

Reasons and Effects of Strategic Investors in the New Energy Industry: A Case Study of Chengxin Lithium

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Abstract. In recent years, global technology upgrades and the transformation of economic development have promoted the rapid growth of the New Energy Lithium battery industry. The New Energy Lithium battery industry has become a highly anticipated and popular industry. This paper takes Chengxin Lithium Group Co., Ltd. (Chengxin Lithium), introducing BYD as a strategic investor, as an example to analyze the reasons for new energy enterprises to introduce strategic investors and their impacts on the enterprise. In this paper, this study adopts the event study, the EVA method, and the case study to conduct research. The study finds that introducing strategic investors can optimize enterprises' capital structure, alleviate financial pressure, and enhance capacity expansion. Future research can be expanded to more Lithium battery enterprise cases, compared to the long-term performance difference in different integrated modes, and provide a reference for industrial strategic investors. Hereby, this will help the healthy and stable development of this industry.

Keywords: strategic investor, Lithium industry, market reflection.

1. Introduction

Due to the control of carbon emissions having drawn global countries' attention, New energy is becoming a new wave of technological revolution. The development of electric cars promotes the enormous demand for power batteries. As a momentous raw material, lithium plays a major role in the new generation of power batteries. Thus, the new energy lithium industry is experiencing explosive growth [1]. However, with the rapid development of the new energy industry, the lithium battery upstream resource constraints and the fluctuations of the industrial chain intensified the development risk of Enterprise [2]. As a leading domestic lithium salt enterprise, Chengxin Lithium faced prominent funding bottlenecks, as its total liabilities' year-on-year growth rate rose from 0.462 to 1.4997 between 2021 and 2022.

This article takes Chengxin Lithium's introduction of strategic investor BYD as an example, exploring the reasons and effects of introducing strategic investor BYD into Chengxin Lithium and exposing the developmental impact of strategic investors on lithium battery companies. This article adopts the method of the event study, the EVA method, and the case study for research, aiming to review the impact of Strategic investors on lithium battery companies and provide theoretical references and practical paradigms for the capital operation of the new energy industry and industrial chain collaboration.

2. Introduction to the Chengxin Lithium and the Strategic Investors Process

2.1. Introduction to the Chengxin Lithium Company

Chengxin Lithium Group Co., Ltd. (stock code: 002240) was established on December 29, 2001. The company's main business is the production and sales of lithium ore mining and selection, basic lithium salt, and Lithium metal products, and the main products are lithium concentrate, lithium carbonate, lithium hydroxide, lithium chloride, and metallic lithium. The lithium resources of these enterprises are mainly distributed in Sichuan, Africa, Argentina, and other places worldwide. The company's main customers are BYD, the CALB Group Co., Ltd., and so on.

In terms of financial background, Chengxin Lithium finished a comprehensive transformation from traditional artificial board business and rare earth business to lithium battery new energy

materials, and showed a rapid growth trend in financial performance. The company divested the wood-based panel business in 2020 and the rare earth business in 2021. Lithium products contributed 94.93% of the total revenue in 2021, with annual revenue reaching 3.017 billion yuan and net profit amounting to 866 million yuan. The Chengxin Lithium faced enormous debt pressure owing to capacity expansion in 2021-2022.

2.2. The Process of introducing Chengxin Lithium the Strategic Investor

2.2.1 Background and Opportunities for Cooperation

The background of introducing a strategic investor into the Chengxin Lithium mainly includes three aspects: the rapid development of the new energy vehicles industry, intensifying competition in the lithium resources industry, and the need for enterprises for development. First of all, the rapid development of the new energy vehicles industry. Against the backdrop of global warming, reducing greenhouse gas emissions has become a global challenge. According to the data of the International Energy Agency(IEA), there are greenhouse gas about 23% from fuel automobiles. The popularity of new energy vehicles might decrease carbon dioxide emissions. Therefore, the major countries vigorously promote the new energy vehicles around the world [3]. According to the Global Electric Vehicles Outlook 2023 released by the International Energy Agency, new energy vehicle sales exceeded 10 million units in 2022, a year-on-year increase of 55% [4]. The rapid development of market needs promotes the development of new energy vehicles, including the development and processing of upstream lithium resources. As a momentous raw material, lithium is known as “white oil” in the new energy power battery and is faced with unprecedented development opportunities [5].

