway infrastructure and real estate industry chain, aiming to build a comprehensive construction industry group. Its subsidiary, CRCHI (formerly known as China Railway Construction Heavy Industry Group Co., Ltd.), was established in 2006 by China Railway 11th Bureau and China Railway Zhuzhou Bridge Co., Ltd. It specializes in high-end equipment manufacturing and is a comprehensive, large-scale group that integrates research and development, design, manufacturing, and construction. CRCHI's main business includes tunnel boring machines, rail transit equipment, and special professional equipment, with several world-leading core technologies. The company has demonstrated steady financial growth.

In 2019, the CSRC issued regulations for spin-off listings to promote diversified development of the A-share market. China Railway Construction Corporation (CRCC) has a good operating condition and has never stopped its operations in the capital market. It has successively spun off CRCC equipment for H-share listing and CRCC Heavy Industry for listing on the Science and Technology Innovation Board[3]. As a leader in the construction machinery industry, CRCHI's spin-off supports the "Made in China 2025" initiative. With the construction of the "Belt and Road", CRCHI has focused on rail transit equipment, aligning with the direction of new infrastructure. The spin-off listing aims to strengthen manufacturing capabilities, enhance the specialization of core business, and establish a high ground for technological innovation.

4. Motivations for the Spin-off Listing of CRCHI

4.1. Optimizing Information Transparency to Drive Company Value Growth

The theory of information asymmetry suggests that a company's value is often underestimated prior to listing due to insufficient disclosure. A spin-off listing allows for the full disclosure of financial and operational details, reducing information asymmetry, increasing transparency, and assisting investors in making informed decisions, which in turn drives business development.

Table 1. Gross Profit Margin of China Railway Construction Corporation and CRCHI from 2017 to 2023

Year	Gross Profit Margin of CRCC	Gross Profit Margin of CRCHI
2017	9.24%	33.68%
2018	9.78%	35.16%
2019	9.64%	33.13%
2020	9.26%	34.39%
2021	9.60%	32.38%
2022	10.09%	34.07%
2023	10.40%	31.36%

Data Source: Organized from the annual reports of China Railway Construction Corporation and CRCHI using Tonghuashun software.

The spin-off and listing of CRCHI helped reduce information asymmetry, making the company’s value clearer to investors, thus driving its overall value increase. This move also triggered a revaluation of the company, raising its market value and bringing more benefits to CRCC, while expanding its influence in overseas markets through IPO financing. The spin-off enhanced business potential, improved financial transparency, and facilitated value realization.

4.2. Expanding Capital Flow Paths and Enhancing Investment Opportunities

Given the company's financing needs, when the parent company’s financing capacity is insufficient, the spin-off of its subsidiary provides a new financing channel. The daily operation and strategic development planning of a company require a large amount of funds to maintain. As the company's business has a relatively single channel for obtaining funds before it is split, for listed companies, separating the company's main business can be more conducive to expanding financing channels and obtaining corresponding funds[4].For example, the spin-off of CRCHI by CRCC was driven partly by the need to expand financing avenues. Before the spin-off, CRCHI relied heavily on the parent company’s funds, and its cash flow from financing activities was negative, requiring fundraising to maintain operations. The spin-off allowed CRCHI to meet its financing needs, improving liquidity and financing efficiency.

Table 2. Financing Ability Structure Analysis of CRCHI from 2017 to 2023 (Unit: Billion RMB)

Year	2017	2018	2019	2020	2021	2022	2023
Investment Received in Cash	0.554	0.2	-	41.74	-	-	-
Loans Received in Cash	7.00	4.01	7.69	22.76	31.81	29.53	35.60
Debt Repayment Cash	2.01	7.02	0.23	10.61	40.71	30.02	31.12
Net Cash Flow from Financing Activities	3.91	-4.05	-19.74	-2.50	31.90	-6.43	-1.83

Data Source:Organized from the annual reports of China Railway Construction Corporation and CRCHI using Tonghuashun software.

