Analysis of Profitability of Beidahuang Company, a Leading Agricultural Enterprise Based on DuPont Analysis

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Abstract. Agriculture is an important component of social stability and economic development in China, and its development is of great significance to the overall construction of the country. As the key link of agricultural development, the financial performance of agricultural companies directly reflects the overall development level of agricultural companies. Therefore, it is of great significance to study the financial performance of agricultural listed companies.

This paper takes Beidahuang Co., Ltd. as the object, and makes an in-depth analysis of its profitability with DuPont analysis method. Through literature research, data analysis, comparative analysis and other research methods, the profitability of the company is studied, aiming at providing effective reference suggestions for its further development.

Firstly, through the analysis of ROE index, we find that Beidahuang Company has stable profitability in the past few years. Its return on equity shows a trend of continuous growth, reflecting the company's excellent asset management and profit creation ability. Secondly, through the analysis of the operating net interest rate index, we find that the operating net interest rate of Beidahuang Company is relatively high, which indicates that it can effectively control the cost and improve the profit rate in the production and operation process. This shows the company's competitiveness and operational efficiency in the agricultural sector. In addition, through the analysis of asset turnover rate and equity multiplier index, we find that Beidahuang Company has good asset operation ability and capital structure. High asset turnover indicates that the company can make full use of assets and improve the utilization efficiency of assets. The appropriate equity multiplier shows the reasonable financing structure and sound financial condition of the company. Each index is selected for horizontal comparative analysis of the same industry.

Based on the analysis of Beidahuang Company's profitability, we put forward some suggestions: (1) appropriate debt financing, play the role of financial leverage. Reasonable and effective use of financial leverage by enterprises can reduce the cost of capital and improve the profit rate of their own funds. (2) Reasonable cost reduction and efficiency increase, increase investment in scientific and technological research and development. By increasing investment in scientific and technological research and development, enterprises can develop new products, improve production processes, and improve production efficiency, thereby reducing production costs and improving the economic benefits of enterprises.

This study comprehensively evaluates the profitability of Northmoor Company through DuPont analysis method. The research results and recommendations help Beidahuang and the industry to further optimize business strategy, improve profitability and achieve sustainable development.

Keywords: The agricultural industry; The Great Northern Wilderness; Dupont analysis.

1. Introduction

This paper focuses on the profitability analysis of Beidahuang Company, a representative leading agricultural enterprise, using the DuPont analysis method. In recent years, with the emphasis on ensuring stable and secure supply of food and important agricultural products, the agricultural sector has gained significant attention and priority in national development strategies. However, due to the relatively lower investment return rate and longer investment return cycle in the agricultural industry compared to other sectors, there has been a relative scarcity of research papers in this field. Therefore, this study chooses Beidahuang Company as a case study to shed light on profitability within the agricultural industry.

With the gradual recovery of the global economy and increasing market competition, improving profitability becomes crucial for enterprises. By comprehensively applying various evaluation system indicators and utilizing scientifically sound methods, it is essential to discern profitability, predict future outcomes, and analyze the impact of profitability on the sustainable development of enterprises.

The DuPont analysis method is a commonly used financial analysis tool that decomposes a company's profitability into multiple indicators, providing insights into performance and financial conditions. Through analyzing the profitability of Beidahuang Company, as a leading player in the agricultural industry, key factors such as core competitiveness, capital operation efficiency, and market position can be revealed, offering valuable reference information for investors, managers, and policymakers.

The profitability analysis of Beidahuang Company based on the DuPont analysis method not only helps understand its profitability and its changing trends but also identifies bottlenecks in profitability, thereby providing directions for improving management practices. Additionally, this study aims to understand the characteristics of profitability in agricultural enterprises and provide effective management strategies and measures for similar companies, promoting the sustained and healthy development of the agricultural industry. Moreover, the DuPont analysis method employed in this research can offer useful insights for profitability analysis in other industries, demonstrating its universality and applicability.

2. The meaning of DuPont analysis

2.1 Overview of Dupont analysis system

Dupont, founded in 1802, developed the DuPont financial analysis system, which starts from the return on equity that shareholders are most concerned about, and covers four financial indicators such as solvency, operating ability, profitability and development ability. This analysis system helps management understand the financial situation of the company and provides the basis for decision making. By analyzing these indicators, we can evaluate the company's debt repayment ability, operating efficiency, profitability and development potential, and provide important references for the company's strategic planning and business decision-making.

