

Investment Analysis of BYD's Value in the New Energy Sector

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Abstract. This investment value analysis focuses on BYD, a pivotal player in the new energy sector, amidst the global challenges posed by climate change and the pressing need for carbon emission peak and neutrality. The study examines BYD's strategic position within the context of China's "two-carbon" strategy, which aims for a comprehensive green transition, influencing economic, social, and technological facets to steer towards a sustainable, low-carbon global future. The research assesses BYD's innovative contributions to carbon neutrality through advancements in new energy vehicles, battery technology, and renewable energy solutions, emphasizing the company's commitment to reducing transportation emissions and enhancing energy efficiency. The analysis provides a comprehensive review of BYD's financial health, including solvency, profitability, and the challenges it faces, such as dependence on government subsidies and the battery technology barrier. The study's objective is to furnish investors with detailed insights to facilitate informed decision-making and to stimulate further interest in the sustainable development of the new energy industry. The findings suggest that despite current profitability concerns, BYD's long-term development strategy and market optimism indicate significant potential for future profit growth. The study anticipates that BYD will play a more substantial role in the new energy vehicle market, contributing to sustainable long-term growth, as the global emphasis on low-carbon environmental protection intensifies.

Keywords: BYD; new energy sector; investment analysis.

1. Introduction

Under the current challenges of global climate change, it has become an urgent task for the global community to achieve the peak of carbon emissions (carbon peak) and eventually achieve carbon neutrality. This is not only our commitment to environmental protection, but also the core driving force for global sustainable development. Under the guidance of this "two-carbon" strategy, China is committed to promoting a comprehensive green transition involving economic, social, cultural, and scientific and technological dimensions, aiming to lead the world towards a low-carbon development future.

As the electric power system gradually replaces the traditional automobile power system, the global automobile industry is undergoing a profound change. This trend is not only in China, but also in the United States, Japan and other auto manufacturing powers have been actively promoted, they are sparing no effort to develop the new energy vehicle industry. Thanks to the policy incentives of the Chinese government and the optimization of the market structure, international enterprises have increased their investment in China to seize the development opportunities of the new energy automobile industry [1]. At the same time, with the growing demand for clean energy and green technology in various countries, BYD, as a leading enterprise in the field of new energy, has gradually highlighted its investment value.

The importance of carbon peaking and carbon neutrality cannot be ignored. Carbon peaking means that carbon dioxide emissions do not increase after reaching their peak, while carbon neutrality means that net zero carbon emissions are achieved by reducing carbon emissions and increasing carbon absorption. The realization of these two goals is of vital significance for addressing global climate change, protecting the ecological environment, and promoting sustainable economic development.

BYD, with its innovative achievements in the fields of new energy vehicles, battery technology and renewable energy solutions, has become an active promoter of the goal of reaching carbon neutrality. With its advanced technologies and products, the company is committed to reducing

carbon emissions in the transportation sector and contributing to the global energy transition by continuously improving energy efficiency.

By studying the investment value of BYD, this paper hopes to provide investors with comprehensive information and insight to help them make informed investment decisions. At the same time, it is also expected that this study will trigger more attention and discussion on the new energy industry and sustainable development, and jointly promote society to a more green and sustainable future.

2. BYD Company Overview

Since its establishment in 1995, BYD Company successfully listed on the two major stock exchanges of Hong Kong and Shenzhen in 2002 and has grown into a diversified enterprise group after more than two decades of development. BYD's business scope covers secondary batteries, electronic components, traditional fuel vehicles, new energy vehicles and urban rail transit and other fields. The company has established more than 30 industrial parks worldwide, forming a huge international development network.

BYD enjoys a reputation in the field of battery manufacturing, and its products are widely used in various portable electronic devices and electric products, winning wide market recognition and becoming one of the world's leading battery manufacturers. Relying on its strong technical strength, BYD has also actively entered the field of new energy, involving solar power stations, energy storage facilities and LED and other products research and development and production. In order to further optimize the capital and financial structure and improve the efficiency of capital use, BYD has also expanded financial services and equipment leasing and other business fields [2].