Table 3. Comparison of R&D investment between CRCHI and comparable listed companies in the same industry Unit: 100 million yuan

Company abbreviation	2017 Annual		2018 Annual		2019 Annual		2020 Annual	
	R&D investment	percentage	R&D investment	percentage	R&D investment	percentage	R&D investment	percentage
Sany Heavy Industry	7.71	2.01%	17.54	3.14%	36.44	4.82%	49.92	5.02%
Tieke Orbital	0.47	5.07%	0.68	6.11%	0.6	4.74%	0.58	4.75%
China First Heavy Industries	1.78	1.74%	2.56	2.43%	3.69	2.80%	4.73	2.38%
XCMG Machinery	14.77	5.07%	17.79	4.01%	21.27	3.59%	24.17	3.27%
Zoomlion	3.06	1.31%	5.81	2.02%	15.16	3.50%	33.45	5.14%
China Railway Industry	6.39	4.02%	8.15	4.55%	10.04	4.88%	12.03	4.95%
Industry average	5.46	3.62%	8.09	3.92%	13.13	4.39%	20.81	4.25%
China Railway Construction Heavy Industry	4.07	6.12%	4.11	5.18%	4.68	6.43%	5.53	7.27%

Data source: Periodic reports of listed companies, CRCHI Prospectus

Note: R&D investment is the current period's expensed R&D expenditure, and the percentage is the ratio of R&D investment to the current year's operating revenue

As an R&D-driven enterprise, CRCHI needs to continue to invest in R&D to respond to changes in the industry and diversified customer needs through technological innovation and product optimization in the field of underground engineering. Road header equipment is the pillar of its revenue, and it needs to maintain the leading edge of technology and function integration. Therefore, CRCHI needs to seek financing to increase its R&D investment. The following is a comparison of its R&D investment with its competitors in the same industry.

Although the scale of CRCHI is small and the absolute amount of R&D investment is lower than the industry average, the proportion of R&D investment is high. The spin-off and listing will help it obtain more financial support, increase production and R&D investment, enhance its R&D capability and professionalism, consolidate its core competitiveness in the field of high-end equipment manufacturing, and realize sustainable development.

4.3. Optimizing and Improving Financial Status

From the perspective of the parent company, CRCC has established a core development strategy of "construction as the foundation," aimed at upgrading the entire group's industrial chain structure and integrating resources. Adequate financial support is critical for the smooth implementation of this comprehensive task and the continued healthy development of the company.

Table 4. Financial Comparison Between CRCC and CRCHI from 2017 to 2019

Company	Year	Revenue (Billion RMB)	Net Profit (Billion RMB)	Net Assets (Billion RMB)	Net Profit Margin	Debt-to- Asset Ratio	Current Ratio	Quick Ratio
CRCC	2017	680.98	16.92	1786.49	2.48%	78.26%	1.20	0.64
	2018	730.12	19.84	2073.35	2.72%	77.41%	1.09	0.74
	2019	830.45	22.62	2620.22	2.72%	75.77%	1.10	0.73
CRCHI	2017	6.65	1.14	78.57	17.10%	48.79%	1.59	1.24
	2018	7.93	1.61	93.16	20.26%	41.93%	1.88	1.53
	2019	7.28	1.53	71.47	21.01%	52.86%	1.31	1.02

Data Source: Organized from the annual reports of China Railway Construction Corporation and CRCHI using Tonghuashun software.

Between 2017 and 2019, CRCC's revenue grew steadily, while CRCHI, though smaller, showed significant growth, despite a slight revenue decrease in 2019. CRCHI's net profit grew notably, with a much higher profit margin than CRCC. In terms of financial health, CRCC had a higher debt-to-asset ratio and faced greater debt repayment pressure, while CRCHI performed better. The spin-off allowed CRCC to optimize its capital structure, lower its debt ratio, and improve CRCHI's financing efficiency. The financial and debt-paying capabilities of both entities showed clear differences, with the spin-off aiding CRCC in optimizing its capital structure while showcasing CRCHI's high-profit potential and market value.

5. Analysis of the Effects of CRCHI's Spin-off Listing

5.1. Financing Status Analysis

Post-spin-off, CRCHI, as an independent subsidiary, saw a significant increase in its financing needs to maintain market competitiveness. To meet the funding requirements for daily operations and investment activities, CRCHI needed substantial financial support. During the spin-off process, CRCHI successfully attracted strategic investors, which not only provided the company with stable long-term funding but also brought valuable industry resources. Additionally, CRCHI could now raise funds through public stock issuance, which reduced the

difficulty of obtaining direct financing and alleviated CRCC's financing pressure. This transformation not only improved CRCHI's financing capabilities but also diversified its financing channels, laying a solid foundation for the company's sustainable development.

