Preventing Merger and Acquisition Risks: Evidence from Tianqi Lithium's Leveraged Acquisition of SQM

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Abstract. With the deepening of China's opening-up process and the promotion of the "Belt and Road" initiative, the wave of cross-border mergers and acquisitions by multinational corporations has officially started. Leveraged buyouts, as a special way for companies to carry out cross-border mergers and acquisitions, have also attracted the attention of enterprises and have been widely used. On this basis, this paper selects the 2018 Tianqi Lithium acquisition of SQM case, introduces the background and details of the acquisition, and analyzes the financial and non-financial risks brought by the acquisition. Furthermore, the paper investigates how the company solved the debt crisis and the impact of the acquisition on its profitability. Based on the above analysis, there are significant risks in pricing, financing, and debt repayment for the Tianqi Lithium acquisition. Recommendations for relevant enterprises on how to prevent financial risks are also provided. Overall, the analysis of the Tianqi Lithium-SQM leveraged buyout case sheds light on identifying and managing financial risks associated with cross-border leveraged buyouts, guiding further exploration of this topic.

Keywords: Leveraged buyout; cross-border mergers and acquisitions; financial risk; new energy materials industry.

1. Introduction

Contemporarily, China's economy has shown a rapid and impressive development trend. Cross-border mergers and acquisitions (M&A) are one effective way for Chinese companies to achieve broader development opportunities [1]. Since the release of the "New Energy Vehicle Industry Development Plan", the sales of new energy vehicles have been growing rapidly, and the global demand for lithium has been increasing, leading to a natural competition for lithium resources among enterprises worldwide. Nowadays, Chinese lithium chemical companies have been carrying out cross-border M&A to improve their industrial layout and enhance their industry competitiveness. Facing overseas companies with a long history, excellent assets, and cost advantages, Chinese companies cannot raise a large amount of capital through traditional investment plans such as bank loans. As a result, many companies have started to seek new financing strategies, and leveraged buyouts have emerged. Leveraged buyouts demonstrate powerful financing capabilities and diversified financing channels compared to traditional M&A methods and can complete large-scale cross-border M&A in a short period. However, on the road of leveraged buyouts, there are various risks alongside opportunities [2].

Research on the financial risks of M&A in foreign countries started earlier. The theory on the financial risks of enterprise M&A was first proposed by Healy, who classified financial risks into three stages: pre-merger, during the merger, and post-merger, and analyzed financial risks based on the characteristics of each stage [3]. Susan defined M&A financial risk as the uncertainty caused by the failure to implement a risk assessment step or the failure to identify a key issue during the M&A process [4]. Tomas found that the financing activities conducted for M&A, as well as the financing methods and structures, would have a direct impact on the company's development and debt repayment capabilities for the next few years, and had a significant impact on the company's financial
risks [5]. The biggest characteristic of leveraged buyouts is leverage, which allows acquirers to complete large-scale acquisitions of target companies with less free capital, providing opportunities for small companies with good operations and development ambitions to expand their scale and engage in cooperative M&A [6]. With the advancement of economic globalization, the scale and quantity of cross-border M&A transactions of domestic companies have shown a trend of continuous growth, making them the main drivers of international cross-border M&A activities [7]. A large number of cases have shown that overseas M&A can quickly increase the overseas visibility of domestic companies, and also play a significant role in expanding corporate scale and promoting sustainable development, while leveraged buyouts can effectively promote the development of financial markets and optimize industrial structures [8].

To explore the leveraged buyout model and its subsequent development issues, this paper focuses on the case of Tianqi Lithium's acquisition of SQM in 2018. By analyzing and summarizing existing literature, a detailed analysis is given for Tianqi Lithium's acquisition of the SQM case. We summarize the financial risk connotations and causes after the acquisition, and the subsequent development prospects of the company. This paper mainly elaborates on the research background and literature review. Then, it introduces the background of the case and the risks brought about by the acquisition. Afterwards, it specifically explains the benefits of the acquisition for the company and how the company resolved the financial risks caused by the acquisition. Finally, it concludes the paper with the prospects and challenges faced by Tianqi Lithium after the acquisition of SQM.