Secondly, intensifying competition in the lithium resources industry. With the increasing interest in electric vehicles, the strategic position of lithium, the raw material required for battery development, is becoming increasingly important [6]. The lithium industry is facing unprecedented development opportunities as well as fierce market competition and resource exploitation. In particular, with the growth of new energy vehicle production, China’s supply gap for lithium minerals continues to expand, and its external dependence rate remains high [7]. New entrants are constantly increasing, while old brands such as CATL and LG are constantly merging and expanding. As a leading domestic lithium rock processing enterprise, Chengxin Lithium needs to introduce strategic investors to increase its own advantages.

Finally, the development needs of the enterprise. According to the development progress of Chengxin Lithium, the company is expanding multiple lithium salt production capacities and resource exploration and development activities, and needs a large amount of capital investment. However, traditional financing channels are affected by various factors of the enterprise and have difficulty in financing. The Chengxin Lithium can introduce a strategic investor, the BYD, through a targeted IPO, which can not only alleviate capital pressure and enhance the company’s ability to resist risk, but also optimize capital structure. As a globally renowned industrial leader, BYD, the introduction of BYD by Chengxin Lithium can not only achieve synergy between the technology with the industry, but also establish long-term cooperation with BYD. Table 1 shows the important events of Chengxin Lithium in 2022-2025.

Table 1. The important events of Chengxin Lithium in 2022-2025.

Year	2022	2023	2024
Event	<ol style="list-style-type: none"> Indonesia’s Shengtuo 60000 ton lithium salt production line has been completed. The Sichuan Mulong Lithium Mine obtains a mining rights certificate. 	The Zimbabwe’s Sabi Star mine was put into operation.	<ol style="list-style-type: none"> Introduce BYD as a strategic investor and become the second-largest shareholder of the company. The Suining Shengxin 30000-ton lithium salt production line has been completed. Acquiring the construction of a pilot production line with an annual output of 2000 tons of lithium carbonate equivalent for the Argentine Potitos Salt Lake project.

Source: Official website of Chengxin Lithium.

2.2.2 Introduction Method and Transportation Details

In terms of introduction methods, Chengxin Lithium held a board of directors and supervisory board meeting to approve the company’s non-public offering of shares for the year 2020, and plans to introduce BYD as a strategic investor through targeted stock insurance. On the same day, both parties signed the strategic cooperation agreement with conditional effectiveness.

In terms of transportation details, both companies are adjusting their non-public plans on July 20, 2021. The adjusted non-public offering stock price is 42.89 yuan per share, with a minimum insurance quantity of 46,630,917 and no more than 53,703,543 shares. The total amount of funds raised in this round does not exceed 2.303 billion Yuan, all of which will be used to supplement working capital and repay debts. The BYD fully subscribes for the shares issued by the Chengxin Lithium in cash. The main contents of the strategic cooperation agreement with conditional effectiveness signed by both parties include cooperation in raw material supply and processing, cooperation in minimum resource development, and cooperation in technology and industrial chain.

3. Analysis of the Motivation for Introducing Strategic Investors

3.1. Relieve Financial Pressure

Chengxin Lithium’s financial pressure stems from three aspects: liquidity risk, debt expansion, and business layout needs. First of all, the liquidity risk. The Chengxin Lithium is in a period of rapid expansion and faces a serious funding gap. According to Chengxin Lithium’s annual report and announcements from Juchao Information, as of the third quarter of 2021, the company’s monetary funds totaled 525 million yuan, which includes short-term borrowings, notes payable, and non-current liabilities due within one year, totaling 562 million yuan, indicating liquidity risk.

Suddenly, the debt expansion trend. From Figure 1, it can be seen that the company’s current liabilities and non-current liabilities have shown an increasing trend in recent years. The Enterprise decreased some liberties due to the sale of non-core businesses such as forestry in 2020, but the enterprise expansion led to a rapid increase in abilities during the period from 2021 to 2022.

