Comparative Analysis of Dairy Industry of China
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Abstract. The research on dairy industry became popular in recent years. Some researchers found that the gap in the profitability of dairy enterprises mainly comes from the differences in their capital structure and operating efficiency. However, there is still a lack of unified understanding of the specific influencing factors and the competition pattern between different enterprises. Therefore, this paper mainly uses the data analysis method to select Mengniu and Yili, two leading dairy enterprises, and Guangming Dairy, which is in the second echelon, as the research object. Through collecting relevant indicators such as profitability, this paper conducts a comparative analysis to explore the competitiveness of different dairy enterprises and the reasons behind it. The research found that Mengniu Dairy had the highest equity beta, while Guangming lotion had the lowest equity beta, and gave investment suggestions.

Keywords: Dairy industry; Financial analysis; Equity beta.

1. Introduction

1.1 Background

At present, the dairy industry presents a competitive pattern in which a minority of large state-owned enterprises coexist with many local enterprises. According to the enterprise reputation, business scale and comprehensive strength, it can be roughly divided into national dairy enterprises represented by Yili Shares, Mengniu Shares and Bright Dairy, and regional dairy enterprises represented by New Dairy and Sanyuan Shares. The third category is local dairy enterprises. The scale of China's dairy product market has grown steadily, and the competition pattern is relatively stable. According to Euromonitor, the market shares of Yili and Mengniu will be 26.4% and 21.6% respectively in 2020; The market shares of Brightdairy, Junlebao, New Dairy and Sanyuan were 4.1%, 3.1%, 1.7% and 1.7% respectively, showing an oligopoly competition pattern. At present, the consumption of dairy products in China is still far lower than that in developed countries. With the improvement of residents' living standards and wealth income, consumers pay more attention to the adjustment of dietary structure, and their health awareness is also rising. The consumption capacity of residents is also accelerating upward. The requirement for dairy products will maintain growing. In the future, China's dairy consumption still has a lot of room for growth. Dairy products are consumed by a wide range of people, and now the sales scope is gradually sinking to the third and fourth tier cities. In the future, the market scale of China's dairy industry will gradually expand. It is estimated that the output of dairy products in China will reach about 34 million tons by 2027.

1.2 Related research

Liu compared Yili and Mengniu Dairy, two listed companies in the dairy industry in Inner Mongolia, with other listed companies in the same industry. The author found that compared with the 17 Listed Companies in the same industry in China, the profitability and product innovation ability of these two companies ranked high, but their marketing ability and personnel management ability were not outstanding [1]. Zhu selected Yili Co., Ltd., a representative of the national dairy enterprise, and Brightdairy Co., Ltd, a representative of the regional dairy enterprise in the dairy industry, as the research objects to analyze the financial reports of the two companies from 2007 to 2016. The author points out that the basic financial conditions of the two companies are good, but Yili's profitability and risk control ability are far better than Brightdairy's and have greater investment value. In addition, the two companies have adopted different strategies, and their operating performance is also
significant different. Yili adopts the cost leading strategy to continuously improve its profitability, while Bright dairy adopts the differentiation strategy, and its profitability is obviously inferior to Yili [2]. Zhang et al. focused on the brand strategy of “happy in fresh” formally proposed by Bright dairy in 2016. The authors found that the company focused on building core low-temperature products such as Guangming youbei in product R & D. The results of the questionnaire show that taste is the most likely factor to affect consumers' purchase of bright milk. However, the effect of its brand is not ideal, and Brightdairy's own brand concept of “joy in freshness” often fails to attract consumers' attention. Meanwhile, the enterprise publicity is low, and the brand strategy is relatively failed [3]. Li used EVA model to analyze the investment value of Mengniu Dairy's stock price. The author calculated NOPAT according to Mengniu Dairy's 2018 annual report. The ratio of debt capital and equity capital, the cost of debt capital and the cost of equity capital are calculated respectively to comprehensively calculate WACC. The final EVA is calculated to be 1612.48 million yuan, which indicates that Mengniu Dairy created a value-added of 1612.48 million yuan in 2018. The author believes that the current market quotation for Mengniu Dairy is on the high side, and it faces certain market and financial risks, so it is not allowed to invest blindly [4]. Zhang and He focused on Yili, Mengniu and Bright dairy, three domestic representative dairy enterprises, to analyze their respective patent strategies. The authors found that the total number of patent applications of the three major dairy companies was increasing year by year. From the perspective of patent types, the patent application volume of the three enterprises in appearance design is obviously higher than that of the other two types, reflecting the characteristics of dairy enterprises' iteration in outer packaging. However, China's dairy products started late, resulting in relatively weak patent awareness of domestic dairy enterprises. Therefore, enterprises should strengthen innovation and cultivate innovative talents to create greater commercial value [5].

