

## Analysis of the Trend of Concentration in Liquor Industry in China

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### Abstract

Liquor industry, as one of the important industries of our national economy, has a great relationship with the life and consumption of Chinese residents. However, although the production capacity of Liquor industry in China is constantly increasing, there are many enterprises in the industry and the threshold of the industry is low, which leads to disordered brands, fierce competition and disordered industrial order. Industry concentration degree can well measure the market structure of an industry, and the concentration degree analysis of liquor industry can clearly reflect the current development status of the industry. This paper analyzed the concentration degree of liquor industry from 2011 to 2017 and found that the concentration degree of liquor industry has been improved in recent years, but the concentration degree of liquor industry is still at a low level and the development is unbalanced. Furthermore, the characteristics and reasons of liquor industry concentration were analyzed, and three trends of liquor industry development were explored.

### Keywords

Liquor industry; Enterprise competition; Industry concentration.

## 1. INTRODUCTION

Liquor industry, as one of the important industries of China's national economy, is closely related to the life and consumption of Chinese residents. There are also difficulties in the comprehensive development of liquor market and liquor enterprise management in China. On the one hand, under the influence of the economic recession brought by the post-epidemic era, the development of liquor enterprises is facing the pressure of rising costs, which puts forward huge difficulties for the internationalization development strategy of enterprises with a scale of over 10 billion yuan. On the other hand, as international liquor brands have seized the Chinese market, they have divided the proportion of alcohol market in China and intensified the competition in the domestic liquor market [1]. The proportion of liquor production and sales accounted for the total volume of beverage liquor decreased year by year. Large and small enterprises in China's liquor industry are numerous in number, with disordered brands, disordered industrial order and low industry concentration, which poses a great threat to the survival of small and medium-sized enterprises. Therefore, in this case, it is necessary to adopt reasonable analysis indicators to measure the structure of Liquor industry in China, create brand value, establish brand personalized characteristics, and actively seek for new development trends. This can achieve the goal of high quality development of liquor enterprises.

## 2. CURRENT SITUATION OF LIQUOR INDUSTRY

### 2.1. Welcome the Recovery, the Industry Picked Up

From 2004 to 2012, China's liquor industry ushered in a golden decade of volume and price rise. Although the global subprime crisis in 2008, but the central government issued a 4 trillion stimulus policy, 2008 liquor adjustment cycle to delay. In 2013, the central government gradually intensified its "anti-corruption" efforts, and the consumption of three public enterprises was restricted. As a result, the important revenue market of liquor, namely the government consumption market, suffered a "cliff-like" decline. Liquor industry ushered in a period of adjustment, liquor production, sales, prices and total profits have declined to varying degrees.

After two years of difficulties in 2013-2014, China's liquor industry bottomed out in 2014. Government consumption accounted for a quarter of the medium - and high-end liquor consumption under 300 yuan in 2012. Affected by the policy, it only accounted for 3% of the consumption market of the liquor industry in 2014, down 22 percentage points, and the liquor industry was hit hard. Enterprises then turn to business communication, civil consumption and other directions of development, of which the proportion of civil consumption market in 2014 has been more than half, with a trend of continuous rise. Since 2015, the liquor industry has recovered with the transformation of its focus from high-end political and commercial consumption to mass consumption characterized by "consumption upgrading". This round of liquor industry recovery, more solid foundation, recovery is based on the consumer group from the original three public consumption to consumption upgrade brought about by the business, mass consumer groups.

### 2.2. High-end Wine Industry Accelerates Growth

Since 2015, the industry has been recovering gradually and the performance of high-end sub-high-end wine industry has been excellent. In this paper, eight listed liquor enterprises including Kweichow Moutai, Wuliangye, Luzhou Laojiao, Yanghe Stock Co., LTD., Shanxi Fen Liquor, Shui Jing Fang, Shide Liquor And Jiujiu are selected as the representatives of high-end sub-high-end liquor enterprises. The total revenue of 17Q3 of high-end sub-high-end liquor enterprises accounted for 78.37%, with a year-on-year growth of 4.89 pct. 17Q3 (third quarter) Net profit attributable to mother accounted for 90.47%, with a year-on-year growth of 2.07 pct. By comparing the average gross margin of the high-end sub-high-end and the average gross margin of the industry, it can be found that the scissors difference between the two reached the lowest 0.86 pct in 2014. Subsequently, the industry gradually recovered, the scissors gap widened year by year, 17Q3 reached the current highest 9.59 pct. Similarly, the scissors gap between the high-end sub-high-end average net interest rate and the industry average net interest rate reached its lowest in 2014 -1.06 pct. Subsequently, the industry gradually recovered, the scissors gap widened year by year, 17Q3 reached the current maximum of 15.24 pct.

