

Financial Analysis of Industrial Metallurgical Industry Based on Harvard Analysis Framework after RCEP

Qishuo Zhu^{1,a,*}

¹*School of Business, Nanjing Audit University, Nanjing 211815, China
a. 211030339@stu.nau.edu.cn*

**corresponding author*

Abstract: On January 1, 2022, the Regional Comprehensive Economic Partnership Agreement (RCEP) officially entered into force, and a total of 15 member countries, including China, Japan, South Korea, Australia, New Zealand and ten ASEAN countries, officially started to implement the agreement. The successful signing of RCEP marks the establishment of the world's largest FTA, which will significantly reduce tariffs among member countries and also promote the opening of markets among member countries, thus boosting trade among countries to cope with the downward economic pressure. In recent years, China's economic development has placed more emphasis on high quality, emphasizing that green water and green mountains are golden mountains, and protecting the environment stands on an equal footing with development. Under the influence of many factors such as the entry into force of RCEP and China's new development pattern, how to transform heavy polluters in line with the trend has become an intense and urgent issue. Here the author uses the Harvard analytical framework to select A-share listed Baowu Group for analysis and exploration, focusing on Baowu Group's financial and development status after the merger and how to cope with environmental expenditure audits in the context of RCEP policy.

Keywords: regional comprehensive economic partnership agreement, Baowu Group, harvard analysis

1. Introduction

With the rapid development of economic globalization, the traditional financial analysis framework is no longer sufficient to meet the requirements of enterprises in various industries for the precise assessment of the company's operating conditions and risks [1-3]. So, three scholars from Harvard created a new system based on strategic analysis, supported by accounting and financial analysis, and summarized by prospect analysis, called the "Harvard analysis framework" at the beginning of the 21st century [4-6]. This analysis framework can not only visually reflect the flow of funds and business conditions, but also reflect the objective impact on the future development trend of the company due to the fluctuation of external factors, and the company can also make the right business strategy based on this analysis to better avoid risks [7].

China Baowu Group Corporation is an important state-owned backbone enterprise directly managed by the Central Committee of the Communist Party of China and headquartered in Shanghai. In 2020, it was included by the State-owned Assets Supervision and Administration Commission of

the State Council in the CPC Central Committee to create a world-class model enterprise, and in June 2022, it was officially transformed into a state-owned capital investment company. In 2021, the asset size reached 111,784 million yuan, steel production was 119,400 million tons, total business income was 972,258 million yuan, total profit was 60,224 million yuan, and the total number of employees was 222,500. Ranked 44th in the Fortune 500 list for 2022, ranking first among global steel companies [8].

The company focuses on the manufacturing of steel products, as the supply-side structural reform requires enterprises to complete the five tasks of "three to go, one down, one up", coupled with the "sustainable development" concept and other environmental policies to pressure [9,10]. Baowu Group pays more attention to technological innovation to achieve higher quality development at lower costs, which can also be transferred to invest in environmental protection to further promote the sustainable development of the company. The advanced materials special steel segment (high-performance metal materials), Baogang Metal (light metal materials), Baowu Carbon Industry (new carbon materials), and Wuhan Resistance Materials (new ceramic-based composite materials) units of China Baowu Group are also examples of traditional heavy pollution manufacturing industries taking the initiative to make changes under the new situation, new policies and new background. Due to the official implementation of the RCEP policy, the customer base and business scope of Baowu Group will be further expanded, and the overseas demand for its own products will rise, while the RCEP policy will bring significant tariff reductions for its export products, which will also counteract the rise in Baowu's steel production. At the same time, the accounting and financial analysis of Baowu Group, combined with the audit of its financial reports in recent years, will lead to the trend of its expenditure on environmental protection. Considering the analysis on Baowu Group is still limited, Baowu Group is selected as an example to study its heavy metal industry and further analyze the development prospects of heavy polluting enterprises in the context of RCEP.