2. Case Description & Risk Analysis

2.1. Merger Parties

The companies involved in this case are Tianqi Lithium Co., Ltd. and Sociedad Quimicay Minera de Chile S.A. (SQM company). Tianqi Lithium Company, founded in 1992 and listed on the Shenzhen Stock Exchange in 2010, is a company mainly engaged in the research and development, production and sale of lithium products. As one of the companies with the longest development history in the industry, its market value has reached 100 billion yuan, and it is the largest supplier of important materials for lithium electricity in China, with branches in many cities. These include Tianqi Xinlong Technology (Chengdu) Co., LTD., Tianqi UK Co., LTD., Tianqi Lithium (Shehong) Co., LTD., Sichuan Tianqi Shenghe Lithium Co., LTD., Tianqi China Hong Kong Co., LTD., and Chengdu Tianqi Lithium Co., LTD. The company has expanded its international strategic presence since 2010 by acquiring and investing in other companies in countries rich in lithium, such as China, Australia, and Chile. Tianqi Lithium has abundant lithium resources, which has made it a leading company in the industry and a player in the international lithium industry.

SQM, which dates back to 1968, is an ancient supplier of lithium products in Chile, as well as plant nutrition, iodine products, and other industrial chemicals. SQM owns the salt lake with the richest natural nitrate resources in the world, and its storage capacity of tens of millions of tons of lithium resources makes it one of the largest suppliers of lithium resources in the world. Therefore, it carries out trade all over the world. It sells products to hundreds of countries worldwide and has set up branches in many continents, including Asia, Europe, and America.

2.2. Background

Tianqi Lithium has acquired other companies several times since 2010 to expand its competitiveness in the industry, and SQM is one of them. In 2016, Tianqi Lithium acquired a stake in SQM from SCP for $209 million, representing about 2.1% of the total outstanding shares of SQM. In the same year, SQM tried to acquire a 23.02% stake in SQM from Oro Blanco, but the acquisition failed. In this case, Nutrien, one of SQM's major holding groups, attempted to sell a stake in SQM in 2018. Tianqi Lithium attempted to buy a stake in SQM again after failing to acquire the company in 2016. After some discussions, Tianqi Lithium finally passed the relevant proposal at its board of
directors meeting on May 17, 2018, and finally decided to purchase approximately 23.77% of SQM's shares, and signed a purchase agreement with Nurtitien Group on the same day.

2.3. Details of M&A

In this acquisition, the purchase agreement specifies that the price per share of this transaction is $65, for a total amount of $4,066,176,920, and a total of 62,556,568 shares are purchased. Together with the 2.1% equity originally owned by Tianqi Lithium, Tianqi Lithium owns a total of 25.86% of the equity of SQM Company. It thus became SQM's second-largest shareholder. Of the $4 billion payment, $1 billion came from CITIC Asset Management Corporation Ltd, $2.5 billion from loans from CITIC Bank, and the rest from cross-border syndicated loans and the company's funds. Regarding the acquisition, Tianqi Lithium states some reasons, including: (1) to improve the company's competitiveness in the industry; (2) the profitability of SQM company is stable and reliable and (3) to ensure the supply of raw materials and reduce related costs.

2.4. Motivation

The above cases are targeted for several reasons. Primarily, the financing amount of Tianqi Lithium company in this acquisition is very large, compared with its scale, the acquisition risk is very large, so the changes in various financial indicators will be prominent, which is more conducive to analysis and research. Meanwhile, they happen less frequently in recent years. Hence, it is more worth studying. Secondly, despite the huge risk of this acquisition, Tianqi Lithium has made it pay its financing debt on time through a series of subsequent operations, which is a worthwhile experience for other companies. Finally, the result of this acquisition has two sides for Tianqi Lithium. It helps Tianqi Lithium improve the company's market competitiveness, but it also increases great risks to the enterprise. By studying this case, more comprehensive and objective opinions on M&A decision-making can be put forward.