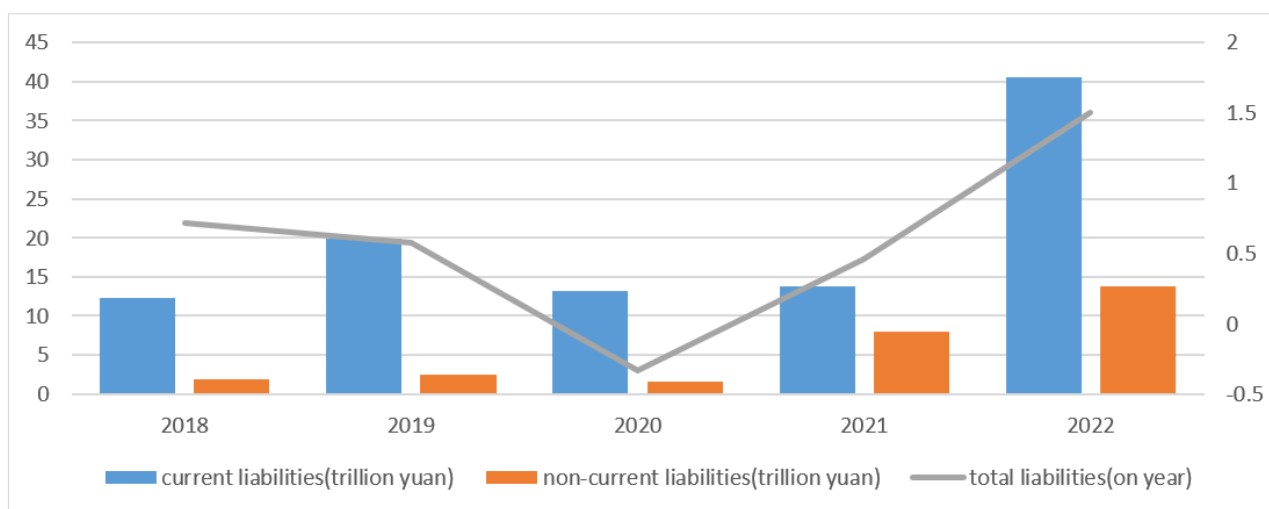


Figure 1. Debt change of Chengxin Lithium among 2018-2022. (Source: According to the Chengxin Lithium calculated by the company’s annual report.)

Thirdly, the business layout. The capital building and resources layout require a large amount of capital investment. The Suining 30000-ton lithium hydroxide project and the Indonesia 60000-ton lithium salt project require continuous investment, with capital expenditures exceeding 5 billion yuan. The expansion of the Yelonggou lithium mine, the development of the Sabixing lithium tantalum mine, and the bidding for overseas mining rights require significant financing support. The Chengxin Lithium introduced the strategic investor BYD, which can not only alleviate liquid risk and pay a debt, but also increase the advantage of bidding for lithium ores. The Chengxin Lithium’s

2022 annual report also showed that the capital was used to supply liquid money and for debt repayment.

3.2. The Integration of the Industry Chain and Risk Resolution

In the vertical integration of the industry chain, horizontal and vertical integration among the industry chain have become an important development model of modern enterprise expansion [8]. Strategic deal literally indicates that Chengxin Lithium is accepted into the list of long-term strategic suppliers and is treated as a prior procurement object. It also shows that the Chengxin Lithium previously guaranteed the BYD supply under equal conditions and provides the cheapest price, which provides a steady downstream client for the Chengxin Lithium to a certain degree.

As for reducing the risk of equity pledge, Nian said that controlling shareholders' equity pledge has a negative impact on the company's performance and masks a masking effect of development investment between equity pledge and corporate performance [9]. The Chengxin Lithium introduces BYD as a strategic investor, which will mitigate risk and avoid industry risk to a certain degree. Before that, the actual controller, Yao Xiongjie's equity pledge, is more than 70%. After that, directional capital increase will be used to pay debt and alleviate equity pledge risk. By binding the needs of BYD can decrease the influence of later financing caused by the wave of lithium price.