In 2020, BYD achieved significant revenue growth, with total revenue reaching about 156.598 billion yuan, an increase of 22.59% over the previous year. It is particularly worth mentioning that the company's revenue in the field of automobiles and related products is particularly outstanding, reaching 83.993 billion yuan, a significant increase of 32.76% year-on-year, and the revenue of this business segment accounts for 53.64% of the total revenue of BYD Group [3].

3. BYD Financial Analysis

3.1. Solvency Analysis

As can be seen from Fig. 1, the net cash flow generated by BYD's business activities has always been positive. On the surface, BYD's business activities have strong creativity, high quality of net profit and good management of accounts receivable. The waveform changes, increasing first, then decreasing and then increasing, and the surface enterprise encountered certain changes during the period of 18 to 19 years, and gradually returned to its original level and exceeded the original level after 19 years. From 2017 to 2021, the net cash flow generated by financing activities shows a trend of first rising and then declining. From 2017 to 2018, the net cash flow generated by financing activities is positive, indicating that the enterprise is still in the financing stage at this time, and from then on, the net cash flow generated by financing activities is negative and constantly decreasing. It indicates that at this time, the enterprise is likely to basically complete the financing, and use the cash flow generated by operating activities or cash flow generated by investment activities to meet the daily production and operation needs. The net cash flow generated by investment activities decreased first, then increased and then decreased, indicating that the enterprise had no suitable investment projects in 18-19 years. However, after 19 years, the net cash flow generated by investment activities continued to decline, indicating that the enterprise had expanded and expanded at this time, and the outflow capital of the enterprise was greater than the inflow capital.

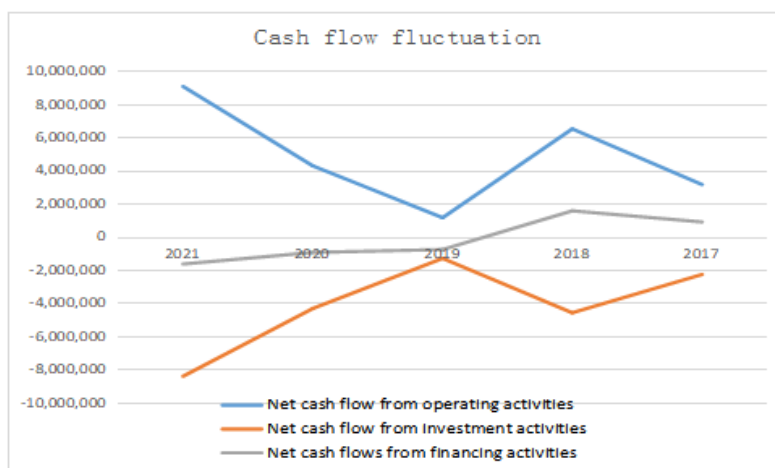


Fig 1. Cash Flow Fluctuation.

According to the data in Fig. 2 and the general experience of company management, the ideal current ratio should be kept around 2, while the quick ratio should be close to 1. This indicates that BYD's short-term solvency, while not high, has not been materially affected because of the company's ample cash reserves. Considering that BYD is in a growth phase, the demand for capital is large, the company needs continued high investment in research and development to maintain and expand its technological leadership, but also needs a large amount of fixed asset investment to expand production capacity to cope with the growth of market demand. Although a moderate amount of debt management can help improve profits and reduce tax burdens, it is also necessary to be vigilant about potential financial risks [4].