2.5. Financial Risk

2.5.1 Pricing risk

In this case, the pricing risk depends on whether Tianqi Lithium company's valuation of SQM company is accurate. A reasonable valuation can help Tianqi Lithium reduce the subsequent financial risk; however, if the estimated value is too high, it will produce a huge financial burden on Tianqi Lithium, which greatly affects the subsequent development of the enterprise [9]. Tianqi Lithium acquired 23.77% of SQM company in May 2018 at the price of 65 dollars per share. According to the stock price history, the stock price fluctuated around 54 dollars per share during the same period, with a premium rate of about 20.37%, which is relatively high.

According to relevant operating data of SQM company from 2017 to 2020, as shown in Fig. 1, operating revenue and operating profit increased steadily from 2017 to 2018, and the profit margin was relatively stable. Since the acquisition in 2018, both its operating revenue and operating profit have experienced a relatively serious decline. Compared with 2018, the operating profit in 2019 has decreased by about $200 million, showing a significant decline in its operating profit margin. In 2020,
margins continue to decline, and revenues and profits continue to decline. It can be seen that SQM's operating capacity and profitability have declined since the acquisition. According to the premium paid by Tianqi Lithium, SQM company's performance does not meet Tianqi Lithium's expectations, and there are higher risks in the pricing of this acquisition.

2.5.2 Financing risk

In the acquisition, Tianqi Lithium needs to pay the consideration of about $4.066 billion, in addition to various miscellaneous expenses of $160 million, totaling $4.226 billion. In addition to the $726 million in self-raised funds, the remaining $3.5 billion of Tianqi Lithium comes from loans. As listed in Table 1, Tianqi Lithium increased its liabilities by 25.419 billion yuan after the transaction, with a relative growth of 352.80%. Although this avoids dilution, it creates a single financing structure and lots of debt.

Table 1. Assets and liabilities of Tianqi Lithium before and after the M&A

<table>
<thead>
<tr>
<th>Subject</th>
<th>Pre-transaction</th>
<th>Post-transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total liabilities</td>
<td>72.05</td>
<td>326.24</td>
</tr>
<tr>
<td>Total assets</td>
<td>178.40</td>
<td>416.08</td>
</tr>
<tr>
<td>Asset-liability ratio</td>
<td>40.39%</td>
<td>78.41%</td>
</tr>
</tbody>
</table>

In addition, since Tianqi Lithium mortgages part of its subsidiaries and shares of its participating companies to the merger and acquisition loan syndicate during the loan, it can only repay the loan through its income and profits. Coupled with its high debt ratio, Tianqi Lithium's refinancing ability decreases obviously.

2.5.3 Repayment risk

Since most of the funds for the acquisition of SQM company come from loans, and the amount is huge. Tianqi Lithium generates a large amount of subsequent interest expense, which greatly affects the subsequent operation of Tianqi Lithium, as depicted in Fig. 2. Tianqi Lithium's interest expense was only 127 million yuan in 2017, accounting for 2.32% of its annual operating revenue. In 2019, the proportion of interest expenses increased significantly, and the scale exceeded 2 billion yuan. Eventually, in 2020, interest payments accounted for more than half of the company's annual operating income. The surge in interest expenses in such a short period has greatly increased the financial pressure on Tianqi Lithium. In addition, Tianqi Lithium saw its operating revenue shrink severely between 2018 and 2020, having reduced its operating revenue by 3 billion yuan in two years. On the one hand, it has been affected by the COVID-19 pandemic, which has greatly impacted the global economy. On the other hand, the overall industry environment recession, and product price decline is also an important reason. These factors ultimately result in Tianqi Lithium facing great debt repayment risk.