Mo discussed the impact of equity incentives on the dairy industry, and selected Bright dairy and Yili for comparative analysis. The author came to the conclusion that Bright Dairy had a good response in corporate governance and market performance after the implementation of equity incentive, but Yili dairy had a mediocre response. The reason is that the equity incentive plan of Bright dairy is designed more scientifically and reasonably, while the equity incentive plan of Yili dairy fails to adapt to the corporate governance structure, and may even lead to executives' speculation. It is suggested to further improve the long-term talent incentive mechanism [6]. Huang and Guo analyzed the relationship between Yili Group's capital structure and its product market competition strategy. Yili adopts the brand strategy of building its own ranch, creating different products for different groups, and expanding marketing channels to achieve product upgrading through a large amount of debt financing. It shows that Yili makes full use of financial leverage to create greater profits for shareholders. It also indicates that Yili's financing strategy and capital structure are guided by its product market competition strategy, and its enterprise scale is rapidly expanded through its financial structure with high debt ratio [7]. Zhang analyzed the competitive advantages of Yili, Mengniu and Guangming based on the SWOT framework. The author finds that the gap of profitability among the three dairy enterprises mainly comes from capital structure and operating efficiency. Among the three dairy enterprises, Yili Group has the strongest profitability, and Mengniu Group has the strongest operating capacity. In the analysis of capital structure, it is found that the asset liability ratio of Yili and Guangming is very high, while that of Mengniu is much lower, which may be related to the management's risk attitude and the asset background of the three enterprises. It concludes that China's dairy industry can take strategic management measures such as increasing product research and development [8]. Wang made a comparative analysis of Guangming and Yili with an eye to overseas strategy. The author found that Guangming had conducted several overseas mergers and acquisitions, and Yili had reached a strategic cooperation with Italy's largest dairy company, Scarlett. They are all aimed at exploring overseas markets, breaking through domestic competition and improving the competitiveness of enterprises. However, Yili Group takes the road of internal and external parallel, and Bright dairy focuses on overseas layout. In addition, Yili Group focuses on strategic cooperation, while Bright Food focuses on mergers and acquisitions [9]. Guo and
Wang deeply analyzed the annual report of Bright dairy in 2021. The authors found that in the past year, Bright dairy showed a trend of revenue growth but net profit decline, and its profitability also declined accordingly. On the other hand, the market growth space of its characteristic low-temperature milk is small, and it should rely on market capital for national strategic expansion [10].

1.3 Objective

By comparing the operating conditions of several dairy companies in China, this paper aims to calculate the equity beta and other indicators of Mengniu, Yili and Bright dairy. Meanwhile, the paper aims at analyzing the reasons for the difference in business risks between Mengniu, Yili and Bright dairy and to provide valuation and investment suggestions for Mengniu, Yili and Bright dairy.

2. Method and data

2.1 Ratio analysis

Market value of equity refers to the total dollar value of the company's equity. The method of calculation is to multiply the current share price by the number of all the stocks issued. It is used to measure the size of a company and diversify investors among companies of different sizes and risk levels.

The total number of tradable shares can be found by viewing the equity section of the company's balance sheet.

Market value of debt refers to the market price at which investors are willing to purchase the company's debt, which is different from the book value on the balance sheet.

As the debt is reported at book value or accounting value in the financial statements, the analyst is responsible for calculating the market value, which is very important in calculating the total enterprise value of the company. In this report, simply thinking that the debt value is directly equal to the book value of the total debt.

2.2 Introduction to important ratios

Financial leverage ratio reflects the ratio of the company's financing through debt.

If D is the market value of debt and E is the market value of equity, leverage can be measured by the ratio of debt to value:

\[ L = \frac{D}{D+E} = \frac{D}{V} \]  

Or, debt to equity:

\[ L = \frac{D}{E} \]  

To calculate the Beta of a stock or portfolio, dividing the covariance of the excess asset returns and excess market returns by the variance of the excess market returns over the risk-free rate of return:

\[ \text{Beta} \]  

The beta (\( \beta \)) is used as a risk measure and is a component of the Capital Asset Pricing Model (CAPM). The higher the beta coefficient, the greater the risk and the higher the expected return. The Capital Asset Pricing Model is a simple mathematical estimate of the cost of equity. CAPM states that the additional return (risk premium) required by investors exceeded the risk-free interest rate proportional to market risk. This is the return required by venture capital investors.

Cost of equity, that is, the expected rate of return of asset \( i \) is given by the following formula:

\[ R_i = R_f + \beta \ast (R_m - R_f) \]
Where: $R_f$ is the risk-free interest rate; $R_m$ is the expected market return rate of the market; $R_m - R_f$ is the market risk premium.

The standard measure of a firm’s overall cost of capital, is its Weighted Average Cost of Capital (WACC) from all investors.

