Proceedings of the 4th International Conference on Financial Technology and Business Analysis
DOI: 10.54254/2754-1169/2024.26704

Risk Management Analysis—A Case Study of Tsingshan Nickel Incident

Xiaole Tang[1*], Ziwei Wang[2], Jiali Guo[3]

[1]Nanjing Foreign Language School, Nanjing, China
[2]Brandeis University, Waltham, USA
[3]Shanghai Nord Anglia Chinese International School, Ningbo, China
**Corresponding Author. Email: tang_xiao_le@163.com*

Abstract. This study takes a close look at why Tsingshan Group decided to take a large short position in the London Metal Exchange (LME) nickel market. We examine the several factors that influenced their strategy. And explore the reasons behind Tsingshan's failure. In particular, we discuss the size of their shot position in light of the difficulties they have encountered in reducing their positions quickly. The paper also analyzes Tsingshan's OTC trading activities and how they contributed to the crisis. Additionally, it discusses the strategies Tsingshan used to survive the crisis and compares their approach to other companies that have either succeeded or failed in short selling. It highlights the similarities that led to misjudgment and inadequate LME regulation while also looking at the unique factors that helped Tsingshan avoid disaster.

Keywords: Tsingshan, short, risk

1. Introduction

1.1. Background

Tsingshan Holding Group is known for its substantial nickel pig iron (NPI) production. NPI is a key input in battery manufacturing, and Tsingshan's large-scale operations have made it a dominant player in the global nickel market. In late 2021 and early 2022, there was evidence suggesting that Tsingshan Group had accumulated substantial short positions on the London Metal Exchange (LME) nickel market. However, after the outbreak of the conflict between Ukraine and Russia, the world nickel supply suffered dramatically influence causing the price of nickel going up. Tsingshan Group faced big margin calls in such circumstance. After a series of countermeasures, Tsingshan finally reduced the loss and survived the crisis.

1.2. Research objective

This paper basically does the analysis of the reason why Tsingshan Group accumulated short positions in the LME nickel market, the reasons of its failure, the role of the Chinese government.

DOI: 10.54254/2754-1169/2024.26704

We analyze how Tsingshan exited most of its short positions and compare it with other companies' success or failure cases and analyze the reasons for its failure.

2. The analysis of Tsingshan's short position in nickel derivatives market

2.1. Business risks

2.1.1. Commodity price risk

As a critical raw material for battery production, nickel can directly impact Tsingshan's production costs and profit margins when its price have fluctuations.

2.1.2. Foreign exchange rates risk

As a global company, Tsingshan is exposed to currency risk, especially when dealing with international transactions and investments. Given that nickel and stainless steel are globally denominated in U.S. dollars, fluctuations in the U.S. dollar have a direct impact on Tsingshan's sales. If the U.S. dollar strengthens against the Chinese Yuan or the Indonesian Rupiah, the cost of Tsingshan's products in other markets may rise, which may result in reduced demand or loss of competitive advantage. Conversely, a depreciation of the U.S. dollar may result in an increase in the Company's costs in U.S. dollar terms. In addition, Tsingshan has accumulated a significant amount of U.S. dollar-denominated debt, largely as a result of its decision to borrow internationally to finance its expansion and operations in Indonesia. If the U.S. dollar strengthens against the Chinese Yuan or other currencies, the company will face higher costs associated with debt repayment. This is a significant concern during periods of market turmoil or interest rate hikes in the United States, which could result in a strengthening of the U.S. dollar.

2.1.3. Geological regulations risk

Stricter environmental regulations in China and other countries where Tsingshan operates may increase operating costs and force the company to invest in cleaner technologies. Tsingshan has significant investments in Indonesia, where it operates a large nickel smelting project. Although Indonesia is a resource-rich country, its regulatory framework (particularly mining laws) can be unpredictable. For example, Indonesia has imposed a ban on raw nickel exports to encourage domestic processing, which could impact Tsingshan's supply chain and operating costs.

