

# Investment Value Analysis of New Energy Automobile Industry -- Taking Tesla as an Example

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**Abstract:** First, this paper expounds the development of China's new energy automobile industry use the SWOT method to analyze the advantages and disadvantages, opportunities and challenges of the enterprise. Then, this paper also combined with Tesla's new energy vehicle business, from the company's financial situation in the past 5 years, conducted an in-depth analysis of Tesla China's sales. After the detailed calculation and analysis of the new energy automobile industry, the situation presented by the relevant economic indicators shows that the new energy automobile industry meets the investment expectations, and the investment feasibility analysis is carried out.

**Keywords:** New Energy Vehicles; Investment Benefit; Investment Feasibility

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## Research background

China is now the world's largest car market. According to the "China Automotive Industry Yearbook", China's new energy vehicles have become the world's largest market in terms of overall market size. To this end, whether it is BYD, BAIC New Energy, NIO, or Tesla, Mercedes-Benz, BMW, Toyota, they have invested a lot of money to develop new energy vehicles, and in recent years, various different forms of power new energy vehicles have also begun to be listed.

## SWOT Analysis

### Advantages

Leading technological innovation. Tesla's technological advantage is crucial in the competition in the market. Tesla has the world's leading electric vehicle technology, and has a perfect battery management system, this system is the most efficient. Most Tesla cars now use Panasonic's 18650 LI-CO. The battery is composed of thousands of single batteries, with high energy density, high safety, long period charging and other advantages, can effectively maintain the stable operation of the car.

Perfect charging equipment. Tesla's current charging network is the largest in the world, with more than 25,000 charging stations around the world and more than 1,000 charging stations in China alone. And as the number of Tesla users continues to grow, so does the number.

### Disadvantages

Not enough ability. Overall, Tesla's sales have increased worldwide as well as in China, its market share has also increased, and car sales have also increased. However, Tesla is currently facing a serious production shortage, which makes it unable to produce for profit. The reason for this situation is that Tesla's electric cars use new materials, in order to enhance the safety of the car, in order to enhance the shape of the car, Tesla's electric cars can not be automated, which causes the production can not keep up with the requirements of the market.

The cost is quite expensive. Although Tesla has reduced marketing expenses in the form of "no advertising fees," production and other expenses are still high. On the one hand, due to the advanced battery technology used by Tesla cars, it cannot be fully automated manufacturing, which will inevitably cause high raw materials and labor costs; Tesla, on the other

hand, is in financial trouble because of its expanding battery and charging stations in China.

## **Chance**

China's new energy vehicle market has great potential. At present, China's economic development is in the rising stage, and the domestic economic environment is favorable for the development of new energy vehicles. In recent years, as the world's largest automobile market, the sales of new energy vehicles in the Chinese market have increased sharply. In 2022, the sales volume of new energy vehicles reached 5515170, more than 5.5 million, accounting for 26.93% of the total sales, which is a very powerful proportion, because in 2020, the People's Daily Network is still saying that the Ministry of Industry and Information Technology interprets the sales proportion of new energy vehicles in 2025 to reach 20%. In fact, the 20% ratio will already be reached in 2021. In addition, with the increasing environmental awareness of Chinese consumers, new energy vehicles will receive more and more attention.

New energy vehicle charging equipment has been continuously improved. In order to meet the requirements of the rapid development of new energy vehicles, charging stations and charging piles have been built in urban public places. At present, the focus is on large public parking lots such as airports, railway stations, shopping malls, hospitals, residential areas, and the renovation and expansion of existing gas stations.

## **Challenge**

Consumers' bargaining power is strengthened. In the new energy vehicle market, due to the increasing variety of products, the choice of consumers continues to expand, but at the same time, it also brings insufficient loyalty to the brand. With the rapid development of e-commerce, consumers can obtain more information and have more say in negotiations. In addition, the growing maturity of driverless technology and the rise of the sharing economy will also have a certain impact on consumers' willingness to buy cars.

