Analysis of Investment and Financing Decision of Dong Bo Bio Corporation based on Financial Statement Restructuring Perspective

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Abstract. Based on Yongqing Guo's financial statement reconstruction theory, this study systematically analyzes Dong Bo Bio Corporationlogical Company's investment and financing activities from 2014 to 2023, aiming to reveal its core problems in asset allocation, capital structure and efficiency, and to provide references for the enterprise's optimization decisions. The study adopts the financial statement reconstruction method to reconstruct the balance sheet into an asset-capital statement, and combines with the cash flow statement to analyze the resource allocation and benefits. The results show that Dong Bo Bio Corporationlogical Company's asset size grows 18.7% annually, but the proportion of financial assets is more than 30%, and the rate of return is less than 2%; the proportion of debt financing is increased to 20%, and the cost of financing is lower, but the increase in the value of equity is mostly negative. The return on operating assets is 9.34% and 9.57% in 2022 and 2023 respectively, and the return on long-term equity investment is as low as -18.51% in 2023. The study shows that there is room for optimization in asset allocation and capital structure of Dong Bo Bio Corporationlogical Company, and it is suggested that the enterprise value can be further enhanced by dynamically adjusting the asset structure, optimizing the proportion of debt financing, and improving the scientificity of investment decisions.

Keywords: asset allocation; investment and financing decisions; financial statement restructuring

1 Introduction

Investment and financing activities are the core means for modern enterprises to achieve strategic goals, optimize resource allocation and enhance competitiveness, but the decision-making is complex and involves various factors such as finance, market and strategy. In recent years, scholars have conducted extensive research on investment and financing decisions and financial analysis. JinFeng Yuan and Jie Zhang (2022) analyze the rationality of investment and financing decisions of construction enterprises in combination with the balance sheet [1]; Youhua Li et al. (2021) and Qiuhong Gu (2024) emphasize the importance of identifying enterprise risks and optimizing

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capital structure through the analysis of financial indicators from the perspectives of risk evaluation and cost management, respectively [2-3]. In addition, foreign scholars Ellili (2022) concluded that FRQ is positively related to investment efficiency through empirical evidence[4], while Olayinka (2022) explored the role of FSA on investment and financing decision-making by analyzing the financial data of Nestlé Nigeria and found that it can effectively improve the quality of decision-making and profitability[5]. However, most of the existing studies regard investment and financing as independent behaviors and lack systematic analysis. In Financial Statement Analysis and Stock Valuation, Yongqing Guo proposes to reconstruct financial statements and systematically analyze investment and financing activities to provide scientific tools for decision-making. As an industry leader, Dong Bo Bio Corporation is representative of its investment and financing decisions. This paper introduces Yongqing Guo's method and takes Dong Bo Bio Corporation as an example to analyze the financial dimensions of its investment and financing activities, assess the rationality of decision-making and potential risks and benefits, and provide reference for enterprises.

2 Reconstruction of the balance sheet of Dong Bo Bio Corporationlogicals

This paper takes Baotou Dong Bo Bio Corporationtechnology Co., Ltd (Company Code: 300239, hereinafter referred to as "Dong Bo Bio Corporationtechnology") as the research object and conducts a single case analysis. The data used are from CSMAR database and Dongbao's annual reports and interim announcements. The timeframe of the study covers ten years from 2014 to 2023.

2.1 Company Profile

Baotou Dong Bo Bio Corporation-technology Co., Ltd. was established in 1997, formerly known as Donghe District White Gelatin Factory in 1960, mainly engaged in the research and development, production and sales of gelatin, collagen and its derivatives, with the business covering the TOB end (pharmaceutical excipients, medical collagen) and the TOC end (“collagen +” series, to meet the needs of health). After more than 60 years of development, the company has become a leading enterprise in the collagen industry, reorganized the Baotou Fine Gelatine Factory to establish “Baotou Dongbao (Group) Gelatine Company Limited” in 1997, invested 200 million yuan to build a new factory with an annual output of 3,000 tons of gelatine in Baotou Rare Earth Hi-Tech Zone in 2004, and renamed to the current name in 2010 and listed on the Shenzhen Stock Exchange in 2011. In 2010, the company changed its name to the current one and was listed on the Shenzhen Stock Exchange in 2011. In recent years, the company has built a synergistic health industry pattern around “natural collagen” and formed a perfect product layout.