Table 5. Financing Ability Structure Analysis of CRCHI from 2020 to 2023

Year	2020	2021	2022	2023
Investment Received in Cash	-	4.17	-	-
Loans Received in Cash	2.28	3.18	2.95	3.56
Debt Repayment Cash	1.06	4.07	3.00	3.11
Net Cash Flow from Financing Activities	-0.25	3.19	-0.64	-0.18

Data Source: Organized from the annual reports of China Railway Construction Corporation and CRCHI using Tonghuashun software.

From 2020 to 2023, CRCHI's financing cash flow showed significant changes, with net cash flow increasing from -250 million RMB to 3.19 billion RMB in 2021 after the spin-off. Before the spin-off, CRCHI was heavily reliant on its parent company's funds, but post-spin-off, it raised 4.17 billion RMB in investment, providing robust cash flow support. The listing also enhanced CRCHI's credibility and visibility, laying a solid foundation for future financing and suggesting its stronger competitive position and broader growth potential in the market.

5.2. Financial Ratios Analysis

5.2.1. Short-term Debt Repayment Ability Analysis

Table 6. Short-term Debt Repayment Indicators for CRCHI and the Industry from 2017 to 2023

Year	Current Ratio	Industry Average	Quick Ratio	Industry Average
2017	1.59	2.11	1.22	1.41
2018	1.88	1.85	1.51	1.19
2019	1.31	1.73	1.01	1.18
2020	1.24	1.70	0.95	1.16
2021	2.03	2.02	1.51	1.44
2022	2.16	2.14	1.43	1.58
2023	1.92	2.10	1.30	1.52

Data Source: Organized from the annual reports of China Railway Construction Corporation and CRCHI using Tonghuashun software.

Post-spin-off, CRCHI's current ratio and quick ratio significantly improved. The current ratio rose from 1.24 in 2020 to 1.92 in 2023, enhancing its short-term debt repayment ability. The rising quick ratio also indicates improved immediate debt-paying capacity. The spin-off brought in funds that supported CRCHI's short-term debt repayments and long-term R&D innovations, strengthening its financial position for future growth.

From 2017 to 2023, CRCHI's current ratio and quick ratio showed a high degree of consistency, with a significant decline observed in 2022-2023. This decline was mainly driven by an increase in accounts payable and non-current liabilities due within one year, leading to a higher proportion of current liabilities year on year, which intensified the issue of liquidity shortages. However, the spin-off and subsequent listing of CRCHI helped improve its short-term debt repayment capacity to some extent. After the spin-off in 2021, CRCHI received substantial cash flow, boosting its short-term debt-paying ability and aligning its financial status with the industry average, showing notable improvement in its financial health.

5.2.2. Long-term Debt Repayment Ability Analysis

Table 7. Long-term Debt Repayment Indicators of CRCHI and the Industry from 2017 to 2023

Report Period	Debt-to-Asset Ratio	Industry Average
2017-12-31	48.79%	49.62%
2018-12-31	41.93%	51.94%
2019-12-31	52.86%	52.72%
2020-12-31	51.37%	53.78%
2021-12-31	37.38%	51.75%
2022-12-31	34.81%	49.62%
2023-12-31	34.93%	46.70%

Data Source:Organized from the annual reports of China Railway Construction Corporation and CRCHI using Tonghuashun software.

From 2017 to 2023, CRCHI’s debt-to-asset ratio generally hovered around 50%, but after the spin-off and listing, it dropped significantly, reaching 34.93% by the end of 2023, a decrease of 16.44 percentage points. This reduction reflects an optimization of CRCHI’s capital structure, enhancing its financial flexibility. The lower debt ratio allows CRCHI to allocate more funds toward research and development (R&D), strengthening its industry position. Compared to its parent company, CRCHI's debt ratio is notably lower, ensuring stable operations. With the IPO financing of 3.688 billion RMB, CRCHI improved its borrowing capacity, supporting future business expansion and enhancing its competitiveness in the market.

In summary, the spin-off and IPO have significantly strengthened CRCHI's financial situation by reducing its debt-to-asset ratio, improving liquidity, and providing more capital for R&D. These improvements position the company for greater growth and stability in the competitive market. After CRCHI was spun off and listed on the STAR Market (Sci-Tech Innovation Board) in June 2021, its asset-liability ratio from 2017 to 2023 remained stable at around 50%, which is considered healthy and reasonable. From 2022 onwards, the asset-liability ratio significantly decreased, falling well below the industry average, indicating a notable improvement in debt repayment capacity. The spin-off listing strategy has effectively optimized CRCHI’s financial structure and improved its debt repayment capacity.