2.1.4. Trade policies risk

Changes in trade policies, tariffs, and international relations can affect Tsingshan's export and import activities, influencing its cost structure and market access. Uncertainties surrounding trade agreements and geopolitical tensions can disrupt supply chains, affect pricing strategies, and alter market dynamics for Tsingshan.

For Tsingshan, employing various hedging instruments to manage commodity price risk effectively is important to the company's long-term operation. Some specific hedging instruments that Tsingshan could consider using include futures, options contracts, forward contracts, swaps, and investing in Exchange-Traded Funds (ETFs).

DOI: 10.54254/2754-1169/2024.26704

2.2. Speculation

Tsingshan decided to sell futures on the London Metal Exchange and on the over-the-counter market to capitalize on favorable nickel prices and to maximize profits. However, the short selling has proven costly for Tsingshan. Speculation involves predicting future price movements based on several factors, such as supply and demand dynamics, economic indicators, and geopolitical events. It is a high-risk strategy that, if successful, can generate significant profits but also lead to significant losses. In our case, the company did not realize that the nickel price would go up to $100K per ton. The huge margin calls almost destroyed an otherwise prosperous firm.

2.3. The difference between trading in over-the-counter and exchange (see table 1)

Table 1. The difference between OTC trading and exchange trading

	Over-the-Counter Trading	Exchange Trading
Trading Location	Outside the exchange, directly between buyers and sellers	Inside the exchange, through the exchange system
Trading Method	Negotiated directly between buyers and sellers, high flexibility	Follows exchange rules, standardized process
Transparency	Lower, transaction information is not public	Higher, transaction information must be disclosed
Price Formation	Determined by negotiation between buyers and sellers	Determined by market supply and demand, prices are public
Regulatory Oversight	Relatively lower, higher risk	Relatively higher, lower risk
Trading Efficiency	May be higher, simpler process	May be lower, must follow exchange processes
Suitable for	Large transactions, customized transactions	Standardized transactions, small transactions

2.3.1. Analysis of exchange trading of Tsingshan

Exchange trading refers to the organized and regulated buying and selling of securities that occurs within a formal exchange. This type of trading takes place in the centralized market of the exchange, which has a fixed physical location and operates through the trading facilities and networks provided by the exchange. In exchange trading, buyers and sellers conduct transactions according to the rules and procedures established by the exchange, ensuring transparency and oversight by regulatory authorities.

2.3.1.1. Advantage of regulatory oversight

For Tsingshan, trading on an exchange is subject to stronger regulatory oversight than over-the-counter trading. This means that the system of such transactions is assumed to be stable. For a large enterprise such as Tsingshan Holdings, trading through an exchange can significantly reduce legal and market risks but opens the firm to possible unlimited margin calls.

DOI: 10.54254/2754-1169/2024.26704

2.3.1.2. Disadvantage of trading inefficiency

When trading on an exchange, a fixed set of trading rules and procedures must be followed, which can lead to slower and less flexible trading than over-the-counter trading. In the case of fleeting market opportunities, exchange trading may miss the best trading time due to cumbersome processes.

2.3.2. Analysis of OTC trading of Tsingshan

The over-the-counter (OTC) trading refers to the buying and selling of securities between two parties, conducted outside of formal exchanges and without the oversight of an exchange regulator. This type of trading occurs in a decentralized manner and does not have a fixed physical location; trading is facilitated through dealer networks. Unlike trading on formal exchanges, OTC trading does not necessitate the exchange of standardized items, such as products with a clearly defined range of quantity and quality. OTC trading relies on mutual trust and negotiation between the two parties to reach a satisfactory price and terms. Additionally, prices and transactions are not made public. OTC contracts are bilateral, meaning that each party involved bears the credit risk associated with their counterparty.