## 3. INTRODUCTION TO RELEVANT THEORIES

### 3.1. Industry Concentration

Industry concentration index is the most commonly used industry market structure measurement method. It takes the relevant value of the top N enterprises with the largest scale in the industry. For example, the sales volume, added value, changes in the number of employees, changes in the total amount of assets, etc. of an enterprise account for the specific changes in the share of the entire industry to indicate the concentration of the industry, which is of great significance for studying the development of the enterprise [2].

When  $n$  is 4, it generally refers to the proportion of the top 4 enterprises in the industry in the total sales [3]. The bigger  $CR_4$  is, the monopolistic trend of the development of the whole industry is seen from the perspective of market competition, and the higher the requirements for the development of small and medium-sized enterprises will be, making it difficult for enterprises to survive. This indicates that the sales and assets of the top 4 enterprises in this industry are relatively high, and the concentration ratio is also higher. On the contrary, for industries with lower concentration, the development of the whole market is in a state of perfect competition, and the barriers to entry and exit are relatively low. Therefore, the concentration degree is an important symbol to measure the development structure of the industry market, which is of great significance to the relevant departments to manage the development of the industry [4].

### 3.2. Calculation of Industry Concentration and Bain Classification

Industry concentration index calculation has the following two situations.

The first calculation method is to use formula (1) to calculate the total amount of assets and detailed sales amount of an enterprise when the market share of the industry is known.

$$CR_n = \sum_{i=1}^n S_i \quad (1)$$

Where,  $S_i$  is the market share of the  $i$ th enterprise, and  $N$  is the total number of enterprises in this industry.

The second is to use formula (2) when the output value, output, sales volume, sales volume, number of employees and total assets of the enterprises in the industry are known.

$$CR_n = \sum \frac{(X_i)n}{(X_i)N} \quad (2)$$

Where, is the industry concentration ratio of the first few enterprises with the largest scale;  $X_i$ : Represents the output value, output, sales volume, sales volume, number of employees, total assets of the enterprise, etc.;  $N$ : The number of the largest enterprises in the industry, usually  $n=4$  or  $n=8$ ;  $N$ : Total number of enterprises in the industry. The classification of market structure by Bain USA is shown in Table 1.

**Table 1.** Classification of market structure by Bain USA

	$CR_4(\%)$	$CR_8(\%)$
Oligopolistic type I	$CR_4 \geq 85$	—
Oligopolistic type II	$75 \leq CR_4 < 85$	$CR_8 \geq 85$
Oligopolistic type III	$50 \leq CR_4 < 75$	$75 \leq CR_8 < 85$
Oligopolistic type IV	$35 \leq CR_4 < 50$	$45 \leq CR_8 < 75$
Oligopolistic type V	$30 \leq CR_4 < 35$	$40 \leq CR_8 < 45$
Oligopolistic type VI	$CR_4 < 30$	$CR_8 < 40$

The market size of Liquor industry in China exceeds 600 billion RMB, and Five Grain liquid and Moutai enterprises have positioned their sales of 100 billion RMB as their development goals. By 2019, compared with more than 20,000 liquor enterprises, there will be only thousands of liquor enterprises with a scale of more than 10 billion and seven enterprises with a scale of more than 10 billion. In addition, different geographical environment and regional

economic development have different preferences for liquor culture, taste and brand, which leads to obvious market diversification and low market concentration. At present, CR5 in Chinese liquor industry accounts for 18%, while CR5 in foreign liquor industry accounts for 60%. Comparison shows that there is still a lot of room for improvement. The reform of liquor supply side has challenged the cross-regional and high-quality development of smes, and many smes have been merged and acquired, such as Yanghe's acquisition of Shuanggou and Luzhou Laojiao's acquisition of Sichuan Liquor stock. In the future, industry acquisition and merger is the trend of liquor industry, which is mainly reflected in the merger and acquisition of small and medium-sized enterprises or wineries within the region by famous and excellent enterprises, forming the situation that the stronger the stronger, and the industry concentration tends to be obvious.

## 4. BRIEF OVERVIEW OF LIQUOR INDUSTRY AND CONCENTRATION DEGREE ANALYSIS

### 4.1. Market Supply and Demand

There is indeed a great market demand for baijiu in China, and it has a deep mass base. However, influenced by the policy, especially since the implementation of the "Eight-point Regulation" by the central government, the consumption of high-end liquor has indeed declined to some extent, but it has not fundamentally inhibited the sales of liquor, as shown in Table 2. The reason is that the mass consumption of "people's wine" market is limited by the impact of relevant policies, it is more affected by economic development, residents' income level, residents' consumption structure and other macroeconomic factors [5~6]. The increasing demand of consumers for liquor further helps the liquor industry to upgrade its products [7].

