

# Baijiu Industry Analysis Based on Various Indicators: Kweichow Maotai, Luzhou Laojiao & Shanxi Fenjiu

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**Abstract.** While the Chinese stock market has been in a slump due to the COVID-19 pandemic, the profitability of Baijiu companies has been attracting attention. This article analyzes the financial data of three Baijiu enterprises based on three types of indicators, i.e., solvency indicators, profitability indicators, operating capacity indicators. To be specific, for solvency indicators, current ratio and quick ratio are utilized; for profitability indicators, return on assets (ROA) and return on equity (ROE) are utilized; for operating capacity indicators, inventory turnover ratio and accounts receivable turnover ratio are utilized. According to the data analysis, Kweichow Moutai maintains a leading edge and leads the development of the industry. At the same time, the profitability of Luzhou Laojiao and Shanxi Fenjiu increased steadily year by year. Hence, the future development potential is strong and this study claims that the Baijiu industry stock future trend is good, worthy of investment. This article puts forward feasible suggestions according to the shortcomings of each enterprise, and provides investment suggestions for shareholders. Overall, these results shed light on guiding further exploration of Baijiu industry, showing the growth potentiality for each company as well as the investment suggestion for the stockholders.

**Keywords:** Baijiu industry, Kweichow Maotai, Luzhou Laojiao, Shanxi Fenjiu.

## 1. Introduction

Affected by the epidemic, the general economic environment is in a downturn and the stock market has experienced multiple turmoil, yet the Baijiu sector's gains continue, and the reason cannot be separated from the Baijiu industry's own characteristics. For the Chinese, the most popular alcoholic beverage is Baijiu, a potent Chinese distilled spirit made primarily from sorghum with alcohol content ranging from a mildly dangerous 20% to 60% [1]. It plays an irreplaceable role in the intermingling of family, friendship and love, and in the harmonious communication and exchange of people. If Chinese society is a "circle society", then Chinese Baijiu is the link and bridge that holds the "circle" together [2]. With the improvement in the quality of people's living standards, coupled with the unique social attributes of Baijiu, sales of Baijiu have continued to increase, most notably high-end Baijiu. However, Baijiu production declined significantly in 2018, returning to its 2010 level (around 9 billion liters). The main reason for this was the central government's crackdown on public food & drink and bribery, which to some extent affected Baijiu consumption and production [3]. Nevertheless, in general, Baijiu-related stocks still hold an uptrend investors are still very confident in the future growth space of Baijiu companies. As a result, the market is generally bullish on the industry, and more and more investors are focusing on it. Therefore, it is important to analyze the financial data of listed Baijiu companies.

Xiao believes that some Baijiu companies share price was overvalued, so investment in the Baijiu industry needs to be treated with caution. Meanwhile investors should avoid companies with high share prices and weak earnings growth [4]. Bao and Li found Kweichow Maotai's strong solvency by analyzing solvency-related ratios, but did not make full use of debt resources and could not fully reap the benefits obtained through investment and expansion [5]. Yang analyzed Luzhou Laojiao based on the Harvard analysis framework, and concluded that the company's operating capacity and growth capacity showed a trend of first decline and then increase in the past few years. Furthermore, its financial indicators are at an intermediate level, which need to be further strengthened [6]. In addition, Xu has studied the financial indicators and concluded that Luzhou Laojiao's profitability is strong and