2.2 Application of profitability

This paper mainly analyzes the company's profitability with the help of DuPont analysis method.

Dupont analysis is a method used to evaluate the profitability of enterprises and the level of return on shareholders' equity, and evaluate the performance of enterprises from the financial perspective.

In the profitability analysis of enterprises, DuPont financial analysis system is generally adopted by large and medium-sized enterprises. Production and operation and financial operation are the embodiment of business performance of enterprises. Dupont financial analysis system coordinates production and operation activities and financial activities by dividing return on equity into three specific financial indicators: net operating rate, weekly ratio of total assets and equity multiplier.

2.3 DuPont analysis formula

Return on equity = net operating rate * total asset turnover * equity multiplier

Return on Equity (ROE) is a metric used to measure the level of returns on owner's equity in a company, reflecting the returns brought by shareholders' investments. Operating Net Profit Margin is the percentage of net profit to sales revenue, indicating the company's ability to generate profits from sales revenue. Asset Turnover Ratio represents the quality of asset management and utilization efficiency, with a higher value indicating faster asset turnover and higher asset utilization efficiency. The Equity Multiplier reflects the level of debt in a company, with a higher value implying a higher degree of debt and greater debt risk. These indicators are used in DuPont analysis to evaluate a company's profitability, debt level, and asset management efficiency.

3. Company status analysis

North Dahurian Agricultural Reclamation Group Co., Ltd. is a large-scale enterprise with agriculture as its core focus. Its main business areas encompass agriculture, forestry, animal husbandry, fisheries, and scientific research. As a crucial national commodity grain base, North Dahurian Group possesses a comprehensive grain production capacity and grain security capability exceeding 40 billion kilograms. Additionally, they have achieved remarkable results in industrial and service sectors through the implementation of agricultural industrialization management. The group's extensive business scope aims to enhance agricultural production efficiency, ensure national food security, continuously expand its business reach, and elevate its core competitiveness through technological innovation and scale-based operations.

4. Corporate profitability analysis based on DuPont analysis system

The specific data of various financial indicators of Beidahuang Company from 2018 to 2022 are shown in the table:

year	Return on equity /%	Net operating margin/%	Total asset turnover/times	equity multiplier
2018	15.58	28.04	0.42	1.26
2019	13.02	26.79	0.39	1.22
2020	14.22	29.98	0.41	1.20
2021	11.28	19.26	0.45	1.20
2022	13.95	22.21	0.52	1.18

4.1 Return on equity analysis

Under DuPont analysis, return on equity is used to reflect the profitability of Northmoor Company.

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Return on equity / %	-3.42	-7.55	14.19	11.93	12.82	13.26	15.58	13.02	14.22	11.28	13.95

From the return on equity of Beidahuang in the past five years, it can be seen that from 2012 to 2022, the return on equity of Beidahuang Company has greatly improved since 2014 when it turned a loss into a profit. In the last eight years, the index value has slightly fluctuated, but the overall trend is good. Next, it is compared with the level of enterprises in the same industry to analyze its profitability more clearly.

4.2 Comparative analysis of return on equity with enterprises in the same industry

Table 3. Return on equity

Ranking	For short	Return on equity (%) 3 year average	2020	2021	2022
1	Zhangzidao	80.65	208.57	26.17	7.22
2	Makihara Shares	36.30	74.68	13.18	21.03
3	Bunge Technology	33.12	45.47	39.32	14.56
4	Dongrui Shares	29.38	76.91	9.84	1.38
5	Shennong Group	26.07	65.37	7.26	5.57
14	Northmoor	13.16	14.55	11.10	13.83
The industry average		-0.27	10.27	-4.45	-6.63
Industry median		6.13	7.63	3.71	4.56

(1) According to the comparison between Beidahuang and the average value of the industry, the return on equity of Beidahuang in the past three years has fluctuated but the range is not large, and the average level of the past three years is much higher than the average value of the industry, which is 13. 43%, in the upper and middle of the industry level.