Overall, both short-term and long-term debt repayment capacities of CRCHI, after its spin-off and listing, have shown significant improvement. This not only validates the company’s previous expectations but also further proves the effectiveness of the spin-off listing strategy in optimizing the company’s financial structure and enhancing debt repayment ability.

5.2.3. Profitability Analysis

Table 8. CRCHI’s Profitability Indicators

Reporting Period	Net Profit (Billion CNY)	Return on Equity (ROE)	Net Profit Margin	Return on Total Assets	Basic EPS (CNY)
2017-12-31	1.137	15.51%	17.10%	14.83%	-
2018-12-31	1.607	18.74%	20.26%	10.24%	-
2019-12-31	1.530	21.51%	21.01%	9.81%	0.40
2020-12-31	1.568	20.55%	20.60%	9.73%	0.41
2021-12-31	1.736	15.53%	18.24%	8.74%	0.38
2022-12-31	1.844	12.48%	18.26%	7.94%	0.35
2023-12-31	1.594	9.98%	15.90%	6.48%	0.30

Source:Tonghuashun Software, organized data from China Railway Construction Corporation (CRCC) and CRCHI’s annual reports.

Profitability is the core competency of enterprise development, and it is essential to support the growth of enterprises in all dimensions[5].CRCHI is a leading enterprise in the high-end equipment sector. The market concentration in intelligent equipment manufacturing is high, and its financial indicators are superior to those of the parent company. Although the spin-off listing was recent and economic effect analysis is limited, the 2021-2023 annual reports show that its return on equity (ROE) is higher than the industry average, and its profitability and self-financing ability have been strengthened in the short term. Revenues from various business segments have seen significant growth, core technical capabilities have strengthened, and the company is in step with industry trends. Overseas business has continued to grow, with outstanding performance in several international markets, and the company is expected to achieve a new leap forward in the future.

5.2.4. Operational Efficiency Analysis

Table 9. CRCHI's Operational Efficiency Indicators

Reporting Period	Inventory Turnover Ratio	Inventory Turnover Days	Accounts Receivable Turnover Ratio	Accounts Receivable Turnover Days	Total Asset Turnover Ratio
2017-12-31	1.79	200.93	1.51	238.41	-
2018-12-31	2.23	161.33	1.61	233.60	0.505
2019-12-31	2.28	157.99	1.40	257.14	0.467
2020-12-31	2.28	158.19	1.37	262.77	0.472
2021-12-31	2.24	160.70	1.34	268.66	0.479
2022-12-31	1.66	216.62	1.29	279.07	0.435
2023-12-31	1.51	238.52	1.20	300	0.407

Source:Tonghuashun Software, organized data from China Railway Construction Corporation (CRCC) and CRCHI's annual reports.

CRCHI's operational efficiency has shown a stable trend over the past few years. From 2017 to 2020, its inventory turnover ratio fluctuated upward, but it decreased between 2021 and 2023, mainly due to the company's active participation in major "Belt and Road" connectivity projects in 2022, which led to a large purchase of inventory, significantly lowering the inventory turnover ratio. However, from a long-term perspective, the company's ability to monetize its products has still improved.

Before the spin-off, CRCHI's accounts receivable turnover ratio decreased from 2019 to 2020, possibly due to an increase in accounts receivable growth rate exceeding the growth rate of operating income in 2019. After the spin-off, the accounts receivable turnover ratio continued to decrease, indicating the company's emphasis on receivables collection, thereby ensuring stability in its operations.

Table 10. CRCHI's Operational Efficiency Indicators

Reporting Period	2017	2018	2019	2020	2021	2022	2023
Inventory Turnover Ratio	1.79	2.23	2.28	2.28	2.24	1.66	1.51
Industry Average	3.51	3.71	3.56	3.96	4.15	3.4	3.5
Accounts Receivable Turnover Days	238.41	233.6	257.14	262.77	268.66	279.07	300
Industry Average	150.56	128.27	120.64	110.76	113.88	150.98	154.33

Source: Tonghuashun Software, organized data from China Railway Construction Corporation (CRCC) and CRCHI's annual reports.

Given that CRCHI's main customers are large state-owned enterprises, such as subsidiaries of China Railway Construction Corporation, its collection risk is relatively low, and its operational efficiency has not experienced significant fluctuations.

From 2018 to 2023, CRCHI's accounts receivable turnover days were lower than the industry average, thanks to its good management practices and stable customer base. The inventory turnover ratio was also low due to factors such as high product customization, long acceptance cycles, and high unit prices, as well as differences in production and sales characteristics among companies.