2.3.2.1. Advantages of flexibility

For companies like Tsingshan, OTC offers a high degree of flexibility in the trading process. The flexibility of the OTC trading method can be carried out without the participation of third parties. This means that this kind of transaction reduces the intermediate links and makes the transaction more efficient. The flexibility of trading volume is not limited to that of formal trading, but Tsingshan cannot dictate the size of its own trades to other financial institutions like JPMorgan. In addition, OTC trading has no fixed trading time limit, and both parties can trade at any time. In the context of volatility in the nickel futures market, Tsingshan Group can make full use of this feature of OTC trading to achieve optimal trading results.

2.3.2.2. Disadvantage of illiquidity

The OTC Market liquidity is limited due to counterparty risks and the uniqueness of each trade; Tsingshan may encounter illiquidity problems when it needs to get in and out of a position quickly. In this case, if Tsingshan attempted to liquidate a large position, it could result in a sudden increase in supply on the market, leading to a sharp drop in the share price. Therefore, when Tsingshan Group conducts large transactions in the OTC market, it must proceed with caution.

3. Tsingshan's failure— short squeeze

3.1. Wrong position size

Tsingshan Group, a significant player in the global nickel market, had taken on an ambitiously large volume of short positions that significantly surpassed the liquidity available in the market to cover these positions at any profitable level. Specifically, Tsingshan held a staggering total of about 200,000 tons of short orders on nickel, with around 150,000 tons directly through the London Metal Exchange (LME) [1]. Additional positions were likely held in various forms of over-the-counter (OTC) trading, further complicating their risk management strategies. The nickel produced by

DOI: 10.54254/2754-1169/2024.26704

Tsingshan, however, did not align with the stringent quality standards required for LME certification, which meant that Tsingshan could not use its own produced nickel to cover its short positions. The only feasible alternative was to engage in a nickel matte exchange with Russian entities. Unfortunately, the timing coincided with the sudden outbreak of the Russian-Ukrainian war. This conflict led to immediate political sanctions that effectively banned the delivery of Russian-origin nickel to the market, precipitating a rapid and acute decline in available global nickel supplies [2].

3.2. Short squeeze

Several factors contributed to Tsingshan Group's inability to close or adjust its massive short positions in a timely manner. The first reason was the intrinsic tightness of the nickel spot market itself, which was already strained prior to these events. The second reason relates to the concentration of the short positions; the shorts were held in such a way that dispersing them effectively across different market segments was virtually impossible. This concentration meant that it was not feasible to exert sufficient pressure on any single large investor since those in the market were fully aware of Tsingshan's vulnerable position. In order to avoid sharp fluctuations Tsingshan can liquidate its position only piecemeal, and there should be a gradual and long-term position liquidation process. When Tsingshan buys back a large number of contracts, the futures price will rise. This short squeeze indeed happened on March 8 [3,4].

4. How Tsingshan survive the crisis

After the nickel price surge crisis, LME took a series of countermeasures, canceling all transactions from March 8 and postponing nickel transactions from March 9, limiting the decline and increase of nickel prices (5%), and reducing the margin that Tsingshan Group needs to make up [5].The postponement of the delivery date allows the Tsingshan Group to allocate additional time for the conversion of products into spot goods, which can then be delivered directly. Subsequently, Tsingshan Group and the futures bank creditor consortium entered into a mutually beneficial agreement through active negotiations. In response to the recovery of nickel futures prices in the market, Tsingshan Group proceeded with a measured and prudent reduction of its holdings, effectively containing the extent of its losses. The agreement afforded Tsingshan Group additional time to address the issue. In the event of a future decline in the market price of nickel, the Tsingshan Group will be able to reduce its holdings in a well-timed manner. Conversely, should the price of nickel remain elevated in the future, the Group will be able to sell its nickel products at a premium to offset any losses incurred [6].