(2) Compared with the average value, the median value of the industry can more accurately reflect the return on equity in the industry. As can be seen from the table above, compared with the average value of the industry, the average value of Beidahuang in the past three years is also higher than the median value of the industry. In 2022-2020, it will be 2.03 times, 1.99 times and 0.91 times higher, respectively, which is nearly twice the industry median from the three-year average point of view. It can be seen that the return on equity of the industry in which Beidahuang is located is generally low in the past three years.

(3) From the comparison between Beidahuang and enterprises with better development in the industry, the gap between Beidahuang and the leading enterprises in the industry is still large. It ranks 14th, in the upper reaches of the industry, ranked first Zhangzidao three-year average is 5.13 times higher than Beidahuang, the gap is significant, Muyuan shares, Bangji Technology, Dongrui shares, Shennong Group three-year average is 23.1% higher than Beidahuang, 19.96%, 16.22%, 12.91%, the gap is also large. In 2022, the return on net assets of Beidahuang increased by 24.60% compared with the same period of last year. In addition to Muyuan shares, the return on equity of other leading enterprises have declined, and the decline of Bangji Technology and Dongrui shares is as high as 62.97% and 85.98%, mainly due to the sharp price fluctuations of live pigs and feed markets in their fields.

In summary, in the past three years, the return on equity of Beidahuang Company has fluctuated slightly but generally maintained a good level, but compared with the same industry, it is still in the upper and middle of the industry, and the gap with leading enterprises is still far. However, in turn, in 2022, almost all leading enterprises in the same industry have declined, but the North Great Wilderness enterprises have risen steadily, showing a good business momentum, and there is still great room for improvement in the return on net assets. The return on equity is further decomposed and analyzed below.

5. Summary

5.1 Conclusion

From the above analysis, it can be concluded that Beidahuang Company's overall financial status in the past five years is good, at the upper middle level of the industry, and its profitability also maintains good, showing a steady growth trend.

According to the analysis of return on equity, it can be seen that although the return on equity of Beidahuang Company fluctuates, it maintains a good level in general, and is higher than the average and median value of the industry. In addition, through the analysis of the three-factor decomposition, it is found that the increase of net profit rate on sales and total asset turnover has a great impact on the return on equity, and the growth of equity multiplier is not obvious, so the leverage effect cannot be brought into full play. In this respect, Beidahuang Company still has great room for improvement.

In terms of net operating margin, the average net operating margin of Beidahuang Company is much higher than the industry average, showing strong profitability, especially in 2022 to achieve significant growth. The main reason for the changes in profit is the company's management and control of period expenses and good control of costs. With the increase of operating costs, operating income also increased by a similar margin, indicating that the company's main business is in a stable and mature state, and profits are guaranteed.

In terms of asset operation ability, the turnover rate of total assets is accelerating year by year, which indicates that Beidahuang Agricultural Co., Ltd. has strong operating ability. The analysis of inventory turnover rate and accounts receivable turnover rate shows that the company's asset turnover speed is increasing year by year, indicating that the company's short-term solvency and profitability are also increasing.

In terms of capital structure, the equity multiplier and asset-liability ratio decreased year by year, reflecting the reduction of the company's financial burden and the improvement of its solvency, demonstrating a relatively stable and conservative financial strategy.

On the whole, Beidahuang has a good performance in terms of profitability, asset operation ability and capital structure, with strong competitiveness and great potential for future development.

5.2 Suggestions

5.2.1 Appropriate debt financing and play the role of financial leverage

In recent years, Beidahuang Company has a good financial situation, sufficient monetary funds, accounts receivable for three consecutive years to maintain the level of 0, strong solvency, small financial risk. On the basis of steady development, the company can borrow moderately and play the role of financial leverage. In order to reduce financing costs, bond financing and bank loans can be combined to take advantage of their own brand advantages and state-owned enterprise background.

5.2.2 Rationally reduce cost and increase efficiency, and increase investment in scientific and technological research and development

Beidahuang is less invested in research and development costs, and should respond to national policy guidance, make full use of land resources, agricultural machinery and equipment and planting management talents, apply modern high-tech technology to agricultural production, and develop modern agriculture, green organic bases and Internet of Things projects to save production time and reduce costs. Such an approach can not only enhance the competitiveness of enterprises, but also change the traditional extensive, low-output development model, and promote the efficient and stable development of the industry.

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