2.2 Preparation of the Statement of Assets and Capitalization

The standard balance sheet has some obvious drawbacks: the classification is highly subjective, ignores the liquidity of assets, has an unclear logical relationship with the statement of cash flows, does not effectively reflect the logic of operating and financing activities, and does not take into account the cost of funds for liabilities. In this paper, we refer to Prof. Yongqing Guo's book "Financial Statement Analysis and Stock Valuation" which restructures the balance sheet according to the classification of activities in the cash flow statement.

In the restructuring program, assets are no longer classified on the basis of liquidity, but are reclassified as financial assets, operating assets, and long-term equity investments based on the manner in which they generate economic benefits. Correspondingly, capital is categorized into shareholders' equity and debt (both short-term and long-term) based on its source and maturity. This categorization allows the statement of assets and capital to clearly show the company's investment and financing strategy and future development direction. Meanwhile, the scale of debt financing and equity financing revealed by cash flow from financing activities corresponds to debt and shareholders' equity in the statement of assets and capital, respectively. Reconstructing the balance sheet of Dong Bo Bio Corporation according to this idea, the results are shown in Table 1.

Table 1. Summary Capitalization of Dong Bo Biological Assets

reporting year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
(1) Total financial assets	5028.62	25490.41	14398.12	5618.24	10292.34	7063.22	4984.84	24743.4	39817.52	78895.2
Percentage of financial assets	11.10%	36.08%	20.03%	7.42%	12.51%	6.66%	4.47%	14.96%	20.41%	33.40%
(2)Long-term equity investments			229	400.4	694.33	2116.71	2522.09	2926.08	2269.45	1882.58
Percentage of long-term equity investments			0.32%	0.53%	0.84%	2.00%	2.26%	1.77%	1.16%	0.80%
(3)Total operating assets	40289.88	45164.22	57258.89	69681.07	71302.09	96863.49	104107.4	137748.12	153007.35	155469.81
Operating assets as a percentage	88.90%	63.92%	79.65%	92.05%	86.65%	91.34%	93.27%	83.27%	78.43%	65.81%
Of which: working capital	43.37%	32.10%	12.58%	6.30%	0.03%	15.73%	12.75%	17.15%	21.96%	16.16%
Long-term operating assets	56.63%	67.90%	87.42%	93.70%	99.97%	84.27%	87.25%	82.85%	78.04%	83.84%
(4) Total assets	45318.5	70654.63	71886.01	75699.71	82288.76	106043.42	111614.33	165417.6	195094.32	236247.59
(5)Short-term debt	11262.91	0	0	324.22	5650.8	4156.99	10995.99	5051.63	4308.76	646.02
(6)Long-term debt	0	0	0	2400	1550	2700	800	0	15200	46282.28

(7) Interest-bearing debt	11262.91	0	0	2724.22	7200.8	6856.99	11795.99	5051.63	19508.76	46928.3
Interest-bearing debt ratio	24.85%	0.00%	0.00%	3.60%	8.75%	6.47%	10.57%	3.05%	10.00%	19.86%
(8)Total shareholders' equity	34055.58	70654.62	71886	72975.48	75087.95	99186.44	99818.32	160365.98	175585.54	189319.3
Equity capital ratio	75.15%	100.00%	100.00%	96.40%	91.25%	93.53%	89.43%	96.95%	90.00%	80.14%
(9) Total capital	45318.49	70654.62	71886	75699.7	82288.75	106043.43	111614.31	165417.61	195094.3	236247.6
Net long-term financing	4686.39	25490.4	14398.11	5614.01	6282.2	5962.47	-4106.86	19691.78	39610.43	78311.16
Rate of return on financial assets		0.35%	1.57%	1.26%	0.85%	0.95%	-0.06%	1.53%	1.43%	0.99%
Return on long-term equity investments		0.00%	0.00%	-0.03%	-0.01%	-2.25%	-3.61%	-7.05%	-6.50%	-18.51%
Return on operating assets		3.33%	3.72%	4.02%	5.93%	4.86%	2.64%	3.81%	9.34%	9.57%
financial leverage	1.33	1.00	1.00	1.04	1.10	1.07	1.12	1.03	1.11	1.25