5.3. Strategic Effectiveness Analysis

CRCHI follows the national innovation-driven strategy, with clear goals focused on technological innovation, business layout, and market expansion. The company plans to increase its R&D investment, consolidate mature industries, and enter new emerging fields, maintaining its domestic leadership while expanding into overseas markets.

5.3.1. Market Expansion Analysis

After the spin-off and listing, CRCHI optimized its industrial structure, focusing on high-margin products, accelerating localization and upgrading, and enhancing profitability. Leveraging the national "Belt and Road" strategy, the company successfully expanded its overseas business, with steady growth in overseas revenue, particularly a strong rebound in 2022 after the pandemic, further solidifying its position in international markets.

Table 11. CRCHI's Domestic and Overseas Sales Revenue and Proportion (in Billion CNY)

Year	2017	2018	2019	2020	2021	2022	2023
Domestic	64.21	77.99	70.87	70.16	92.96	90.71	93.44
Overseas	2.31	1.32	1.95	5.95	1.51	9.86	6.31
Total	66.52	79.31	72.82	76.11	94.47	100.57	99.75

Source: Tonghuashun Software, organized data from China Railway Construction Corporation (CRCC) and CRCHI's annual reports.

In 2022, CRCHI actively expanded its overseas business, successfully establishing several regional operating divisions, and its products are now available in 184 countries and regions worldwide. Looking ahead, with the increasing number of tunnel construction projects in India, the Middle East, and Southeast Asia, tunnel boring machine (TBM) business in these regions is expected to become a key driver of global TBM market growth. To this end, CRCHI is continuously optimizing its overseas operations network and models, carefully evaluating and clarifying the regions and forms of its upcoming overseas operational institutions.

5.3.2. R&D Investment Analysis

Table 12. CRCHI's R&D Investment Analysis (in Billion CNY)

Reporting Period	R&D Investment	R&D Investment Proportion of Revenue
2017-12-31	0.407	6.12%
2018-12-31	0.411	5.18%
2019-12-31	0.468	6.43%
2020-12-31	0.553	7.27%
2021-12-31	0.678	7.12%
2022-12-31	0.928	9.19%
2023-12-31	0.881	8.79%

Source: Tonghuashun Software, organized data from China Railway Construction Corporation (CRCC) and CRCHI's annual reports.

CRCHI relies on technology projects, closely aligning with market needs, continuously innovating and transforming achievements, and enhancing its brand influence. After the spin-off and listing, R&D investment continued to grow, with its proportion of revenue rising from 6.12% in 2017 to 9.19% in 2022, highlighting the company's strong emphasis on R&D.

5.3.3. Business Layout Analysis

Since its listing on the STAR Market in 2021, CRCHI has expanded its market influence, consolidating its three mature industries while venturing into emerging industries. The company is focusing on new industries and new markets, enhancing its R&D capabilities, and optimizing its industrial structure. After the spin-off, business growth points have been reflected in the expansion of emerging industries, the development of new businesses, and the optimization and upgrading of mature industries. The company continues to develop new products, responding to national infrastructure policies, with increasing investments in high-margin industries, leading in product sales.

5.4. Comparison of Actual Results and Driving Factors Analysis

After the spin-off, CRCHI has achieved its financing and strategic goals, as evidenced by improvements in profitability, debt repayment capacity, and growth ability. However, compared with the pre-spin-off expectations, its operational capacity still lags behind. The following section will delve into the reasons behind these differences.

5.4.1. Achievement Analysis

In terms of financing, CRCHI successfully achieved its expected goals through the spin-off listing. The company raised 7.787 billion CNY, easing the parent company's financing burden, enhancing its financing ability, and diversifying its financing channels. The raised funds adequately met the company's operational needs and increased investment in innovation, providing a solid financial foundation for its R&D and production activities.

However, in terms of market value, the spin-off listing did not fully meet expectations. While CRCHI's market value increased in the short term, the long-term impact has been less significant. The stock price has continued to decline, and investors have remained cautious about the spin-off listing, which has led to the company's true value being underestimated by the market.

In terms of financial indicators, CRCHI performed excellently post-spin-off, with significant improvements in profitability, debt repayment capacity, and growth ability. The company achieved double growth in revenue and profits, greatly alleviating financial pressure and significantly enhancing its debt repayment capacity. The company's asset-liability ratio has decreased, while its liquidity and quick ratios have improved, demonstrating its sustained growth ability. However, due to lapses in accounts receivable management, its operational efficiency indicators did not show significant improvements, falling short of the expected goals.