Capital providers will require a rate of return that is proportional to the risk they take on investing in the company. WACC is the correct discount rate for the valuation of the company based on the expected cash flow after tax (CFAT). WACC is defined as:

$$WACC = E/V \times R_E + D/V(1-T) \times R_D$$  \hspace{1cm} (5)

Please note that interest payments on debt can be tax exempt, so the after-tax cost of debt is used. Letting $L = D/V$, we can also write:

$$WACC = (1-L) \times R_E + L(1-T) \times R_D$$  \hspace{1cm} (6)

Business risk refers to the risk of reducing the expected earnings of shareholders due to uncertain factors such as changes in business strategy in the company's business process. To put it bluntly, it refers to whether and how much the company can earn in the future. Business risk is generally related to the proportion of industry and fixed cost in the total cost.

Return on Assets (ROA) measures the profitability of an enterprise relative to its total assets. This ratio shows the company's performance by comparing the profits (net income) generated by the company with the capital invested in assets. The higher the rate of return, the more effective and efficient the management in using economic resources.

The ROA formula is:

$$ROA = \text{Net Income} / \text{Average Assets}$$  \hspace{1cm} (7)

Or

$$ROA = \text{Net Income} / \text{End of Period Assets}$$  \hspace{1cm} (8)

Where: Average Assets is the closing asset minus the opening asset divided by 2.

### 3. Financial comparison

The selected data are the data of the past year as of December 2021. As shown in Table 1, Mengniu has the highest leverage, while Yili has the lowest. However, there is little difference between the three companies in this ratio.

<table>
<thead>
<tr>
<th>Table 1. Ratio Comparison of Three Companies.</th>
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<td>Company</td>
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<tr>
<td>Market value of equity</td>
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<td>Market value of debt</td>
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<td>Leverage(D/V)</td>
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<td>Equity beta</td>
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In terms of beta, Mengniu is the lowest and Bright dairy is the highest. It is worth mentioning that Yili and Brightdairy’s Equity beta are both larger than 1. As for the two ratios of WACC and business risk, Mengniu's data shows the lowest and Yili's data shows the highest. In terms of profitability, Yili’s ROA and ROE are the highest and Brightdairy's are the lowest. The three companies have significant differences in these two ratios.

3.1 Longitudinal analysis

3.1.1 Mengniu Dairy

First, this paper uses a longitudinal analysis. Mengniu Dairy is a leader in China's dairy industry. With the goal of developing healthy and high-quality dairy products, it also has a profound impact on the world dairy industry. Since its establishment, Mengniu Dairy has owned a variety of products, such as liquid milk, milk powder, ice cream, and many high-quality representative brands, such as Telun Su, Chunzhen, Youyi C, Future Star, etc., which have continuously increased the experience of various tastes for consumers. In July 2009, COFCO Group invested in Mengniu Dairy. With the participation of COFCO Group, Mengniu Dairy has improved its food safety, its strategic layout and product manufacturing facilities are also in line with international standards, and raw materials and products can be checked at all levels, making certain contributions to the development of the dairy industry.

Mengniu increased its financial leverage by selling shares, which means that its debt increased. The advantage of debt is that debt interest payment can be used to offset taxes, so the weighted average cost of capital after tax will be reduced. As shown in Table 1, Mengniu has the lowest wacc and the highest leverage ratio.

3.1.2 Yili Share

Yili Group has five business departments of liquid milk, as well as more than 80 enterprises. In 2009, Yili Ice Cream was selected by China World Records Association. The production and sales of ice cream rank first in China, creating many of the best ice creams in the world. In 2008, the tainted milk incident occurred, but the test results showed that Yili detected a trace of melamine in one of its 35 test samples, proving that its quality was reliable and could be used as a domestic brand.

Seen from the index of Market value of equity in Table 1 that the market value of Mengniu and Yili’s equity is far greater than that of Bright Dairy, which also conforms to the oligopoly situation of Mengniu and Yili. From the perspective of dairy product sales, in the first half of 2021, Yili and Mengniu Dairy had liquid milk sales revenue of 42.407 billion yuan and 39.448 billion yuan, respectively. Yili's dairy product sales scale was larger, and it was ahead of Mengniu Dairy in terms of the sales scale of each subdivided product. Therefore, Yili has the highest ROA and ROE among the three companies, reflecting its strong profitability.

3.1.3 Brightdairy

Bright Dairy Co., Ltd. is a listed company, which has formed a series of products like sterilized milk, fresh milk, yogurt, etc.

As a local enterprise, Bright dairy is obviously less competitive than Mengniu and Yili. However, it has the highest equity beta, which is noteworthy. The equity beta is 1.15, indicating that the stock is 15% higher than the average level of market fluctuations, and the system risk of investing in the stock is the highest among the three enterprises. When the risk comes, the uncertainty of the company's income is strong, while the fixed expenses are high, leading to increased uncertainty of profits. Brightdairy's debt to equity ratio is also the largest among the three enterprises, and there may be a risk that the debt will not always mature. However, this beta value also reflects that Guangming has a large profit space and great development potential.