2. Financial Analysis System

2.1. Strategic Analysis

Strategic analysis focuses on exploring the internal and external pressures faced by the company from the perspective of data and information collection, while SWOT analysis is the analysis of the development situation based on the internal and external environment and competitive conditions, which can see the company's strengths and weaknesses as well as foresee the threats and challenges that the company will face in its development, and can fully show the situation that the company is in at the moment.

First, advantages. Baowu Group has a long history and rich heritage. The historical beginnings of the Baowu Group can be traced back to the establishment of the steelmaking plant of the Jiangnan Manufacturing Bureau in 1890. After more than 100 years of continuity, Baowu Group has become the de facto controller of Chongqing Iron and Steel Group, hosting Chongyang Iron and Steel Group and Kunshan Iron and Steel Group, with many customers, and is the leading enterprise in China's metallurgical industry; Excellent location and wide market. Baowu Group is located in Shanghai, which is the economic center of China with a high level of economic development and high market demand, as well as convenient transportation in Shanghai, which reduces transportation and production costs. Emphasis on technological innovation. China Baowu Group's advanced materials industry is mainly distributed in the units of special steel plate (high-performance metal materials), Baogang Metal (light metal materials), Baowu Carbon (new type of carbon materials), and Wuhan Resistance Materials (new type of ceramic-based composite materials). The new material application market areas in which each unit within the Group has been involved or is planning are mainly focused on large transportation, including aerospace, rail transportation, automotive, and energy-saving

energy fields. The current new materials business involved in each segment already has a certain manufacturing scale and capacity.

Second, disadvantages. Commodity production is polluting to the environment and is less sustainable. The metallurgical industry is already a heavily polluting industry, and due to the special geographical location of Baowu Group, the environmental protection policy will exert more pressure on its green production, and the manufacturing of steel will inevitably cause irreversible damage to the eco-logical environment, Baowu Group has to invest part of its profits in the field of sustainable development and environmental protection.

Third, opportunities. The state and government introduce relevant policies to support. The change of China's economic growth mode and the increasing adjustment of the economic structure, the independent economic recovery momentum will continue to restore, for Chinese steel enterprises to change the development mode to indicate the way forward; RCEP policy came into effect and tariff reduction drove the company's development. The biggest dividend of RCEP poli-cy is that the trade barriers between member countries are broken, tariff reduction to ninety percent or even zero tariff, which is undoubtedly an unmissable development opportunity for the large heavy industry, which has a direct impact on Baowu Group is a linear increase in the amount of profit, and the company management will make investment decisions in other sustainable development areas.

Fourth, threats. Environmental protection policies continue to be under pressure. China's current industrial policy is accelerating the transformation of the economy from the previous high-speed growth to high-quality development, it can be expected that in the past 5 to 10 years, the heavy pollution industry, especially the metallurgical industry will usher in a great update of production technology and materials, the development of lower energy consumption steel smelting technology, then Baowu Group, as a leading enterprise in the metallurgical industry, is bound to bear the brunt.

2.2. Accounting Analysis

The accounting analysis of Baowu Group is based on the balance sheet, income statement and cash flow statement, and the data is obtained from the annual re-ports of listed companies of Baowu Group (See Table 1, Table 2 and Table 3, respectively).

Table 1: Baowu Group2014—2018 Major Items of Balance sheet.

Balance Sheet Items	2014	2015	2016	2017	2018
Current assets	74.39	69.9	136.8	133.3	120.7
Non-current assets	154.3	164.2	222.3	216.9	215.1
Total assets	228.7	234.1	359.1	350.2	335.9
Current liabilities	89.25	91.86	170.3	163.2	133.7
Non-current liabilities	15.19	20.12	28.51	12.56	12.6
Total liabilities	104.4	112	198.8	175.8	146.3
Owner's Equity	124.2	122.1	160.3	174.5	189.6

Unit: billion

Baowu Group's total assets have generally shown an upward trend in the last five years, with the highest total assets in the five years in 2016, while decreasing year by year in the next two years, but still improving from 2014. Most asset items under assets were slightly up. Current assets increased by an extremely high 95.7% in 2016 compared to 2015, and non-current assets as a whole also trended upwards. Baowu Group's total liabilities first rose and then declined in 2017. The trend of current

liabilities as a percentage of total liabilities has generally increased in the past five years. Owner's equity showed a fluctuating increase, with a more pronounced increase in 2016.