**Table 2.** Statistics of liquor sales, sales volume and average price from 2006 to 2016

	Sales revenue (100 million yuan)	Sales (kL)	Unit Price (10,000 yuan/kilolitre)
2006	971.39	383.90	2.53
2007	1189.04	485.20	2.45
2008	1540.25	562.10	2.74
2009	2027.62	628.50	3.23
2010	2641.77	873.30	3.03
2011	3746.67	1021.80	3.67
2012	4466.26	1126.70	3.96
2013	5018.01	1166.20	4.30
2014	5258.89	1202.60	4.27
2015	5558.86	1278.80	4.46

### 4.2. Concentration Degree Analysis of Liquor Industry

#### 4.2.1 Revenue analysis

The number of listed companies in the liquor industry has now reached 16. Due to the late listing time of jinshiyuan, Yingjiagong and other listed companies, in order to carry out better data comparison, this paper selects 5 major listed companies for analysis. The scale of the enterprise first reached 10 billion five enterprises, is the liquor industry famous enterprises. The following is the data related to operating income selected in this paper from 2011 to 2017, as shown in Table 3.

**Table 3.** Operating income of major listed companies in the liquor industry from 2011 to 2017

	Maotai	Wu liang ye	Yanghe	Luzhou laojiao	Shanxi fenjiu
2011	184.02	203.51	127.41	84.28	44.88
2012	264.55	272.01	172.70	115.56	64.79
2013	310.71	247.19	150.24	104.31	60.87
2014	322.17	210.11	146.72	53.53	39.16
2015	334.47	216.59	160.52	69.00	41.29
2016	401.55	245.44	171.83	83.04	44.05
2017	610.63	301.87	199.18	103.95	60.37

From Table 3, it is not difficult to find from table 4 that from 2011 to 2017, the liquor industry experienced a large growth range and a fast growth rate in the seven years. The revenue of Kweichow Moutai was always in the first place from 2011 to 2017, and suddenly increased sharply in 2017, until the revenue of 2017 exceeded 60 billion yuan, far ahead of other top four liquor enterprises. In addition, Wuliangye's revenue exceeded 30 billion yuan, ranking second.

#### 4.2.2 Net profit analysis

Corporate profits are down, but that doesn't necessarily mean failure. Because in these two years are in the adjustment period of economic structure, the decline of corporate profits and operating income is an inevitable result, as long as sufficient adjustment time is given, those full of vitality liquor enterprises will show a new look after the adjustment. Challenges and opportunities exist side by side. It can be seen from Table 4 that most enterprises in the liquor industry showed a downward trend in 2013 and 2014. The net profits of Wuliangye, Yanghe, Luzhou Laojiao, Shanxi Fenhe and other enterprises showed a downward trend, but Kweichow Moutai continued to maintain a stable upward trend in the overall depressed environment, with stable growth of operating income and profit. The data show that since 2016, the liquor leading enterprises have shown a stable growth situation after the adjustment of economic structure.

**Table 4.** Net profits of major listed companies in the liquor industry from 2011 to 2017

	Maotai	Wu liang ye	Yanghe	Luzhou laojiao	Shanxi fenjiu
2011	92.50	63.94	41.37	30.53	9.25
2012	140.08	103.36	61.52	45.43	13.27
2013	159.65	83.22	50.02	35.38	9.85
2014	162.69	60.58	45.08	9.76	3.58
2015	164.55	64.10	53.65	15.51	5.42
2016	179.31	70.57	58.05	19.50	6.42
2017	290.06	100.86	66.19	26.02	10.04

It is worth noting that although the overall strength of liquor enterprises has been enhanced in recent years and the scale of market operation has been gradually expanded, the competition among enterprises is also reflected in many aspects, not limited to channels and suppliers, but now it is more combined with the Internet, which is the trend of enterprises' future competition. With the further improvement of industry concentration degree, the stronger the company is, and the scale gap between enterprises is also larger, which indicates that the internal development competition in China's liquor industry is getting bigger and bigger.

#### 4.2.3 Market share analysis

Through the data in Table 2, the market share of enterprises can be analyzed, as shown in Table 5.

**Table 5.** Market share ratios of the five major liquor enterprises from 2011 to 2015

	Maotai	Wu liang ye	Yanghe	Luzhou laojiao	Shanxi fenjiu
2011	4.91	5.43	3.40	2.25	1.20
2012	5.92	6.09	3.87	2.59	1.45
2013	6.19	4.93	2.99	2.08	1.21
2014	6.12	4.00	2.79	1.02	0.74
2015	6.01	3.89	2.88	1.24	0.74
2016	6.56	4.01	2.81	1.36	0.72
2017	10.80	5.34	3.52	1.84	1.07

Through the analysis of the above table, it can be found that moutai enterprise market share steadily increased. The market share of the other four enterprises fluctuated greatly in 2014, and all of them decreased.