![Fig. 2. Operating revenue and interest expense of Tianqi Lithium during 2017-2020](image)

2.6. Non-Financial Risks

Integration risk is a risk that is very easy to occur in a "big fish swallows small fish" type of merger and acquisition, because the acquisition will give the acquiring party control over the acquired party, and both companies need to integrate their operations, management, assets, and personnel. In this
case, the biggest source of integration risk comes from cultural integration, as it is difficult to measure the risk that arises from the integration of corporate cultures with a specific and quantifiable indicator, making it the most difficult integration work to control. In addition, environmental risk can also have a significant impact on corporate acquisitions. On June 6, 2016, the Chilean environmental regulatory agency accused SQM of violating relevant environmental protection laws and regulations in the production and operation process. Depending on the severity of the violation of environmental protection regulations, SQM would face corresponding penalties, and if the project caused serious pollution to the environment, there is a risk of being shut down. With the increasing awareness of environmental protection worldwide, relevant laws and regulations will also increasingly limit the production and operation of enterprises. Environmental risks faced by companies engaged in resource development and chemical raw material production, e.g., SQM will also gradually increase.

3. Post-Merger Analysis

3.1. Debt Crisis & Strategic Corporation

3.1.1 Debt crisis

The total consideration for the Acquisition of SQM by Tianqi Lithium is $4.226 billion, with $3.5 billion coming from loans, accounting for 82.82% of the total amount. The loan from the Chinese consortium is $2.5 billion, and the loan from the international consortium is $1 billion. $2.3 billion will be due at the end of 2019, with an option to extend for one year. Another $1.2 billion will be due at the end of 2021, with an option to extend for two years. Before the acquisition, Tianqi Lithium had total assets of 17.8 billion RMB and an asset-liability ratio of 40%, which was consistent with the leading company in the same industry, Ganfeng Lithium. After the acquisition, Tianqi Lithium's asset-liability ratio soared to 80%. The deterioration of the financial situation will make it difficult for Tianqi Lithium to refinance. As the information presented in Table 2, Tianqi Lithium faced severe debt repayment pressure at the end of 2020. Of the $2.3 billion debt due at the end of 2020, $416 million has been paid off in advance, leaving $1.884 billion to be repaid. The company's current ratio in the third quarter of 2020 was 16%, indicating that current assets were insufficient to cover its debt. Furthermore, Tianqi Lithium's net profit was -5.482 billion RMB in 2019 and -1.127 billion RMB in 2020, and its debt-to-equity ratio at the end of 2020 was 80.3%, indicating a serious problem with its long-term solvency. The company is also unable to continue obtaining large loans from banks due to its financial position, and issuing new shares is also problematic.

Table 2. Information on M&A loans

<table>
<thead>
<tr>
<th>Lender</th>
<th>Amount</th>
<th>Drawdown date</th>
<th>Maturity date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese consortium</td>
<td>$1.2 billion</td>
<td>2018.11.29</td>
<td>2023.11.29</td>
</tr>
<tr>
<td>Chinese consortium</td>
<td>$1.3 billion</td>
<td>2018.11.29</td>
<td>2020.11.29</td>
</tr>
<tr>
<td>International Consortium</td>
<td>$1 billion</td>
<td>2018.11.29</td>
<td>2020.11.29</td>
</tr>
</tbody>
</table>

3.1.2 Strategic corporation

The key factor that enabled Tianqi Lithium to overcome its debt crisis at the end of 2020 was its ownership of high-quality assets, including 51% of Talison Lithium’s shares acquired in 2014 and 25.85% of SQM’s shares acquired in 2018. Talison Lithium is a lithium mining company registered in Australia with abundant lithium ore resources. SQM has exclusive mining rights to Salar de Atacama in Chile, which contains a rich content of lithium carbonate. Tianqi Lithium ultimately overcame its debt crisis by indirectly selling 24.99% of Talison Lithium’s shares to IGO Limited for $1.395 billion. IGO is a diversified mining company registered in Australia. With the rise of the new energy vehicle industry, IGO aims to develop lithium mining as its new product division. At the end of 2020, Tianqi Lithium established a subsidiary named TLEA, which holds 51% of the shares of Talison Lithium and owns a lithium hydroxide plant in China. Tianqi Lithium holds 51% of the shares of TLEA, while IGO holds another 49%. TLEA. Through the above equity structure, Tianqi Lithium
still holds control over Talison Lithium and includes it in the consolidated financial statements. IGO indirectly holds 24.99% of the shares of Talison Lithium but does not have control over it. Tianqi Lithium used $1.2 billion of the investment funds to repay its loans, and the remaining $195 million was used to build a lithium hydroxide plant. Although the pressure to repay the company's debts has been temporarily relieved, there are still huge debts that will mature in the next three years.