3 Analysis of the capitalization table of Dong Bo Bio Corporation-assets

3.1 Trend Analysis of the Statement of Assets and Capitalization

Dong Bo Bio Corporation's Asset and Capital Table 1 for 2014-2023 shows that the company's total assets grew from 4.532 billion yuan to 23.625 billion yuan, with significant expansion in asset scale. The scale of financial assets fluctuates greatly, reaching 789 million yuan in 2023, but the rate of return is only 0.99%, much lower than the rate of return on operating assets, indicating that the allocation efficiency of financial assets is low and needs to be further optimized. Long-term equity investment has continued to increase since 2016, but the rate of return drops to -18.51% in 2023, highlighting that the investment strategy needs to be adjusted. Operating assets increased from 4,029 million yuan to 15,547 million yuan, with yields of 9.34% and 9.57% in 2022 and 2023, respectively, indicating an improvement in the efficiency of operating assets. Shareholders' equity increased from 3.406 billion yuan to 18.932 billion yuan, becoming the main source of funding for the company's expansion. The size of interest-bearing debt increased significantly after 2022, reaching 469 million yuan in 2023, but interest expense did not rise significantly due to the issuance of low-interest rate convertible bonds. Net long-term financing is positive except for 2020, reaching 783 million yuan in 2023, indicating the company's strong long-term capital raising ability and low financial risk. Overall, Dong Bo Bio Corporation needs to optimize its financial asset allocation and long-term equity investment strategy in order to improve its return on assets and return to shareholders.

3.2 Analysis of the Structure of the Statement of Assets and Capitalization

As can be seen from Table 1, the proportion of Dong Bo Bio Corporation's operating assets fluctuates from 88.90% in 2014 to 65.81% in 2023, which is still dominant, in line with the characteristics of the real economy. The proportion of financial assets declined after reaching a high of 36.08% in 2015, and rebounded to 33.40% in 2023, which may restrict the improvement of yield. Although the proportion of long-term equity investment is low, the fluctuating growth reflects the outward investment strategy. Among the operating assets, long-term operating assets account for a large proportion, showing that the company has strengthened its core business investment.

In terms of capital structure, the interest-bearing debt ratio will be 19.86% in 2023, and the equity capital ratio will be 80.14%, with capital mainly derived from shareholders' equity. Financial leverage is 1.25, with conservative debt utilization and low financial risk. The company's financial investments and long-term equity investments are small, and operating assets have grown significantly (4.7 times), highlighting the emphasis on operating assets. The sources of funding and performance of strategic investments are analyzed below.

4 Analysis of Strategic Investment and Financing Activities

4.1 Dong Bo Bio Corporation has Implemented an Expansionary Investment Strategy

Table 2 shows the analysis of Dong Bo Bio Corporation's strategic investment activities and its sources of funds. The data shows that Dong Bo Bio Corporation's strategic investment shows obvious stage characteristics during 2014-2023.In 2015, the company made a large-scale investment in long-term assets amounting to RMB 84,427,100, mainly for the construction project of new process gelatin with an annual production capacity of 3,500 tons (with a total investment of RMB 250 million).In 2016, the investment in this project increased to RMB 119 million, and the amount of new investment in long-term assets rose to 135,132.6 million yuan, indicating that the company adopted an aggressive expansion strategy in these two years.After 2021, the company shifted to merger and acquisition integration, and the net consolidation increased significantly. The proportion of expansionary capital expenditures on long-term assets was higher in 2015 and 2016, and then gradually decreased, indicating that the company shifted from rapid expansion to a steady growth model.Before 2020, Dong Bo Bio Corporation was mainly based on self-operated expansion, while the growth of net consolidation in 2021 and 2022 showed that its expansion strategy increased its strategy of mergers and acquisitions of subsidiaries. After a decade of rapid growth, Dong Bo Bio's pace of expansion slows down in 2023.