Next, a specific comparative analysis of the indicator differences of the three companies from several aspects will be made in the following part.
3.2 Resources and brands

3.2.1 Mengniu Dairy

At the manufacturing end, "Keniu", a joint venture of Mengniu and Coca Cola, uses advanced membrane filtration technology, relies on new high-end production equipment and processes, retains the active nutrition of milk, and opens up a new dairy nutrition track; On the quality side, Mengniu's "EU benchmarking project" has made breakthrough progress, and the quality of all major product categories has met the requirements of EU standards. Mengniu has also become the only enterprise certified by SGS SGS Standard Technical Service Co., Ltd. in China's dairy industry. Around 2000, in order to improve Mengniu's recognition and reputation and avoid Yili's dissatisfaction, Mengniu adopted the idea of "creating the second brand in Inner Mongolia". In this way, it will not only make the public feel that Mengniu is modest and eager to learn, but also enhance the popularity of Mengniu, killing two birds with one stone. In addition, Mengniu also publicized similar slogans on ice cream packages, TV advertisements and other channels. Mengniu seems to be advertising for Yili, but it actually increases its exposure through the popularity of large enterprises.

3.2.2 Yili Share

Yili has the largest milk source advantage in China, namely, Hohhot, Inner Mongolia, Hulunbeier Grassland and Heilongjiang Durbert Grassland. High quality milk source and low cost are its magic weapons. At the same time, Yili has a forward-looking vision. By launching the brand slogan of "Green Grassland, Yili Good Milk", it has captured the beautiful yearning of the Chinese people for the grassland. Moreover, Yili launched a series of promotional activities with the theme of prairie. It is the deepening of this series of concepts that has promoted the development of Yili brand, distanced Yili brand from other brands, and developed Yili from a regional brand into a national brand.

3.2.3 Brightdairy

As milk source is very important for dairy enterprises, Guangming realized the importance of milk source as early as 1996 and proposed to "use the national resources as the national market". So far, a milk source base with an annual output of 2 million tons of raw milk has been established. The company has the largest ranch in the Far East and domestic first-class cow breeding and feeding technology, and on the basis of introducing foreign excellent germplasm, it has cultivated Holstein black and white cows with excellent germplasm. As the third largest shareholder of Bright Dairy, Danone has been operating in the Chinese market for more than 15 years, and its operating history in China even exceeds that of Mengniu and Yili, the two largest suppliers of liquid milk market in China. Danone has a very high brand awareness, strong technical and marketing capabilities, and is very familiar with the Chinese market, which can provide strong support for the long-term development of Bright Dairy.

3.3 Profit structure

3.3.1 Mengniu Dairy

The net profit of Mengniu Dairy is roughly equivalent to the core profit, and its investment assets account for only a small part of the total assets. Therefore, it can be estimated that the investment income and non-operating income of Mengniu Group are very small. It shows that Mengniu Group has outstanding main business and strong core competitiveness.

3.3.2 Yili Share

The core profit of Yili Group has always been the main body compared with non-operating income and investment income, which shows that Yili Group has a clear profit structure, strong core business and strong inventory competitiveness. However, although the core profit is dominant, its non-operating income contributes a lot to the net profit, and most of the non-operating income is government subsidies, which are relatively less sustainable.
3.3.3 Brightdairy

The core profit and net profit of Bright Dairy have been growing continuously, and the investment income and non-operating income account for a small part of the profit, which shows that its main business is outstanding, and there is a steady growth momentum. Moreover, the gross profit rate of Bright Dairy is the highest among the four enterprises. Although its scale is smaller than that of Mengniu and Yili, it also has its own unique competitive strength.

4. Conclusion

This study finds that Mengniu Dairy has the highest leverage ratio, while its equity beta, WACC and business risk are the lowest among the three enterprises; Yili has the lowest leverage ratio, but its equity beta, WACC and business risk are the highest among the three enterprises, and its ROA and ROE are also the highest; Bright equity beta is the highest, while ROA and ROE are the lowest. In the long run, by the end of 2023, Mengniu Dairy will have about 35% - 80% growth space. However, compared with Mengniu and Yili, combining their quality and valuation, the income from investing in Yili will be higher than that of Mengniu Dairy. Bright Dairy, as the leader of low-temperature milk, will continue to benefit from the return of low-temperature milk trend in the future. At the same time, it will lay out the national market with the advantages of the whole industrial chain. There will be ample room for future growth. However, it is still necessary to consider whether Bright's low-temperature milk series will reappear in the dilemma of Mosrian in the same year. In the future, the national process of Mengniu and Yili’s low-temperature milk should be continued to pay attention to.

Reference