3.3. The Coordination between Technique and Market

In the aspect of technique, technology upgrade has become a critical way to alleviate energy risk and achieve sustainable development in the new energy industry, which provides chances and challenges for corporate development [10]. The BYD has an advanced lithium battery technology and over 2000 patents in the battery recycling field, which Chengxin Lithium promotes the efficiency of resource recycling. Meanwhile, the BYD gives priority to the Chengxin Lithium to process under equal conditions when the BYD needs to entrust a third party to process lithium resources.

In the aspect of the market, with the development of the new energy vehicle industry and energy storage industry, and the launch of BYD's capacity investment project, BYD will increasingly expand its needs for lithium products. While the Chengxin Lithium is regarded as the upstream supplier of BYD's raw materials, it will make contributions to expand sales volume, promote sales performance, and increase market share for the Chengxin Lithium.

4. The Financing Effects Analysis of Introducing Strategic Investors

EVA, with a large dynamic nature [11]. It is an expansion of the traditional finance index and is considered surplus profits over finance cost [12]. EVA is an important index weighing the financial effect of the new energy industry, including after-tax net operating profits, capitalization, and weighted average cost of capital of three factors [13]. Its calculation formula is as follows (1).

$$EVA = NOPAT - (WACC \times TC) \quad (1)$$

The calculation process is as follows: first of all, according to EVA valuation theory and various data disclosed in the income statement for 2021-2024, the article will calculate the total after-tax net operating profits. Secondly, the article will calculate adjusted capitalization. Thirdly, according to the data disclosed in the balance sheet for 2021-2024, the article will obtain equity capital and debt capital and calculate the weighted average cost of capital. Fourth, the article will calculate the EVA for 2021-2024. In the calculation of EVA, firstly, the calculation of short-term debt capital cost chooses the benchmark interest rate for bank loans within one year. Secondly, the calculation of long-term debt capital cost chooses a benchmark interest for banks over five years. At the end, according to various debt ratios, the article will calculate debt capital cost. In the aspect of measuring the cost of equity capital, risk-free interest is an ideal investment income. The article chooses the ten-year treasury bond to serve as a risk-free interest and the GDP growth rate to serve as a market risk premium. Risk coefficient β is obtained from the Wind database.

The calculation results are shown in Table 2. The company's EVA surged from 3.31 to 40.78 between 2021 and 2022. Although the next two years had the tendency of downward, it also indicates that taking the Chengxin Lithium as an example, introducing strategic investors will be beneficial for the company to increase the company's valuation, bring benefits to shareholders, promote the enterprise performance and bring the positive development of enterprise in the short-term in the new energy lithium battery industry.

Table 2. The EVA of Chengxin Lithium among 2021-2024.

Project	2021	2022	2023	2024
NOPAT (trillion yuan)	8.98	51.86	8.88	0.50
capitalization (trillion yuan)	50.57	159.23	161.73	165.47
WACC (%)	11.22%	6.96%	5.06%	7.26%
EVA	3.31	40.78	0.70	-11.51

Source: Calculated based on the Chengxin Lithium annual report for 2021-2024, the Wind database, and the data of the People's Bank of China.

5. The Non-Financial Effects Analysis of Introducing Strategic Investors

5.1. Market Reflection

The event study is used to analyze stock price changes before and after a specific event to evaluate the event's impact on stock prices [14]. The article studies the reaction to the Chengxin Lithium after introducing the strategic investor BYD through the event study. For the event study, related information before and after the occurrence is critical [15]. Therefore, the article chooses the market model to calculate. What the study first needs to decide is the event day, time window period, and estimated window period. The article conducts research on this event in which Chengxin Lithium announced the introduction of strategic investor BYD on March 22, 2022. Therefore, March 22nd is designated as the event day, and the window period is set to two days before and after, that is (t-2, t+2). The estimated window period is set to (t-120, t-30). Meanwhile, the article evaluates the influence on the corporation caused by this event by calculating the AR and the CAR.