In addition, Dong Bo Bio Corporation's cash self-sufficiency ratio is greater than 1 in 2018 and 2023, indicating that net cash flows from operating activities are better able to meet strategic investment funding needs. However, fluctuations in the cash self-sufficiency ratio reflect changes in the financial pressures faced by the company. Thanks to the large size of its financial assets (especially in 2022 and 2023), the company has strong liquidity and financial flexibility. Funding needs are negative only in 2014, 2017 and 2019, and no external funding is required in the remaining years, but the company still obtains funds through bank borrowings, issuance of convertible bonds and shares in terms of cash flows generated from funding needs.

Table 2. Analysis of Dong Bo Bio's strategic investment activities and their sources of funding

reporting year (all units are in millions of yuan)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
(1) Net investment in long-term assets	1394.35	8442.71	15772.96	10374.39	5523.33	12928.88	15190.12	5040.34	10773.72	13200.08
(2) New investments in long-term assets	-196.82	6618.03	13513.26	7522.75	1893.6	9550.05	10321.32	-495.99	2195.31	4953.99
(3) Proportion of expansionary capital expenditures on long-term assets		29.01%	44.06%	15.03%	2.90%	13.40%	12.65%	-0.55%	1.92%	4.15%
(4) Net consolidation								10807.5	12233.88	
(5) Consolidated cash requirements for strategic investments	1394.35	8442.71	15772.96	10374.39	5523.33	12928.88	15190.12	15847.84	23007.6	13200.08
(6) Net cash flows from operating activities	-1223.68	4557.41	4053.76	-311.7	6000.13	-4163.31	6312.96	5150.11	19531.75	19939.43
(7) Cash self-sufficiency rate	-87.76%	53.98%	25.70%	-3.00%	108.63%	-32.20%	41.56%	32.50%	84.89%	151.06%
(8) Funding requirements	-2618.03	9,115.36	8,107.78	-623.43	12,001.35	-8,326.94	12,626.34	10,300.54	39,064.35	39,880.37
(9) Net cash flows from financing activities	-1525.67	24294.44	523.19	1931.72	1113.94	16775.23	8962.21	26103.62	17508.31	30586.92

4.2 Dong Bo Bio Corporation has Adopted Various Ways to Meet the Financial Needs of its Strategic Investment Activities

Table 3 shows the net funds raised by Dong Bo Bio Corporation from shareholders and creditors at the company level. (1), (2) for the fund-raising activities between shareholders, shareholders net fund-raising = cash received from absorbing investments - dividends and profits distributed by listed companies - dividends and profits paid by subsidiaries to minority shareholders; (4), (5), (6) for the fund-raising activities between creditors, net fund-raising from debt = cash received from obtaining borrowings

+ cash received from bond issuance - cash paid for repaying debt - cash paid for interest repayment, which are not shown in the following table because two of them do not involve transaction amounts. Cash received from debt repayment - Cash paid for interest repayment, which is not shown in the table below as two of them do not involve transaction amounts. Table 3 shows that in 2015, 2019 and 2021, the Company received significant cash inflows through investment absorption, and bank borrowing and repayment activities in all years except 2014 and 2016, and the size of new borrowings was generally larger than repayments, indicating that debt financing is an important source of funds. In addition, the company has made dividend distributions in every year except 2021, which was affected by the epidemic, reflecting ample funds to support production expansion, debt repayment and shareholder returns.

Table 3. Analysis of sources of funding for Dong Bo Bio Corporation

reporting year (all units are in millions of yuan)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
(1) Cash received from absorption of investments		36405.18			845.52	22220	750	39863.61	4038	30
(2) Distribution of dividends and profits by listed companies	1580.38	395.1	691.31	1152.19	1382.62	1571.98	1568.24		1568.24	1568.24
(3) Net financing by shareholders	-1580.38	36010.08	-691.31	-1152.19	-537.1	20648.02	-818.24	39863.61	2469.76	-1538.24
(4) Cash received from acquisition of loans		11000		2800	4000	7900	14780	8480	21005	44705
(5) Cash paid for debt repayment		22000		80	770	7500	4150	20980	6710	14798.33
(6) Cash paid for interest reimbursement	145.29	1065.64	-264.5	-412.71	-106.2	381.04	491.36	573.08	-446.79	560.04
(7) Net debt financing	-145.29	-12065.6	264.5	3132.71	3336.2	18.96	10138.64	-13073.1	14741.79	29346.63