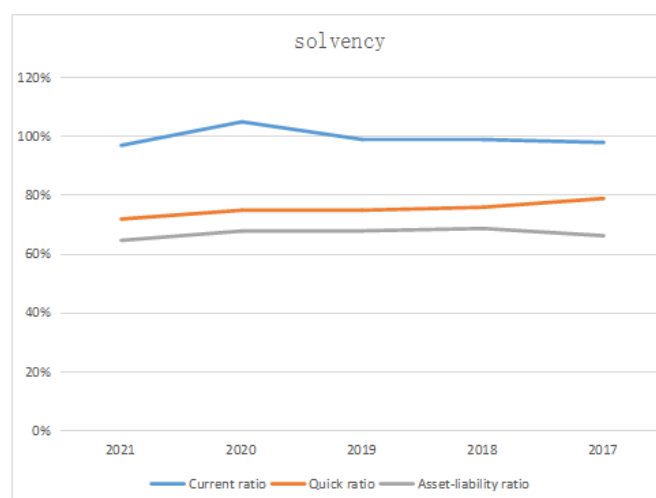


Fig 2. Solvency.

3.2. Profit Situation Analysis

Fig. 3 shows BYD's operating revenue over the past five years. It can be seen that in addition to the decline in operating income in 2019 due to the tightening of new energy subsidy policies and the early implementation of national sixth emission standards in some cities, BYD's operating income in other years has maintained a growth trend. By 2021, the company's operating revenue reached 216.1 billion yuan, a 38% increase from the previous year. In 2018 and 2020, BYD also achieved significant operating income growth.

However, from 2019 to 2021, BYD's total operating cost also continued to rise, reaching 212.6 billion yuan in 2021, a year-on-year surge of 42.68% and doubling compared with 2017, a growth rate significantly exceeding the growth of operating income in the same period. In the period from 2017 to 2019, the company's net profit declined significantly due to factors such as the reduction of subsidies, and the net profit in 2018 and 2019 fell by 27% and 40% year-on-year, respectively. In

2021, despite the growth of operating income, BYD's net profit fell again, with the annual net profit of less than 4 billion yuan, down 34% year-on-year [5].

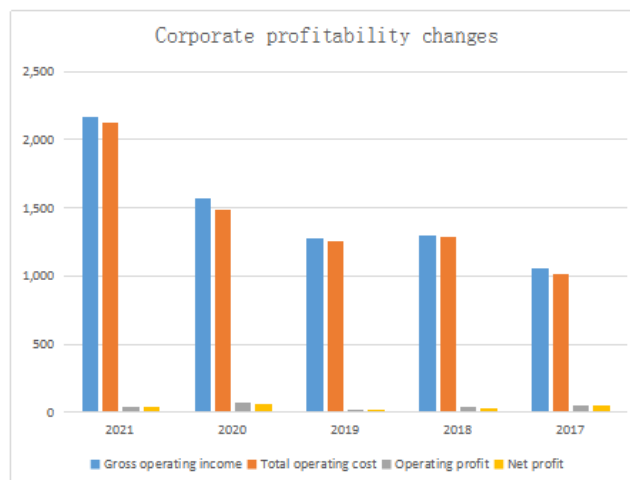


Fig 3. Changes in BYD's profitability from 2017 to 2021.

4. BYD's development prospects and future challenges

4.1. Development Prospect

The development of new energy vehicles has become an irreversible trend. According to China's long-term plan, it is expected that by 2035, pure electric vehicles will become the dominant model in the market, and new hybrid electric vehicles will also occupy a full share in the traditional fuel vehicle market, marking the Chinese auto industry will complete a comprehensive electric transformation. To achieve this ambitious goal, the new energy vehicle industry still needs to overcome many challenges.

Although the current profit level of BYD is not high, it can be found from the analysis of its operating income and net profit that BYD has a clear long-term development strategy, indicating that it has greater profit growth potential in the future. The market is optimistic about BYD's future development.

