

The Application of EVA in Enterprise Value Evaluation --Take the Bao 'an Group for an Example

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Abstract: Modern enterprise control system is divided into good decision-making mechanism, performance evaluation system and employee compensation policy. Among these three factors, the performance evaluation system becomes the performance evaluation index of enterprises, which plays an important role in guiding the development of enterprises and motivating employees. The economic added value (EVA) assessment system implemented in China in 2010 is a performance evaluation system formulated to cope with the transformation difficulties of domestic enterprises. On the basis of theoretical research, this paper selects Bao 'an Group as the case analysis object. First, this paper introduces the basic situation of Bao 'an Group. Secondly, EVA value evaluation model is used to evaluate the enterprise value, compare the actual situation and evaluation results of the enterprise, and find out the reasons for the difference. Finally, the advantages and disadvantages of EVA in practical use are analyzed, existing theoretical and practical problems are found out, and countermeasures and suggestions are proposed. It is expected that the analysis of this paper can help enterprise managers to clarify the management direction and improve the quality and efficiency of enterprises.

1. Overview of EVA Enterprise Value Evaluation Method

1.1 Meaning of EVA

Economic added value (EVA), also known as economic profit, is widely used in the management of enterprises in foreign countries for performance assessment of managers.

1.2 Calculation of EVA

EVA can be expressed as the remaining part of the operating profit of the enterprise after deducting the investment capital of shareholders, which can be expressed by the formula as follows:

$$EVA = NOPAT - WACC \times TC$$

Among them, NOPAT: net operating profit after tax; WACC: weighted average capital cost; TC: total capital. The weighted average capital cost is as follows:

$$WACC = \frac{B}{B+S} \cdot (1-T) \times r_b + \frac{S}{B+S} \times r_s$$

Where, B: working capital; S: equity capital; R_b: capital cost per unit of pre-tax debt; R_s: capital cost per equity unit; T: corporate income tax rate.

2. Basic situation analysis of Bao 'an Group

2.1 Introduction to Bao 'an Group

Bao 'an group, a comprehensive joint-stock company, was established in July 1983. Since the establishment of the company, "dare to be the first" courage and courage. By December 31, 2016, the total equity was 1058.81 million shares, with a total asset of 9 billion yuan and a net asset of 2.4 billion yuan. It owns more than 20 wholly-owned enterprises and holding enterprises, and has invested in many domestic enterprises and listed companies. The group's main businesses are real

estate and biomedical industry.

2.2 Basic operating conditions of Bao 'an Group

The marketing income of bao 'an group in 2016 mainly includes: sales income composition of high-tech industry, biomedical industry, real estate industry and other industries, whose specific proportion is shown in table 1.

Table 1 composition of 2016 annual revenue of bao 'an group

Unit: 100 million yuan

incomes	Main business income	Income ratio (%)	The main cost	Cost ratio (%)	Main business profit	Profit ratio (%)	Gross profit margin (%)
High-tech industry	29.24	45.6	19.96	44.89	9.28	47.21	31.75
Biomedical industry	22.03	34.36	13.83	31.11	8.2	41.72	37.22
Real estate	9.99	15.58	8	18.01	1.99	10.11	19.89
Other industries	2.85	4.46	2.66	5.99	0.19	0.96	6.61
total	64.12	100	44.46	100	19.66	100	30.66

As can be seen from table 1, the company's total principal operating income in 2016 was 6.412 billion yuan, the main operating cost was 4.446 billion yuan, the main operating profit was 1.966 billion yuan, and the gross profit rate of the company was 30.66%. Among them, the income ratio of high-tech industry is the largest, accounting for 45.60%, followed by biomedical industry, accounting for 34.36%. But the highest gross profit margin was in the biomedical industry, at 37.22 percent, followed by the high-tech industry, at 31.75 percent.

Table 2 important financial data and indicators of baoan group from 2013 to 2016

Year	2013	2014	2015	2016
Return on equity (%)	9.37	9.19	19.7	5.2
Total net asset interest rate (%)	3.32	3.34	5.88	2.11
Gross profit margin on sales (%)	35.78	32.11	33.45	30.66
Net sales rate (%)	10.69	10.96	19.85	6.54
Asset-liability ratio (%)	62.88	62.89	63.61	62.38
Total revenue	41.55	43.11	48.95	64.5
Total operating cost	42.37	42.52	47.68	63.79
Operating profit	4.73	5.47	11	4.51
Profit total	5.04	5.88	11.86	5.42
Net profit	4.44	4.73	9.27	4.19
Total assets	136.12	147.25	181.14	216.23
Total liabilities	85.59	92.61	115.6	134.88
Shareholders' equity	50.53	54.64	65.54	81.35
Cash flow from operations	0.8	4.75	0.13	-0.12
Cash flow from investment activities	-0.62	-3.42	-0.83	-27.69
Cash flow from financing activities	-3.81	3.08	17.71	9.38

The important financial data and indicators of bao 'an group company from 2013 to 2016 are shown in table 2. As can be seen from table 2, the return on equity in 2016 dropped significantly from 19.7% in 2015 to 5.2% in 2016. The return on total assets in 2016 was also down 3.77 percentage points from 2015. The gross profit of sales dropped by 2.79 percentage points in 2016

compared with the previous month, and the net interest rate of sales dropped by a large margin. The asset-liability ratio is higher than 60% of the general boundary, indicating that the enterprise has poor solvency and has certain debt repayment risks and pressures. The asset scale is increasing year by year, the shareholder's equity is increasing year by year, and the debt scale is also increasing a lot.