4.3 Benefit Analysis of Fund-raising Activities

Benefits analysis of debt financing Table 4 shows the cost of capital calculation and analysis of Dong Bo Bio Corporation. From Table 4, the interest-bearing debt of Dong Bo Bio Corporation grows from 112,629,000 yuan in 2014 to 469,283,000 yuan in 2023, but the proportion of debt funding is only 20% in 2023, while the proportion of equity funding is as high as 80%. This indicates that the company relies heavily on equity financing, assuming an expected return to shareholders of 8%. The pre-tax cost of debt capital has significantly decreased from 6.20% in 2014 to 1.55% in 2023, and the after-tax cost of debt funding has also decreased from 5.38% to 1.36%, indicating a significant reduction in the cost of debt financing for the company. The weighted average cost of funds was 7% in 2023, a slight increase from the previous year, but overall remained at a low level, reflecting effective control of the Company's cost of funds. Interest expense was 3,076,600,000 yuan in 2018 and increased to

5,140,200,000 yuan in 2023, in line with the growth of interest-bearing debt. This indicates that the company has successfully maintained a low cost of financing while expanding its debt scale, and that debt capital provides strong support for the company's financial health and future development.

Table 4. Calculation of the cost of capital for Dong Bo Bio

Reporting year (all units are in millions of yuan)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
(1) Interest expense					307.66	128.96	587	477.54	762.8	514.02
(2) Interest-bearing debt	11262.9			2724.22	7200.8	6856.99	11795.9	5051.63	19508.7	46928.3
(3) Pre-tax cost of debt capital					6.20%	1.83%	6.29%	5.67%	6.21%	1.55%
(4) After-tax cost of debt financing					5.38%	1.63%	5.82%	4.89%	5.45%	1.36%
(5) Debt-financing ratio	25%	0%	0%	4%	9%	6%	11%	3%	10%	20%
(6) Proportion of equity funds	75%	100%	100%	96%	91%	94%	89%	97%	90%	80%
(7) Weighted average cost of funds	6%	8%	8%	8%	8%	8%	8%	8%	8%	7%

Benefits analysis of equity financing Value added of equity is a key indicator of the value created by an enterprise for its shareholders, reflecting the true profit of the enterprise after all costs have been deducted. If the indicator is positive, it indicates that the enterprise has created additional value and shareholder wealth and company value have increased; on the contrary, if it is negative, it means that shareholder value has decreased and enterprise value has shrunk. According to the formula "Increase in equity value = net profit - (equity capital × expected return to shareholders)", Dong Bo Bio Corporation, except for 2020, which was affected by the epidemic, the remaining years of the indicator is negative, but the extent of the shrinkage of shareholders' wealth is on a decreasing trend, which shows that the company continues to optimize its business strategy and improve its operational efficiency, and is expected to achieve the goal of creating value for its shareholders, reflecting that the company is constantly optimizing its business strategy and improving its operational efficiency. shareholders, reflecting the enhancement of corporate value and market competitiveness.

5 Conclusion

Dong Bo Bio Corporation's investment and financing activities in the past ten years have been strategic but still need to be optimized. It is recommended to optimize asset allocation, reduce the proportion of financial assets from 33.4% to 20%-25%, adjust the direction of long-term equity investment, increase the proportion of debt financing and optimize the debt maturity structure, so as to enhance the return rate of shareholders and the ability to repay debts. At the same time, we will establish a scientific project evaluation system, introduce external expert evaluation, focus on post-investment integration and management, and improve the quality of investment decisions; flexibly utilize a variety of financing methods to reduce financing costs, explore innovative financing channels, and improve the efficiency of fundraising; establish a risk early warning mechanism, improve corporate governance and internal control, and strengthen risk management; clearly define the strategic objectives of the 3-5 year period, increase investment in research and development, promote technological innovation, and strengthen the construction of talent teams to enhance market competitiveness. Talent team construction, and enhance market competitiveness. Through these measures, Dong Bo Bio Corporation can further enhance its market competitiveness and sustainable development ability, and create greater value for shareholders.

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