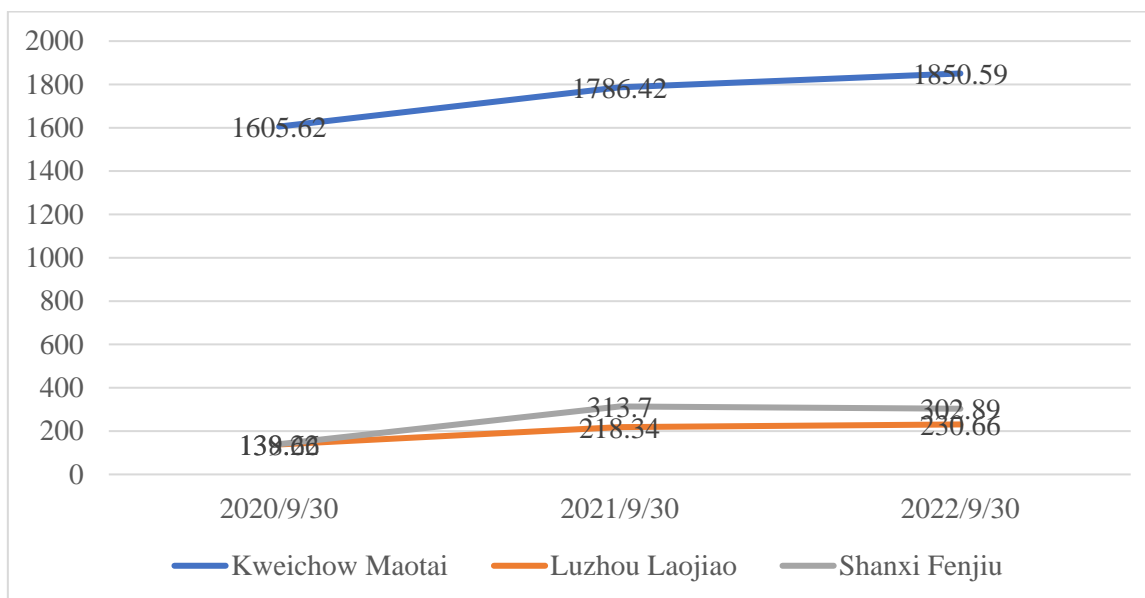
improving year by year, and it is in a healthy development stage and expected to have better performance in the future [7]. Moreover, Ban concluded that the systemic risk of Luzhou Laojiao accounted for a small proportion in its overall risk, that is, the company still has a considerable degree of non-systemic risk [8]. Li has analyzed Shanxi Fenjiu's solvency, profitability and operating capacity, finding that the impact of zero-leverage operation and policy regulation is more obvious [9]. Xu found that Shanxi Fenjiu has a large amount of credit sales, the speed of capital recovery is slow, but has a huge development potential [10].

Baijiu consumption is a multi-dimensional ecological consideration, some consumption quality, some consumption emotion, some for social interaction, some to express the way of life, just because of the huge consumption structure, the consumption of Baijiu ecology [11]. The purpose of this paper is to compare the financial data of three leading companies in the Baijiu industry, namely Kweichow Maotai, Luzhou Laojiao and Shanxi Fenjiu, on a cross-sectional basis. Therefore, this paper will start from the analysis of financial indicators, use the comparative analysis method to make a reasonable evaluation of the company's economic benefits and provide suggestions for its future development.

## 2. Data and Method

Figure 1 shows the stock price charts of three liquor companies (i.e., Kweichow Moutai, Luzhou Laojiao and Shanxi Fenjiu) over the past three years. The following data sets out the basic financial data of Kweichow Moutai, Luzhou Laojiao and Shanxi Fenjiu, based on the official financial reports of each company and Eastmoney.com. This article analyzes the following types of financial indicators: solvency indicators, profitability indicators, operating capacity indicators. In solvency indicators, the following financial ratios are used, starting with Current ratio. Generally speaking, the higher the ratio, the stronger the liquidity of the enterprise's assets and the stronger the short-term solvency. The calculation formula is given as follows:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} \tag{1}$$



**Fig. 1** The stock prices of three companies.

Quick ratio reflects the ability of a company's cash or immediately realizable assets to repay its current liabilities. If the ratio is too high, it indicates that the company has excess working capital and production capacity problems. If the ratio is too low, it means that the company's current debt is too heavy, and there may be repayment risk. The calculation formula is given as follows:

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Cash equivalents} + \text{Marketable securities} + \text{Net accounts receivable}}{\text{Current liabilities}} \tag{2}$$

With regard to the measurement of the company's profitability, the following financial indicators are used for the analysis. Firstly, it is Gross profit margin. It represents the profitability of a company in the direct production process. The highest gross margin indicates the higher the profitability of the company and the better the ability to control costs. The calculation formula is given as follows:

$$\text{Gross Profit Margin} = \text{Net Sales} - \text{COGS} \quad (3)$$

Return on assets (ROA) is a measure of how much net profit is generated per unit of assets. The higher the indicator, the better the utilization of assets, indicating that the company has achieved good results in terms of increasing revenue and saving capital usage. The calculation formula is given as follows:

$$\text{Return on Assets} = \frac{\text{Net income}}{\text{Total assets}} \quad (4)$$

Return on equity (ROE) is an important financial indicator that measures the efficiency of shareholders' funds. The higher the value of the indicator, the higher the return on investment, and the indicator reflects the ability of own capital to obtain net income. The calculation formula is given as follows:

$$\text{Return on Equity} = \frac{\text{Net income}}{\text{Average Shareholders' Equity}} \quad (5)$$

In terms of the measurement of the company's operating capability, the following financial indicators are used for the analysis. Inventory turnover is a financial ratio showing how many times a company turned over its inventory relative to its cost of goods sold (COGS) in a given period. High inventory turnover means that the company has high capital utilization efficiency and more money available for circulation. The calculation formula is given as follows:

$$\text{Inventory turnover ratio} = \frac{\text{COGS}}{\text{Average Value of Inventory}} \quad (6)$$