5.2. Market Model

The event study adapts the market model, the formula of market model is as follows (2):

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) \quad (2)$$

$R_{i,t}$ is the real rate of return of stock ($\alpha_i + \beta_i R_{m,t}$) is expected return defined by the excess return α_i , market risk β_i and market yield $R_{m,t}$.

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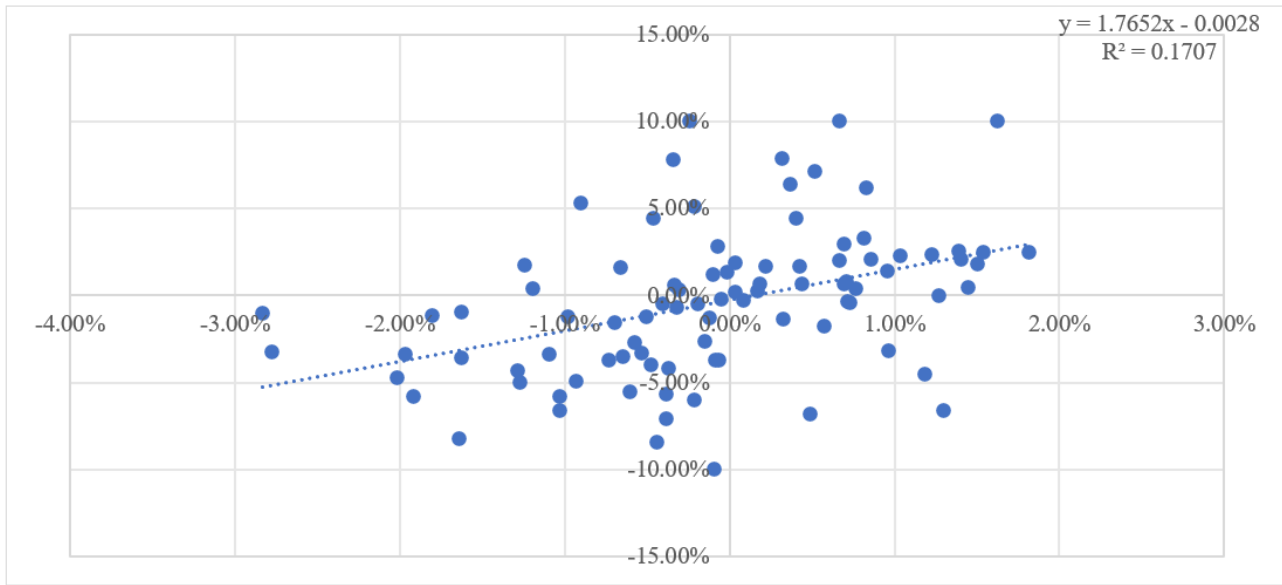


Figure 2. The price fluctuation chart of Chengxin Lithium.

5.3. Calculate the AR and the CAR

From $(\alpha_i + \beta_i R_{m,t})$, this study calculates the AR and the CAR and obtains the influence of Chengxin Lithium’s stock price caused by the event. As shown in Figure 3, the AR reached 4.53% on March 22nd, indicating that BYD’s introduction had a positive market impact. Though AR is negative in T+1, then quickly increases in T+2. The increased 12.56 percent of CAR of T+2 indicates that the market is more accepting of the value created by the event. As a whole, the event creates significant value for shareholders. The event study shows that introducing BYD as a strategic investor has a critical positive effect on stock price, meeting the expected market reaction.