Table 2: Baowu Group 2014—2018 Major Items of Income statement.

Income statement Items	2014	2015	2016	2017	2018
Operating income	187.8	164.1	246.4	289.5	305.5
Net Profit	6.091	0.6456	9.339	20.4	23.04

Unit: billion

Table 3: Baowu Group 2014—2018 Major Items of Cash flow statement.

Cash flow statement Items	2014	2015	2016	2017	2018
Net cash flow from operating activities	28.28	21.18	22.40	33.08	45.57
Net cash flows from investing activities	-18.96	-21.68	-21.56	-11.72	-4.126
Net cash flows from financing activities	-9.534	-1.119	-1.46	-14.38	-45.20

Unit: billion

As can be seen from Table 2, from 2014 to 2018 in the past five years, Baowu Group operating income overall upward trend, including the largest increase in 2016, an increase of 50.15% over 2015, reaching 246.4 billion. The main reason is the healthy development of China's metal smelting industry in 2016, the good operating trend and the national "double carbon policy" to bring unprecedented opportunities for enterprises, enterprises to implement production capacity, production double control policy, industry efficiency improved. In 2015, net profit showed a precipitous decline, after showing a rapid rise. 2015 saw the largest decline, reaching 5.445 billion, and in 2016 reached an upward peak of 8.6934 million. 2016 saw the absorption and merger of Wuhan Iron and Steel Group by Baoshan Iron and Steel Group, realizing a strong union in China's steel industry, and also clearing Wuhan Iron and Steel Group's operating decline in recent years in one fell swoop. Apart from that, the earnings development of Baowu Group is good and rising steadily.

From the analysis of net cash flow in the table, the net cash flow from operating activities of Baowu Group has shown a fluctuating trend in the past five years, with the decline point of net cash flow in 2015. It is understood that in 2015, the global economic growth slowed down, the domestic economy was stable, the overall operation of the steel industry was stable, steel prices fell, raw material prices rose, and the profit level of the steel industry was affected. The net cash flows from investing activities were all negative, showing a stable upward trend from 2016, with a decrease in cash inflows from investing activities and a decrease in investment income in the trough year of 2015. The increase in outflows from investing activities was mainly due to the increase in investments in fixed assets, and the decrease in net increase in cash and cash equivalents was mainly due to the increase in investments in fixed assets. The net amount in financing activities was negative from 2014 to 2018.

2.3. Financial Analysis

The operational efficiency of a company is closely related to the speed of turnover of capital, inventory and assets, with high efficiency, fast operation and better business (See Table 4).

The higher the accounts receivable turnover ratio and inventory turnover ratio, the better the company is running, and both figures of Baowu Group show fluctuations. The overall trend of

accounts receivable turnover is decreasing. And the inventory turnover ratio generally increasing, reaching a peak in 2018. The over-all increase in the total asset turnover ratio over the five-year period 2014-2018 indicates an increase in profitability and operational capacity of the company.

The company's profitability plays a decisive role in the development of the company (See Table 5).

Table 4: Baowu Group2014—2018 Operating Capacity Analysis Table.

Operating Capacity Indicators (%)	2014	2015	2016	2017	2018
Accounts Receivable turnover ratio	8.780	8.945	9.835	7.544	7.093
Inventory turnover ratio	5.835	5.931	5.970	5.578	6.401
Total assets turnover ratio	0.825	0.709	0.831	0.816	0.891

Table 5: Baowu Group2014—2018 Profitability Analysis Table.