3.2. Synergy & Profitability Analysis

3.2.1 Synergy

This study argues that one of the reasons for Tianqi Lithium's acquisition of SQM is to achieve synergies. On the one hand, synergy is reflected in the raw material costs, as SQM owns the world's largest lithium resource salt lake and uses the precipitation method to produce lithium carbonate, which is cheaper than that made of lithium ore. By acquiring SQM, Tianqi Lithium is expected to further reduce raw material costs and increase profitability. On the other hand, synergy is reflected in investment synergy, as SQM has good profitability and dividends, which means stable investment returns for Tianqi Lithium and has a pro-cyclical effect. It can confirm more returns during economic growth but also confirm more losses during economic downturns.

3.2.2 Profitability

As given in Fig. 3, the revenue level of Tianqi Lithium from 2015 to 2022 can be divided into three stages: a steady upward stage from 2015 to 2018, a decline stage from 2019 to 2020, and a rapid upward stage from 2021 to 2022. From an internal perspective, Tianqi Lithium's decline in performance is due to two pressures. Firstly, there is the pressure of high interest-expenses. In 2019, the interest expenses reached as high as 2 billion RMB, accounting for two-fifth of that year's revenue. Secondly, there is the pressure of excessive impairment on long-term equity investments. In 2019, the company had a 5.3 billion RMB impairment on long-term equity investments, which exceeded the revenue of that year.

From an external perspective, the instability of the lithium products market has led to fluctuations in the company's profitability. Tianqi Lithium stated in its announcement that the reason for the decline in performance is due to industry cyclical adjustments, the reduction of national subsidies,
and the impact of the COVID-19 pandemic. To verify whether Tianqi Lithium's revenue conforms to the economic cycle, this article selected peer competitors Ganfeng Lithium and SQM as comparison objects in Fig. 4, with EBIT as the indicator. The EBIT trends of the three companies are similar. However, Tianqi Lithium's high asset-liability ratio and high investment in the same industry have intensified the impact of the economic cycle, resulting in a significantly higher fluctuation range of EBIT compared to its peers.

In 2022, Tianqi Lithium achieved a remarkable leap in performance, with a revenue of 24.6 billion RMB and a net profit of 19.5 billion RMB in just the first three quarters. Tianqi Lithium's success in 2022 can be attributed to three factors. Firstly, the growth of the new energy vehicle industry has driven the development of its upstream lithium battery industry. Secondly, because SQM company supplied Tianqi Lithium with low-priced raw materials, Tianqi Lithium's gross profit margin reached 82% in the first three quarters of 2022, while its direct competitor, Ganfeng Lithium, had a gross profit margin of only 50%. Thirdly, in just the first three quarters of 2022, Tianqi Lithium received 6 billion RMB in investment returns from SQM company. Looking to the future, the new energy vehicle industry has policy support and encouragement, a complete industrial support system, and a vast market, indicating a promising development trend [10].

4. Insights & Implications

4.1. Reasonable Selection of Acquisition Targets

In the merger and acquisition of enterprises should pay attention to the choice of targets. Any enterprise should try its best to choose the target company that matches its situation for merger and acquisition, rather than constantly blindly expand, just like the case of Tianqi Lithium's "snake swallow" type of merger and acquisition behavior, it should consider the enterprise's financial level, corporate development, corporate culture, strategic deployment and future prospects before the acquisition. In addition, it should be considered whether the synergy effect is significant after the merger, even if the two companies are in the same field, there may be no significant effect. On this basis, after Tianqi Lithium buys SQM company, for a period of time, SQM company only brings huge debt pressure and deteriorating operating performance to Tianqi Lithium.