In terms of strategic effects, CRCHI's performance post-spin-off has met its expected goals. The company has consistently increased R&D investment, successfully overcoming several key core technologies. Additionally, the company has actively expanded into emerging industries, optimized its industrial structure, and achieved remarkable results in expanding its overseas markets, with strong growth in overseas business.

5.4.2. Operational Capacity Gap Analysis

From 2017 to 2023, China Railway Construction Corporation's accounts receivable increased year by year. After China Railway Construction Corporation went public in 2021, its market expansion ability continuously strengthened. Along with the increase in operating income, accounts receivable also rose. Furthermore, due to the long completion cycle of products, it often resulted in longer-aging accounts receivable. This, in turn, led to an increase in collection costs and bad debt losses, weakening asset liquidity.

Table 13. Aging Structure of Accounts Receivable of CRCHI in 2017-2023(Units: 10,000 Yuan)

Aging Period Within	1 Year	1-2 Years	2-3 Years	3-5 Years and Above	Total
2018-12-31	2,776.46	1,001.49	284.01	185.70	4,247.65
2019-12-31	3,151.30	816.52	454.63	309.00	4,731.45
2020-12-31	4,664.28	897.76	340.92	350.79	6,253.76
2021-12-31	5,366.85	1,657.40	299.98	623.29	7,947.52
2022-12-31	5,467.34	1,194.99	598.75	323.30	7,584.39
2023-12-31	6,470.47	1,671.13	393.44	443.05	8,978.09

Data Source: The annual report data of China Railway Construction Corporation and CRCHI.

From 2018 to 2023, China Railway Construction Corporation's accounts receivable aged over one year were large and accounted for a high proportion, reflecting inefficient use of funds. The main reasons include the expansion of the business scale, an imperfect debt collection mechanism, and credit sales policies. High accounts receivable affects cash flow. Although other financial indicators improved after the spin-off listing, improving operational capacity-especially strengthening accounts receivable management-is crucial for long-term development.

6. Conclusion

This paper starts with an analysis of the motivation behind the spin-off listing of China Railway Construction Corporation, exploring its financing situation, short-term stock price fluctuations, long-term market feedback, operational performance, and strategic development effects. The aim is to investigate whether the spin-off listing has had a significant positive impact on China Railway Construction Corporation. By applying event study methods and financial ratio analysis, a comprehensive assessment of the short- and long-term effects of the spin-off listing on China Railway Construction Corporation was conducted. The results show that the spin-off listing has had a very positive impact on China Railway Construction Corporation. Through the spin-off listing, China Railway Construction Corporation successfully expanded its financing channels, further focused on the development of its core businesses, and effectively expanded both domestic and international markets. After the spin-off, its overseas market was also effectively expanded. Its global overseas network layout and operational model have become increasingly refined. In 2023, its overseas sales revenue experienced significant growth, with both domestic and overseas market share continuing to expand. The overseas market has already become an important force driving the growth of China Railway Construction Corporation performance.

Acknowledgments

This work was supported by the Fund project: Guangzhou Business School 2022 School-level Quality Engineering Construction Project "Teaching and Research Department of money and Banking " (2022ZLGC12) and Guangzhou College of Commerce 2022 Quality Project: Discussion on Teaching Reform of Principles of Accounting Course under the Concept of Curriculum Civics and OBE Education (2022JXGG48).

References

- [1] Wei Yong, Ma Wanwan. Research on Spin-off Listings of State-Owned Enterprises—A Case Study of Waigaoqiao Spin-off Changlian Shares. *New Accounting*, 2020(06): 40-45.

- [2] Zhao Tuanjie, Fu Yuanjiao, Zhang Xiaolu Motivation and Performance Analysis of Enterprise Spin off Listing: Taking China Railway Construction Corporation's Spin off of China Railway Construction Heavy Industry as an Example. *New Accountant*, 2023, (05): 28-32.
- [3] Feng Fengying. Case study on the spin off of China Railway Construction Corporation and the listing of China Railway Construction Heavy Industry Corporation. *China Academy of Fiscal Sciences*, 2024.
- [4] Lou Qingxian. A Study on the Motivation of Spin-off Listings and Their Impact on Profitability. *Economist*, 2022(03): 89-91.
- [5] Wang Ran. Case study on the spin off and listing of China Railway Construction Heavy Industry Corporation. *South China University of technology*, 2023.