The accounts receivable turnover ratio indicates the average number of times a company's accounts receivable are converted to cash within a certain period. A high turnover ratio indicates fewer credit accounts, quicker collection and shorter aging. The calculation formula is given as follows:

$$\text{Accounts receivable turnover ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}} \quad (7)$$

### 3. Results & Discussion

#### 3.1. Kweichow Maotai

Firstly, by analyzing the profitability of Kweichow Moutai, the gross profit margin is the highest among the three companies, reaching around 92%, mainly owing to the high product price. In addition, Moutai's monopoly is stronger than other companies because of its brand advantage and special status. As a result, Moutai has extremely high pricing power in the entire Baijiu market, thus capturing most of the profits of the industry. In addition, Moutai also uses a digital marketing platform called imaotai, which provides a new sales growth point for the company, thus increasing its operating revenue. Additionally, the return on total assets and return on equity of the enterprise show an increasing trend year by year, which indicates that Kweichow Moutai has a stronger ability to convert its assets into profits. To analyze Kweichow Moutai's solvency, the average current ratio and quick ratio of the company from September 2020 to September 2022 are 5.269 and 4.395, respectively. It can be seen that, to a certain extent, Kweichow Moutai's short-term solvency can be fully guaranteed.

It is apparent that the inventory turnover of Kweichow Moutai is slow as shown in Table.1, but it cannot blindly judge whether it is good or bad. Attributed to the particularity of the Baijiu industry, the production process of Baijiu takes a long time, including many links such as grain purchase, brewing, cellars, distillation and blending. Among them, the length of brewing and cellaring largely

determines the quality of the Baijiu. Longer inventory turnover days also mean its Baijiu products are more valuable the longer they take to ferment.

**Table 1.** Financial indicators of Kweichow Maotai.

<b>Solvency indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Current ratio	6.194	4.432	5.180
Quick ratio	5.159	3.733	4.292
Asset-liability ratio (%)	13.85	19.53	16.47
<b>Profitability indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Return on equity (weighted) (%)	21.91	21.68	23.20
Return on total assets (weighted) (%)	18.42	18.07	19.50
Gross profit margin (%)	91.87	91.19	91.33
<b>Operating capacity indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Inventory turnover ratio	0.207	0.222	0.223
Account receivable turnover ratio	596.8	72.02	39.55

### 3.2. Luzhou Laojiao

In general, Luzhou Laojiao is currently in the second tier of the Baijiu industry. It can be seen from the Table. 2 that the short-term solvency indicators of Luzhou Laojiao show the same change trend in the past three years, both of which decline first and then increase, indicating that the enterprise's capital utilization efficiency in this year is improving. According to the analysis, it can be confirmed that the enterprise's progress is due to the investment in the new Baijiu cellar project and the increased purchase of financial assets [12]. In terms of asset-liability ratio, for creditors, the enterprise's asset-liability ratio should be as small as possible, so as to ensure the repayment ability. The declining ratio indicates that the company's solvency is improved. In addition, the profitability index of Luzhou Laojiao has been continuously improved in the past three years, which is at the upstream level of the industry, partly due to the continuous acquisition with this company. Through acquisition activities, the synergistic effect of finance, management and technology was realized, which expanded the customer base in the medium and high-end Baijiu market and improved the efficiency of asset use [13]. The decrease of inventory turnover rate year by year indicates that the inventory goods of enterprises are unsalable and the capital turnover of enterprises may also be difficult, which may be related to the economic downturn under the epidemic.

**Table 2.** Financial indicators of Luzhou Laojiao.

<b>Short-term solvency indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Current ratio	3.636	3.243	3.272
Quick ratio	2.417	2.265	2.580
Asset-liability ratio (%)	26.45	29.14	29.84
<b>Profitability indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Return on equity (weighted) (%)	27.35	25.22	23.17
Return on total assets (weighted) (%)	19.08	17.38	15.89
Gross profit margin (%)	86.78	86.30	83.57
<b>Operating capacity indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Inventory turnover ratio	0.285	0.342	0.522
Account receivable turnover ratio	8220	7683	1164

### 3.3. Shanxi Fenjiu

Seen from the Table. 3, the current ratio and quick ratio of the enterprise show a small upward trend, which proves that the short-term solvency of the enterprise is continuously enhanced. While the change of the increase within a reasonable range indicates that the funds in the current assets and quick assets of the enterprise are reasonable, and will not lead to the waste of idle funds. In addition,

the asset-liability ratio is declining, indicating that the enterprise's ability to further raise debt increases, and the financial risk decreases. The gross profit rate and net profit rate of sales of Shanxi Fenjiu Company increased year by year, indicating that the profitability of the enterprise is constantly enhanced. Return on total assets and net interest on assets generally increased, reflecting management's increased ability to leverage the company's resources to create value. Compared with the inventory turnover rate in 2020, this year's product sales are smooth and the inventory backlog is smaller. In addition, the company's accounts receivable turnover increased significantly, indicating that the company's average collection period is short, bad debt losses are less, and the solvency is enhanced.