It is necessary to have a reasonable valuation of the acquisition target. To reduce the financial risk as much as possible and guarantee the success of the merger and acquisition, the enterprise should try its best to use reasonable valuation methods to get reasonable results. Nowadays, third-party appraisal agencies are often used in enterprise M&A. These agencies are more or less affected by the subjective will of the employer, especially the strong confidence of the merger and acquisition, and the appraisal price may not be completely objective. The valuation of an enterprise should be based on a number of aspects, such as the financial situation, the current operating conditions of the enterprise, the development prospects of the entire industry, major customers and supply chains, etc. It is an important part of M&A to formulate reasonable value estimation according to the above factors.

4.2. Rational Selection of Financing Methods

Generally, when companies engage in large-scale external financing, they adhere to the principle of "not putting all eggs in one basket" and choose multiple financing channels for leverage and M&A financing. Different financing channels and financing methods will result in different financing structures, and acquirers should fully consider the impact of different financing structures on post-merger enterprise integration and operations. For Tianqi Lithium's aggressive expansion and M&A activities, it is particularly important to scientifically budget financing costs and the funds needed for M&A. Before launching M&A activities, companies can develop a fundraising plan, compare the planned use of funds with the funds that can be raised, and comprehensively evaluate the advantages and disadvantages of various financing methods to choose the most reasonable financing method, and determine whether to finance through debt, equity, or bank loans. According to the pecking order theory of financing, financing can be sequentially selected from internal financing, debt financing,
and equity financing. Based on multiple financing methods for financing, companies can fully utilize equity, debt, and self-owned funds, thereby obtaining the required funds in the fastest possible time.

4.3. Effectively Reducing Risks

From the perspective of internal company development, companies need to pay close attention to the control risks brought by expansion. Frequent M&A activities expand the business scope, scale, employees, and resources, while also placing higher demands on the company's control capabilities. Companies need to improve internal control and decision-making mechanisms to deal with various issues brought on by expansion and ensure the normal operation of the company. From the external environment, the policies issued by the country in the new energy industry are constantly changing, and companies need to maintain a keen sense of policy observation. Risks and opportunities will alternately appear with policy changes. By interpreting policies in detail and paying attention to national planning and industry development directions, companies can help formulate risk response policies and control the direction of opportunities. For example, currently, the policy of subsidies for the new energy industry is decreasing. It may maintain this trend, which will have a corresponding impact on companies, and companies need to take action early to respond to potential risks.

5. Conclusion

In summary, this paper takes the acquisition of SQM company by Tianqi Lithium in 2018 as a case, and the time span extends to 2022. In addition to analyzing some significant financial risks and non-financial risks faced by Tianqi Lithium during the acquisition, it also comparatively objectively analyzes a series of measures and the performance of Tianqi Lithium after the acquisition. According to the analysis, the following conclusions are drawn. In the merger and acquisition of SQM company by Tianqi Lithium, after analyzing some financial and non-financial factors, it is believed that the merger and acquisition of Tianqi Lithium have significant risks in financial aspects such as pricing, financing, and repayment, as well as certain risks in cultural and environmental protection. Due to the high consideration premium and poor performance of SQM after the merger, pricing risk was generated in this merger. In the financing process, a large number of loans are used to generate financing risks. The subsequent interest expense compared with the company's operating income accounts for a large proportion, thus generating debt repayment risk. Due to the large difference in enterprise size between the two sides and the introduction of relevant policies and regulations, certain integration risks and environmental protection risks are caused. It can be seen that Tianqi Lithium faces great risks in merger and acquisition.

After the merger and acquisition, of Tianqi Lithium stabilized to solve the debt crisis and the rise of the global new energy automobile industry, the merger and acquisition of Tianqi Lithium have brought many benefits. SQM company brings abundant raw material resources and lower costs to Tianqi Lithium. At the same time, the country issued a series of new policies, which helped the development of the new energy industry. In the global trend of new energy, the lithium chemical industry has a greater space for development. Under the new trend, the acquisition of Tianqi Lithium has brought it a lot of earnings. Further research could be conducted based on more empirical data, exploring methods to mitigate risks and increase returns in mergers and acquisitions. Overall, the examination of the Tianqi Lithium-SQM leveraged buyout case provides insight into the identification and mitigation of financial risks in cross-border leveraged buyouts, facilitating further investigation in this area.

References