#### 4.2.4 Industry concentration analysis

Compare the revenues of each company over the years. According to the calculation formula (1), it is not difficult to get the CR4 situation of liquor industry from 2011 to 2017, as shown in Table 6.

**Table 6.** Market share of liquor enterprises from 2011 to 2017

Year	2011	2012	2013	2014	2015	2016	2017
CR <sub>4</sub>	17.19%	19.89%	19.96 %	14.67 %	14.76%	15.46%	22.57%

It can be seen from the table that from 2011 to 2017, CR4 did not reach 30%. According to Bain classification, both of them are competitive. In 2013 and 2014, the concentration of liquor industry gradually increased, and in 2014, under the influence of economic structural adjustment policy, the concentration decreased suddenly. In the future, with the adjustment of structure, the concentration gradually recovered, and in 2017, it broke through CR4&GT. The 20% mark.

### 4.3. Characteristics of Liquor Industry Market Concentration

Many large enterprise groups have been formed in the liquor industry through merger and acquisition, reorganization and combination, and they have gradually attracted foreign capital and foreign capital to join in, thus further promoting the liquor industry to form an increasingly modern industrial structure with the joint development of various ownership enterprises. Liquor industry market, brand concentration will be further improved. As can be seen from table 3 above, the concentration ratio of the liquor industry is not high at present. The market share of the five major liquor enterprises in China has been between 14% and 23% from 2011 to 2017, which is at a low concentration level. And concentration fluctuates over the years, up and down. However, it is worth noting that, although the concentration degree has been improved, local protectionism is still very serious in some regions. It is difficult for enterprises to develop across regions, the industry concentration degree is generally not high, and the



popularity of high quality will eliminate more small and medium-sized enterprises in the future, and industry resources will concentrate on high-quality brands.

## **5. FORECAST THREE DEVELOPMENT TRENDS OF LIQUOR INDUSTRY**

### **5.1. Industry Concentration Is Getting Higher and Higher**

Along with the technical level advancement, the production equipment backward wine company will be eliminated, the concentration degree of liquor industry will be further strengthened, Liquor industry will tend to the "three concentration" of brand, product and place of origin. The intensification of industry concentration accelerates the speed of resource integration, which is mainly reflected in the integration of ecological, cultural, technological and other resources in the core region, so as to form a regional liquor industry cluster and form the industrial cluster effect.

Although the advantages of some local enterprises are still obvious, most large enterprises have realized the modes of origin and local production and sales, which are less restricted by regional regions. According to the needs of development, large enterprises will expand their production scale and marketing channels more through the mode of capital acquisition.

### **5.2. Brand Concentration Increased, the Recovery of the Industry Showed Structural Differentiation**

With the continuous improvement of people's living standard and the change of consumption concept, the national famous and excellent wines and local strong brands that have both "outside" and "inside" are more favored by consumers, and the brands begin to concentrate on the national famous and excellent wines and local strong brands. In this round of industry adjustment, we have deeply realized that it is not sustainable to rely solely on blind expansion or high cost investment. Only the wine enterprises with high brand influence driven by high product quality can be reborn in nirvana. At present, the liquor industry is seriously differentiated, and the stronger the brand effect is, the higher the anti-risk ability is.

### **5.3. Liquor High-End Trend Is Obvious**

An obvious feature of this wave of industry recovery is the high-end liquor, which can be clearly seen from the performance of listed companies. According to the data in the annual report and quarterly report of listed companies, the industry reached the bottom in 2014, with the revenue and net profit of high-end liquor and sub-high-end liquor declining significantly. Therefore, high-end liquor was most affected by the negative trend of the industry, and the growth rate of income and profit of sub-high-end liquor decreased more than that of high-end liquor. After the recovery of the industry in 2015, the revenue and profit of high-end and sub-high-end liquor began to return to positive growth. As the secondary high-end liquor experienced a sharp decline in the industry adjustment period, the base was very low. After the recovery of the industry, the performance growth rate based on the low base rebounded strongly, and the growth rate of revenue and profit was higher than that of high-end liquor. From 2016 to 2017, the industry has shown a clear trend of recovery. The overall growth rate of sub-high-end and above liquor is much higher than that of medium and low-end liquor, and the gap is further widening. At the same time, the overall growth rate of high-end liquor starts to surpass that of lower-end liquor, and the trend of the whole industry becoming high-end is very obvious, which is also in line with our previous analysis on the brand pattern of the industry: the competitive environment of high-end liquor is better than that of lower-end liquor, and the competitive environment of lower-end liquor is better than that of medium-end liquor.

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