BYD seized the development opportunity of the new energy automobile industry, focused its business on the field of new energy passenger vehicles, and committed to occupy a leading position in the era of new energy vehicles. The company has announced that it will stop producing fuel cars from 2022 and will instead focus on both plug-in hybrid and pure electric technology paths. In technology research and development, BYD is not hesitated to invest heavily, in 2022 R & D expenditure reached 20.223 billion yuan, an annual growth rate of 90.31%. By the end of 2022, BYD has applied for more than 40,000 patents worldwide, obtained more than 28,000 patents, and has more than 69,000 research and development teams. The company has successively launched innovative technologies such as blade battery, DM-i super hybrid technology, e Platform 3.0, CTB battery body integration technology and "Yi Sifeng", further consolidating its technological advantages and market competitiveness.

BYD's product structure in the field of new energy vehicles has been continuously optimized and upgraded. Thanks to the significant increase in sales of new energy vehicles, the company strives to increase the proportion of localization of key components, which effectively reduces raw material procurement costs. At the same time, BYD continues to adjust and improve the product line, as sales increase, the selling price of the product will also increase. In addition, the company further improved the overall performance of the product by continuously improving the vehicle's driving range and battery technology, which also helped to increase the proportion of domestic components of new energy vehicles.

With the continuous expansion of market share, BYD has achieved remarkable results in cost control, while also achieving continuous breakthroughs in core technology. Under the combined effect of these factors, the gross profit margin of BYD's new energy vehicle business is steadily improving [6].

4.2. Challenge

For new energy vehicles, the main technical challenges are mainly focused on the powertrain. At present, the power choice of new energy vehicles mainly tends to be electric drive, which makes battery technology a core element of the industry. However, the energy consumption and charging efficiency of batteries are common challenges faced by all new energy vehicle manufacturers, which has become one of the key problems to be solved in the development of the global new energy vehicle industry [7].

To promote the growth of the new energy automobile industry, the state provides government subsidies to reduce the financial burden of enterprises. However, BYD's reliance on government subsidies for its new-energy vehicle business is too high, and the company has come under significant pressure as subsidies are gradually reduced. The change has caused BYD's car sales and net profit to fall, putting a brake on the company's previously rapid growth. The vertical integration strategy adopted by BYD for a long time can no longer adapt to the market-oriented trend of new energy vehicle technology due to its relatively closed characteristics, which may have a negative impact on the long-term development of the company.

5. Conclusion

The analysis of BYD's investment value within the new energy sector reveals a company that is well-positioned to capitalize on the global shift towards sustainable energy solutions. Despite the challenges faced, including reliance on government subsidies and technological barriers, BYD's strategic focus on new energy vehicles, significant R&D investments, and continuous innovation in battery and renewable energy technologies bode well for its future growth. The company's financial performance, marked by positive cash flows and a robust revenue increase in 2020, indicates a solid foundation for investors. However, since the company's profits are largely dependent on government subsidies, the improvement of its own profitability is still an area that needs attention and improvement. As the world moves towards low-carbon environmental protection, BYD is expected to play an instrumental role in the new energy vehicle market, driving sustainable long-term growth and contributing to a greener future.

References

- [1] Chen H. Research on strategic cost management of BYD new energy vehicles from the perspective of value chain. Lanzhou University of Finance and Economics, 2023.
- [2] Li Sifan, Wang Zhepu. Financial Analysis of BYD Company Based on DuPont Analysis. National Circulation Economy, 2024, (02): 104-107.
- [3] Zhou, X. Financial reporting and financial reporting strategy of a listed company. Accounting Research, 2018, 48(1): 1-8.
- [4] Li Yonghao, Hao Erhu. Financial analysis of BYD Company based on Harvard Analysis Framework. Business Exhibition Economics, 2023, (04): 165-168.
- [5] Wang Weiling. Profitability analysis of new energy enterprises - taking BYD as an example. Fortune Times, 2023, (08): 88-90.
- [6] Han Xingguo, Yuan Hongli. New energy vehicles investment value analysis for byd, for example. Journal of modern business, 2023, (19): 19-22.
- [7] Fang Jiawei, Shi Tongtong, Cao Yingdeng. Byd new energy automotive industry investment strategy research. China, 2023. (01): 58-60.