## **Financial analysis**

### **Balance sheet**

In terms of liabilities, about 60% of the total liabilities of \$36.4 billion belong to operating liabilities, and accounts payable are \$15.2 billion, which reflects Tesla's strong industrial position and is also in line with our general understanding of the company's industrial position. Excluding operating liabilities, the real asset-liability ratio of interest-paying is about 20%, and the book has \$22.1 billion of cash and its equivalents, which can be said that the company's financial health is relatively high.

Before the mass production of model 3 in 2018, Tesla had several liquidity crises, and it was almost bankrupt once it lost financing. Because of this, Tesla was also the most shorted company in history. However, after the establishment of the electric vehicle trend in 19 years, the debt indicators on the company's financial reports have been improving, and so far, there is no sign of any financial crisis in the short term.

In terms of assets, the total assets reached 82.3 billion US dollars, of which the largest proportion was fixed assets, 23.5 billion US dollars, accounting for 29%. This was followed by cash (27%) and inventory (16%) at \$22.1 billion and \$12.8 billion, respectively. After all, it is a manufacturing enterprise, and Tesla's overall assets are still relatively heavy, mostly for fixed asset investment such as plants and equipment.

### **Cash flow statement**

22 years of annual net profit 12.5 billion US dollars, net cash from operating activities 14.7 billion US dollars, profit "gold content" full. The net outflow of investment was 11.9 billion yuan, and the net outflow of financing was 3.5 billion yuan. The basic structure of cash flow belongs to "+--", which is in a relatively comfortable state. Basically, enterprises can implement investment and pay off debts at the same time by relying on operating cash inflows.

In the future, if the operating cash inflow can achieve and continue to be greater than the sum of investment cash outflows and financing cash outflows, it is expected to develop into a cow type of enterprise, relying on their own money to expand, but also reduce debt or dividends.

Table 1 Summary of cash flow statement

Category	Per billion dollars
Net profit	125.87
Net cash flow from operating activities	147
Net cash flow from investing activities	-120
Net cash flows from financing activities	-35.37

## ROE analysis

First, the net interest rate. In December, 22, Tesla announced a price cut to stimulate sales, although the management stressed that the gross profit margin in 23 years will be maintained at more than 20%, but compared with last year, it is expected that the net interest rate will decline 1-2 points this year. The bigger turning point will be to see if the long term (25 years from now) story of companies paying for software actually materializes.

Second, there is asset turnover. The turnover rate of 1.13 is almost similar to that of the retail sector, and it is also expected to be difficult to move higher.

Finally, the equity multiplier. With the improvement of the company's operating cash flow and the outflow of financing cash flow, it shows that the company has been paying off the past debt, and the equity multiplier has been going down all the way. In the future, with the reduction of debt, the equity multiplier should fall again. Although it may lead to a decline in ROE in the future, it is necessary to appropriately reduce operating leverage against the background of the current high interest rate in the United States. It is inevitably a safer choice.

From the ROE point of view, the ROE in 23 years has a downward trend, and the normal ROE level of the company is expected to be 25%-30%.

Table 2 Comparison of some financial indicators from 2020 to 2022

	2022-12-31	2021-12-31	2020-12-31
Return on equity(ROE) (%)	33.53	21.04	4.99
Net profit margin on sales	15.45	10.49	2.73
Asset turnover rate	1.13	0.94	0.73
Equity multiplier	1.93	2.18	2.99

## Research conclusions and implications

China's environmental protection concept continues to deepen, This means that China will further increase the emission reduction investment in conventional vehicles, so as to reduce the manufacturing cost of conventional vehicles and improve the zero emission level of new energy vehicles. The "oil shortage" provides an opportunity for the development of "new energy vehicles". As global crude oil reserves continue to decline and China is a net importer of crude oil, China's oil prices will continue to rise. Therefore, under the current circumstances, the development of new energy vehicles is an enterprise that relies on the global market and occupies a leading position in the global market. In the long run, it is a strategic choice, and it is also a future investment capital flow and investment hotspot.

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