From table 2, we can also see that the cash flow generated by operating activities in 2016 is less than 0, which has certain financial pressure on enterprises. The negative cash flow generated by investment activities is mainly due to the expansion of asset investment scale, and the positive cash flow generated by financing activities is mainly due to the increase of corporate liabilities.

3. EVA Analysis of Bao 'an Group

3.1 Calculation of EVA of Bao 'an Group

According to the calculation formula of EVA, the calculation process and results of EVA in baoan group from 2012 to 2016 are shown in table 3.

Table 3 EVA calculation table of bao 'an group from 2012 to 2016 Unit: 100 million yuan

Year	2012	2013	2014	2015	2016
Net operating profit after tax (NOPAT)	5.05	5.75	6.56	11.75	6.33
Total invested capital (TC)	107.34	110.56	121.19	152.38	177.65
Weighted average capital cost (WACC)	8.41%	9.34%	8.22%	10.19%	10.50%
EVA	-3.98	-4.57	-3.4	-3.78	-12.31

EVA can be seen in the table of baoan group in 2016, great changes have taken place in greater decline, mainly because of the total invested capital TC and the increase of the weighted average cost of capital WACC, and net operating profit after tax NOPAT did not add a little less instead, eventually led to a decline in baoan group, EVA. After tax net operating profit of NOPAT did not increase but decreased mainly because the real estate industry in the major cities began to implement the purchase restriction policy, the whole industry grew slowly and even the housing price slightly decreased.

3.2 Enterprise value estimation of Bao 'an Group in 2017

The enterprise value evaluation model is:

$$V = V_0 + \frac{EVA_1}{WACC - g}$$

Where V is the initial capital amount for a period of time; G for sustainable growth in recent years, China's GDP growth is expected to remain at around 8%, weighted cost of capital used in recent five years the average 14.11% equity capital cost of the enterprise, and will to GDP growth forecasts for growth. It is assumed that in 2017, the investment of enterprises will start to increase efficiency, and the capital cost will decrease according to the growth rate under the economic growth rate. It is estimated that the number of shares of bao 'an group will remain at the 2016 level in 2017, which is 21.2 billion shares. According to the formula, it is calculated as follows:

$$\begin{aligned}
 V &= V_0 + \frac{EVA_1}{WACC - g} \\
 V_{2017} &= V_{2016} + \frac{EVA_{2017}}{WACC - g} \\
 &= 126.42
 \end{aligned}$$

According to the above estimates, the enterprise value of bao 'an group in 2017 is expected to be 12.642 billion yuan, with a market value of 5.96 yuan per share.

3.3 Analysis of value assessment results of Bao 'an Group

In 2017, the total number of shares outstanding in bao 'an group was estimated to be 2.22 billion. The enterprise value of 12.642 billion yuan calculated by the above estimation model was divided by the number of shares, and the market value of each share was 5.96 yuan. Poly is currently trading at 6.16 yuan a share. The market price is higher than the actual value of the enterprise. This indicates that there is an element of fiction in the market value of enterprises, mainly because the project investment of enterprises in recent years has attracted the attention of shareholders, leading to abnormal rise of stock prices. Baoan group smaller influence factors of enterprise value is mainly affected by national macroeconomic regulation and control real estate industry, and regulatory reform of pharmaceutical manufacturing industry, these two industries and qiaqia is baoan group's core business, so companies is a big impact. EVA valuation method and not reflect the influence of all factors on the enterprise value, has certain risks, on the choice of accountant course adjustment, the determination of the cost of capital, etc in the process of all need to rely on subjective judgment.

4. Conclusion

Through the study of this paper, it is found that for bao 'an group, the use of EVA to conduct enterprise value assessment has certain advantages. In the process of enterprise value assessment, EVA can reaction not only cost of debt capital influence on corporate value, and also took into account the cost of equity capital influence on corporate value, fully reflects the overall strength of the enterprise. This is in line with the development of bao 'an group characteristics. In the capital composition of bao 'an group, the proportion of its own capital has not increased, while the debt capital has increased, so it is necessary to measure the cost of debt capital. Under the current economic background, the use of EVA index makes the interests of shareholders, creditors and enterprises closely linked to the development status of enterprises, which is more conducive to the stable and sustained growth of bao 'an group.

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