Profitability Indicators (%)	2014	2015	2016	2017	2018
Return on Net Assets	4.78	-4.52	6.30	12.24	12.68
Return on Total Assets	2.68	0.28	3.15	5.75	6.72
Net margin	3.25	0.39	3.79	7.06	7.55

The return on net assets reflects the level of earnings of a company, and a higher value represents a higher rate of return. Baoshan Iron and Steel Group had a negative return on net assets in 2015, but after the absorption and merger of Wuhan Iron and Steel Group in 2016, the return on net assets increased significantly, from -4.52% to 6.30%, and then increased year by year, and the level of corporate earnings steadily improved, thus, the absorption and merger had a great impact on Baoshan Iron and Steel Group and significantly improved the level of corporate earnings. The return on total assets reflects the profitability of a company's total assets, with larger values representing more profitable assets. The data in the table shows that the return on total assets is proportional to the return on net assets, hitting the bottom in 2015 and making a leap in 2016. Net interest margin is the ratio of net profit to main operating income, and it reflects the operational efficiency of the company. The net profit margin is proportional to the return on net assets and return on total assets, decreasing to 0.39% in 2015 and also increasing to a maximum value of 3.79% in 2016.

Development capability focuses on the expected growth of the company (See Table 6).

Table 6: Baowu Group2014—2018 Development capacity analysis table.

Development capacity indicators (%)	2014	2015	2016	2017	2018
Operating income growth rate	-1.18	-12.61	50.15	17.48	5.53
Net profit growth rate	-0.45	-83.70	861.02	111.22	11.89

As can be seen from the data presented in Table 6, the growth rates of operating income and net profit of Baowu Group were negative in 2014 and fell sharply in 2015 to -12.61% and -83.70%, respectively, but after the completion of the absorption and merger of the enterprises in 2016, the trend was swept away, rising to 50.15% and 861.02%, respectively, in the 2014 -2018 peaking during the five-year period. In particular, the net profit growth rate in 2016 showed a completely explosive and significant climb, which was inevitably linked to the merger of Baoshan Iron and Steel Group and Wuhan Iron and Steel Group, and it was the choice of merger that allowed Baowu Group to achieve net profit growth in a saturated state of the national steel industry. This also provides a way out for other companies in the heavy industry, that is, the use of a strong combination of methods to change the dilemma faced by each, to achieve the company's redevelopment and profitability.

3. Conclusion

From the above analysis, the following conclusions can be drawn:

First, the internal advantages of Baowu Group are more prominent because the company itself has the dual cultural heritage and technological foundation of Baoshan Iron and Steel Group and Wuhan Iron and Steel Group, and its techno-logical innovation capability and internal management experience are stronger than those of other companies in the same industry.

Second, under the combined influence of external factors, the formal implementation of Regional Comprehensive Economic Partnership Agreement (RCEP) brings unprecedented development opportunities and prospects for Baowu Group, and the market is much broader. The universality of the contradiction also determines that under the new development opportunities, Baowu Group will face more stringent environmental supervision and requirements. On the one hand, we require the ecological nature of the production and development area, and on the other hand, we require the reasonableness and truthfulness of environmental protection expenditures. The pace of development of the Audit Office in China in recent years has also been relatively remarkable. The decision of the Central Committee of the Communist Party of China on Several Major Issues of Comprehensively Deepening Reform, which was considered and adopted by the Party at the Third Plenary Session of the Eighteenth Central Committee, proposes to improve the separation audit of natural resources assets, which also reflects the importance China attaches to environmental auditing.

Third, from the accounting and financial analysis, Baoshan Iron and Steel Group's absorption and merger with Wuhan Iron and Steel Group was a very successful decision, with net profit, profitability and development capacity all achieving a qualitative leap in the year of merger. On the whole, Baowu Group has a very bright development prospect in the context of RCEP policy.

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