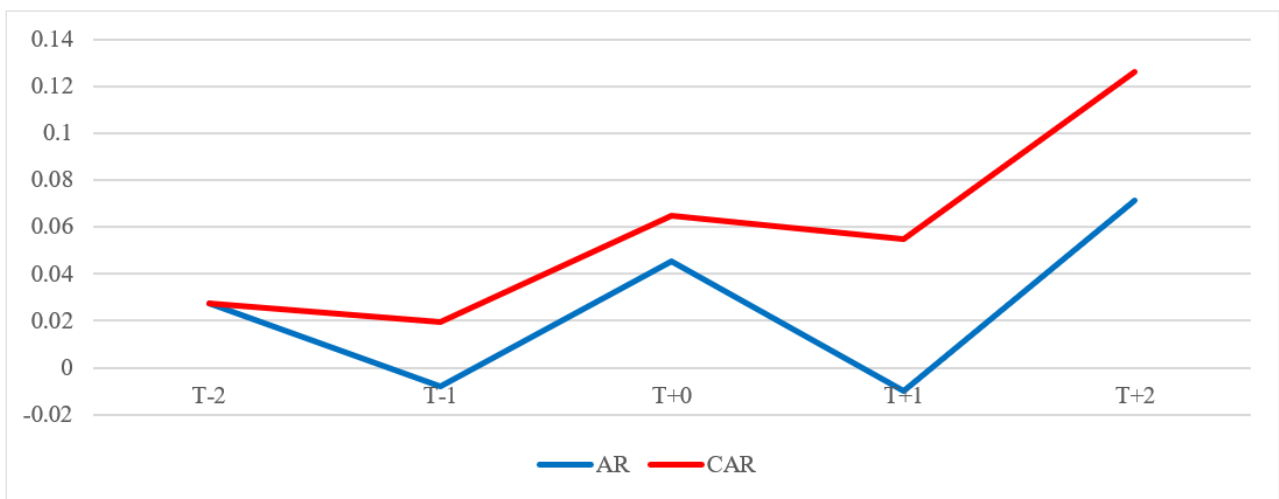


Figure 3. The change situation of the AR and the CAR in the event window period.

5.4. Market Reflection

Firstly, in the aspect of business expansion, as a domestic leader in new energy vehicles, the expansion of BYD’s needs of supply chain needs promotes the domestic sales increase of Chengxin Lithium. According to the disclosure of Chengxin Lithium’s 2020 financial statements, the sales of Chengxin Lithium to BYD reached 3.016 billion yuan, accounting for 37% of the total annual revenue, an increase of 28% compared to last year. This increases Chengxin Lithium’s market share from 8% to 12% between 2021-2022, and further increases Chengxin Lithium’s market share in the domestic lithium battery industry in China.

Secondly, in terms of industry cooperation, BYD promotes the cooperation between Chengxin Lithium and high-quality enterprises in the industrial chain. The Chengxin Lithium is connected with positive electrode material manufacturers such as well-known brands Rongbai Technology, through the supply chain system of BYD, forming a full chain collaboration mode of lithium ore-lithium-salt-positive electrode. The BYD is one of the leaders of the new energy vehicles industry around the world, whose globalization brings international customer resources to Chengxin Lithium. The proportion of overseas sales of Chengxin Lithium has increased to 35 percent in 2023, exceeding 2021's by fifteen percent. After the cooperation, Chengxin Lithium's shares in the global lithium resources market increased from 3% to 7%.

Finally, in the aspect of technological development, BYD has over 2000 patents in the battery recycling field. The Chengxin Lithium introduced the strategic investor BYD, which will promote the utilization efficiency of lithium resources. According to the disclosure of the company's website, efficient lithium extraction technology for low-grade lithium ore was jointly developed by both parties. It promotes the recycling of lithium ores from 75% to 85% and reduces the production costs of lithium carbonate. According to the strategic cooperation agreement, Chengxin Lithium previously guaranteed BYD's orders.

6. Conclusion

This article takes the Chengxin Lithium introducing the strategic investor BYD as an example, and shows the efficiency of strategic investors in the new energy lithium battery industry. According to the non-financial effect analysis, the market responded positively to Chengxin Lithium's introduction of BYD, which has a positive impact on the enterprise. It can promote the value of shareholders, increase the performance of enterprises, and promote the development of enterprises. According to non-financial effect analysis, the market has positive feedback on Chengxin Lithium's introduction of the BYD. After the introduction, the AR parentally increased, which showed that the event result exceeded market expectations. The study shows, in the short term, introducing a strategic investor has a positive impact; the capital injection of BYD significantly optimizes the capital structure of Chengxin Lithium, alleviates the capital pressure, and promotes the ability of capital expansion. Future studies can expand to more lithium enterprise cases, compare long-term performance differences under different integration models.

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