**Table 3.** Financial indicators of Shanxi Fenjiu

<b>Solvency Indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Current ratio	2.182	1.949	1.721
Quick ratio	1.503	1.365	1.013
Asset-liability ratio (%)	38.38	43.31	46.24
<b>Profitability indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Return on equity (weighted) (%)	39.85	40.08	28.38
Return on total assets (weighted) (%)	22.56	21.38	15.06
Gross profit margin (%)	76.52	75.35	73.26
<b>Operating capacity indicators</b>	<b>2022/9/30</b>	<b>2021/9/30</b>	<b>2020/9/30</b>
Inventory turnover ratio	0.618	0.657	0.485
Account receivable turnover ratio	13298	11444	2206

### 3.4. Comparison & Suggestion

Seen from the Table. 4, the stock price of Kweichow Moutai is much higher than that of the other two companies, which is due to the strong brand effect and excellent product power of Moutai. In recent years, Moutai has allocated more funds for its own investment, e.g., actively updating production equipment, importing high-tech production equipment, and technological transformation of the enterprise's assembly line and warehousing and logistics. At the same time, as the "national Baijiu", Moutai also has the support of the government.

**Table 4.** Comparison of market price between three companies

	Kweichow Maotai	Luzhou Laojiao	Shanxi Fenjiu
Market price (2022/12/15)	1794.41	221.28	284.43

For Kweichow Moutai, the current problem is the social buzz and stock market bubble brought about by business and capital, which has led to Moutai being repeatedly labelled a "corrupt drink". Therefore, Moutai needs to capture the new consumer group in the intergenerational transition period, focus on the power of the masses, and do not let Moutai be labeled negatively. The main shortcoming of Luzhou Laojiao Company is its poor capital and inventory turnover, and it does not pay enough attention to inventory management. Therefore, it is necessary to strengthen the inventory management, reasonably control the inventory entry and exit, determine the required material quantity according to the market demand changes, and constantly improve the production and sales capacity. Shanxi Fenjiu profitability is growing steadily, but compared with the same industry there is a certain gap, there is still a lot of room for growth. Hence, the company should expand the sales channels and introduce different sellers in different channels, so as to give full play to the advantages of different sellers.

To sum up, the profitability of the Baijiu industry is generally high, and Moutai is favored by investors with its high brand value and excellent product quality. As the stock price of Kweichow Moutai is overvalued to some extent at present, it is risky to gain profits by investing in Kweichow Moutai shares in the short term. However, Kweichow Moutai always maintain the high gross profit rate and is gradually promoting the base Baijiu production expansion project, so the future production

capacity is guaranteed. In this case, Kweichow Moutai's future performance has strong certainty and long-term investment value. Mid-to-high-end Baijiu such as Luzhou Laojiao and Shanxi Fenjiu have also continued to rise. In addition, the Spring Festival is approaching, the demand for medium and high-end Baijiu will rise greatly, and the first quarter of next year is expected to have a certain growth. In the long term, Moutai and other leading companies will still be strong, holding these companies' shares is a safe choice. However, some varieties have high valuation risks, so the investment in the Baijiu industry should be treated differently, and companies with high stock prices and weak performance growth should be avoided.

#### 4. Conclusion

In summary, this paper enumerates part of the financial data of three Baijiu enterprises, analyzes the financial situation of each enterprise, and puts forward feasible suggestions for the shortcomings of each enterprise. In addition, through the data analysis, that the future trend of Baijiu industry stocks is good, worthy of investment. Nevertheless, the data selected in this article has limitations, so the results may be affected. This paper only analyzes the more important ratio of financial indicators, and only intercepts the financial data of the recent three years, so the data of the three companies is not complete. Future studies can investigate these three companies with a longer time span. Besides, in addition to the three aspects of solvency, profitability and operating capacity, one can also analyze the companies with their growth capacity. Overall, these results offer a guideline for people investing Baijiu stocks, show the three companies financial status and give each company suggestions for their future growth.

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