

# Financial Index Evaluation and Profit Model Analysis of Listed Power Generation Enterprises

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**Abstract:** The power industry has entered the stage of deepening reform in an all-round way, and the state has fully opened up the power generation and electricity sales side. In the market competition environment, the production and operation mode of power generation enterprises has gradually changed from the production type" to "the operation type" to seek greater profits. Jilin Power Share Co., Ltd as a listed company for many years of old power generation enterprises, its profit model has great research value. This paper is based on the background environment of electric power deepening reform and selects the financial data of representative power generation enterprises for comparison, combs out the problems existing in the profit model of Jilin Power Share Co., Ltd and puts forward measures to optimize the profit model.

## 1. General Situation of Market-oriented Reform of Electric Power in Our Country

With the development of the market economy, the government gradually realizes that the reform of the power market can inject new blood into power industry, and it is an effective way to ensure the benign competition. Up to now, the market-oriented reform of electric power has gone through four stages, namely, the experimental stage of raising funds to run electric power, the embryonic stage of separation of government and enterprises, the accelerated stage of "separation of power plants from power grids", and the deepening stage of "liberalization, independence and strengthening of power grids" under way since 2015.

## 2. Profile and Profit Model Analysis of Jidian Share

### 2.1 Brief Introduction of Jidian Share

Jilin Power Co., Ltd. (hereinafter referred to as " Jidian Shares ") is a power company controlled by China Power Investment Group, one of China's five large power generation groups, which was listed on the Shenzhen Stock Exchange in 2002. Jidian Share business to traditional energy and new energy power generation, heating, power project investment, energy storage and other project, supplemented by the current Jidian Share has developed into a very influential power enterprises.

### 2.2 Analysis of Current Profit Situation of Jidian Share

The four basic points are the profit point, profit source, profit lever and profit barrier, which are the components of the profit model. The operating mode and profit-making mode of Jidian Share have changed since the state comprehensively deepened the power market reform in 2015. This chapter will make a vertical analysis of the profit-making mode of Jidian Share after 2015.

#### 2.2.1 Profit point

Based on thermal power, power generation shall be gradually transferred to new energy. With

the change of the main direction of macro-development, Jilin Shares have realized that the traditional power supply cannot meet the requirements of the new reform. Based on thermal power, its industry has gradually shifted to new energy such as wind power and photovoltaic power. At present, Jilin Electric Power Co., Ltd. has been put into production and installed in Jilin, Gansu, Qinghai, Jiangxi and other 18 provinces. The development pattern of new energy has taken shape and has a certain influence on the industry.

### **2.2.2 Profit targets**

Jidian Share of the main business income mainly from the production and sales of electricity and heat. In terms of electric power, the company mainly adopts the methods of thermal power, wind power and solar power generation, formulates the power generation plant according to the annual power quota issued by the energy administrative department, and signs the power purchase and sale contract with the local grid company according to the plan. Jidian Share of the five major customers are local state network company, customer source is stable and accounts receivable can be expected to recover.

### **2.2.3 Profit leverage**

Outstanding regional advantages. The company focuses on Jilin Province, based on the planning and layout of Jilin Province, and assumes the responsibility as a leading power generation company in Jilin Province, leading the upgrading of energy industry structure in Jilin Province in a more scientific direction. By the end of 2019, the heating area in Jilin Province had reached 60 million square meters, more than one million new energy installed, and the construction of photovoltaic projects and energy storage projects had made remarkable achievements. The company had established four energy platform companies and three new energy production and operation centers nationwide.

### **2.2.4 Profit barrier**

The operation mode in the form of industrial chain. The business scope of Jidian Share covers heat, electricity, gas, transportation, processing and manufacturing, computer information system integration, investment and other industries, covering a wide range of solid foundation with the strength to compete with peers. Jidian Share have mature production and sales experience, stable sources of raw materials and customers. Traditional power such as coal prices are higher, and Jidian Share consciously invested in coal enterprises, so to a certain extent, to ensure the supply of raw materials. The company from the hair, distribution, sales side to participate in market competition, which greatly increased the sales volume of products to ensure that the company's anti-risk capacity and profitability.

## **3. Comparison and Evaluation of Financial Indicators of Electric Power Enterprises**

This chapter uses financial indicators to analyze the power companies to reflect the implementation of the current profit model, to further optimize the profit model for Jidian Share. In the comparative analysis of financial indicators, the selection of samples and indicators must comply with the principles of comprehensiveness and focus. Therefore, this chapter selects the gross profit margin, net profit margin, liquidity ratio, asset-liability ratio, according to the Oriental Wealth Grid power industry total market value rankings, from high to low to select the top five power companies and Jidian Share of the relevant financial data, from profitability, solvency.

### **3.1 Profitability**

#### **3.1.1 Gross Profit Margin**

The formula for computation of gross profit margin shall be  $(\text{sales revenue} - \text{sales costs}) / \text{sales revenue} * 100\%$ , and shall be an important indicator used to measure an enterprise's profitability. It is not difficult to find from Table 1, Jidian Share gross margin showed a rising trend year by year. As can be seen from Table 2, the increase in gross profit margin is mainly due to the increase in

wind and photovoltaic power generation. Compared with the other three large power enterprises, Jilin Power shares gross margin still has a large gap. Based on the regular reports of these three companies, it is found that the main business of China Yangtze Power Co., Ltd., China General Nuclear Power Group and Huaneng Lancang River Hydropower Inc. are hydropower, nuclear power and other new energy power generation business, and the power generation of these three companies are in a leading position in the country.

**Table 1.** Analysis of Gross Profit Margin of Power Enterprises from 2018 to 2020 (Unit: %)

Time Enterprise	First three quarters of 2020	2019	2018
Jilin Power Share Co., Ltd.	26.26	22.56	19.89
China Yangtze Power Co., Ltd.	63.91	62.51	62.89
China General Nuclear Power Group	41.36	41.73	43.92
Huaneng Lancang River Hydropower Inc.	56.39	56.08	50.92

**Table 2.** Analysis List of gross profit rate of electric power enterprises from 2018 to 2020 (unit: %)

Time Power generation products	The first half year of 2020	2019	2018
Jilin Power Share Co., Ltd.	21.79	10.45	29.44
China Yangtze Power Co., Ltd.	57.07	50.73	40.52
China General Nuclear Power Group	59.11	52.86	52.42
Huaneng Lancang River Hydropower Inc.	-26.03	-28.76	-32.77

### 3.1.2 Net interest rate

The formula for computation of net interest rate shall be net profit /income from principal activities \*100%, net interest rate shall mainly focus on expenditure in marketing and business activities in actual business activities, and shall be one of the important indicators to be considered by power generation enterprises seeking greater profits under the environment of market-oriented reform of electricity. From the Table 3, we can see that the net interest rate of Jidian Share is rising year by year, indicating that its profitability is improving steadily but it still lags behind other companies. Jidian Share are in the transition period of expansion, during which a large number of fees inevitably affected the net interest rate growth.

**Table 3.** Net Interest Rate Analysis of Power Enterprises from 2018 to 2020 (Unit: %)

Time Enterprise	First three quarters of 2020	2019	2018
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Jilin Power Share Co., Ltd.	9.85%	4.75%	3.45%
China Yangtze Power Co., Ltd.	47.48%	43.24%	44.21%
China General Nuclear Power Group	25.17%	24.29%	26.92%
Huaneng Lancang River Hydropower Inc.	31.54%	28.54%	38.99%

### 3.2 Solvency

#### 3.2.1 Current ratio

Current ratio refers to the ratio of current assets to current liabilities, which is often used to prove the short-term solvency of a company. From the table 4, we can see that the liquidity ratio of all three enterprises except China General Nuclear Power Group is steadily rising. Due to the special nature of the power industry, the current ratio of power enterprises is lower than that of general enterprises. As for the other three enterprises in the industry, the current ratio of Jilin Share is at the upstream level.

**Table 4.** Analysis of Current Ratio of Power Enterprises from 2018 to 2020

Enterprise \ Time	First three quarters of 2020	2019	2018
Jilin Power Share Co., Ltd.	0.59	0.56	0.39
China Yangtze Power Co., Ltd.	0.30	0.20	0.17
China General Nuclear Power Group	0.88	0.92	0.91
Huaneng Lancang River Hydropower Inc.	0.38	0.27	0.20

#### 3.2.2 Asset-liability ratio

**Table 5.** Analysis of Asset-Liability Ratio of Power Enterprises from 2018 to 2020 (Unit:%)

Enterprise \ Time	First three quarters of 2020	2019	2018
Jilin Power Share Co., Ltd.	77.63	74.74	73.98
China Yangtze Power Co., Ltd.	51.55	49.40	51.71
China General Nuclear Power Group	63.39	65.13	69.31
Huaneng Lancang River Hydropower Inc.	61.84	66.11	72.81

Asset-liability ratio is the percentage of total liabilities divided by total assets at the end of the

period. It is often used to prove a company's long-term solvency. From the table 5, we can see that Jidian Share have the highest asset-liability ratio among the four companies and show a growing trend. Of the four power companies, China Yangtze Power Co., Ltd. has the lowest asset-liability ratio. As can be seen from the annual report, it has completed 13 bond issues in 2019, raised 32 billion yuan of low-cost funds, and has excellent financing and asset M&A integration capabilities.

#### **4. Conclusions and Recommendations**

##### **4.1 Conclusions of the Study**

The following conclusions can be drawn from the analysis of the financial indicators of Jidian Share, China Yangtze Power Co., Ltd., China General Nuclear Power Group and Huaneng Lancang River Hydropower Inc. in the past three years:

Jidian Share of the main business structure is unreasonable, thermal power accounted for the largest proportion. With the green economy and sustainable development strategy put forward, the disadvantages of thermal power are gradually eliminated by the market, and its less profit and more restrictive factors have become a stumbling block.

Period cost is compared big became the main factor that affects profit of Jidian Share. During the period of rapid expansion, it is very difficult for enterprises to adjust their expenses in a short time. After the transition from expansion to stable development, the problem of increasing expenses will be alleviated.

Poor financing capacity has greatly affected the development of enterprises. Regional power development level is poor, development limitations are high, policy implementation is not timely and other issues greatly restricted the development of Jidian Share.

##### **4.2 Recommendations for Improvement**

Vigorously promote business transformation and enhance the competitiveness of enterprises. Jidian Share should actively respond to the national sustainable development strategy, vigorously enhance the proportion of wind and photovoltaic power generation. With the development of electricity marketization, the advantages of power generation enterprises will be gradually transferred to power sellers. Improving marketing ability is an important way to promote enterprise profit. Jilin Electric Power Co., Ltd. shall gradually expand its business to the whole country and even neighboring countries on the basis of Jilin Province so as to enhance its competitiveness and cope with the new challenges brought about by the market-oriented reform of electric power.

Jidian Share will make use of comprehensive energy resources to provide value-added services and improve the profit-making system. Greely can take advantage of its diversification to offer integrated energy service packages that offer different services to businesses and households in different industries. While striving for the most rational use of energy to promote the common development of several businesses, to provide users with more personalized choice to win the favor of consumers, so that consumers get benefits.

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