4.1. The Tsingshan broker—the Chinese Construction Bank (CCB)

4.1.1. CCB's role in this incident

The Chinese Construction Bank (CCB), serving as one of Tsingshan's primary brokers, played an essential role in managing the crisis. Tsingshan held extensive short positions through brokers such as CCB International and ICBC Standard Bank, which necessitated complex and high-stakes financial maneuvers under extreme market conditions. As the nickel prices surged unexpectedly, CCB was compelled to secure substantial additional margins to maintain the viability of Tsingshan's positions. It was reported that on March 8, in an emergency response, CCB sought to bolster Tsingshan's nickel spot inventory to support its contractual obligations under the looming threat of

DOI: 10.54254/2754-1169/2024.26704

default. Therefore, as the parent company of CCB as Tsingshan's brokers, was required to post a huge margin.

4.2. LME

4.2.1. LME's role in this incident

As an international exchange, LME, like most financial banking organizations, adopts a membership system. That is, they give full play to the role of market regulation and generally do not take the initiative to intervene in market behavior.

4.2.2. Why the nickel trade cancelled

The LME's decision to cancel all trading transactions for nickel on March 8 was seen as a drastic but necessary measure to prevent further escalation of the crisis. Although this decision adversely affected many stakeholders, it was deemed essential for maintaining market integrity and preventing possible catastrophic financial collapses.

4.2.3. Set multiple limits for nickel futures trading

Following these events, the LME recognized the need for more stringent regulatory measures to prevent such incidents in the future. This led to the implementation of new trading limits for nickel and other base metals, marking a historic first in the LME's long history. These measures were designed to stabilize the market and restore confidence among traders and investors [7].

4.3. The last resort - the involvement of Chinese government

The Chinese government also helped Tsingshan raise some spot nickel for delivery. Tsingshan Group is the world's largest stainless steel company and China's largest private steel company. It has many factories in coastal provinces such as Fujian, Zhejiang, and Guangdong and has made large investments in countries such as Indonesia. The Chinese government provided great assistance to Tsingshan Group in this incident, providing Tsingshan with a large amount of nickel for delivery. But this is because of the special nature of the Tsingshan Group. If other companies were to encounter such a crisis, the Chinese government would not help them. The only outcome for these companies is bankruptcy.

5. Compared to other companies that have failed in the futures market

5.1. China Aviation Oil (Singapore) Corporation Ltd (CAO)

In the past, many companies have faced crises in the futures market, experiencing challenges and decision-making processes similar to those of Tsingshan Holding Group. However, a key difference lies in the significant financial losses these companies suffered in the futures market. One event analogous to the Tsingshan Nickel incident is the severe financial crisis faced by China Aviation Oil (Singapore) Corporation Ltd (CAO) in 2004. Although the nature of the transactions differed—Tsingshan faced a short squeeze, whereas CAO's losses stemmed from long positions in a declining market—both involved speculative trading and market volatility. Additionally, Tsingshan's crisis was related to the metals market, while CAO's crisis was linked to the oil market.

DOI: 10.54254/2754-1169/2024.26704

5.1.1. Background information

CAO is China’s largest aviation fuel supplier, responsible for providing fuel to China's civil aviation. The company was established in Singapore in 1993 and is the sole distributor of aviation fuel import quotas authorized by the Chinese government. Over time, CAO expanded its business to include international oil trading and strategic investments in oil infrastructure [8].

5.1.2. Similarities leading to the crisis

5.1.2.1. Greedy and inadequate regulation

Tsingshan and CAO's crises were significantly influenced by their own greed and inadequate regulation. Tsingshan persisted with its aggressive short strategy despite rising nickel prices, driven by the desire to capitalize on its extensive nickel holdings in Indonesia. The company's decision to continue this strategy was not purely a reaction to market conditions but a gamble fueled by overconfidence in its market position. The unexpected Russia-Ukraine conflict in 2022 caused nickel prices to surge, leading to substantial losses. Before the conflict, in mid-February 2022, the benchmark nickel price on the LME was around $23,000 per ton. However, the onset of the conflict led to disruptions in nickel supply. As sanctions were imposed on Russia, a major nickel producer, the supply of nickel in the market significantly decreased. This supply shock caused nickel prices to skyrocket. On March 7, 2022, the closing price of nickel reached $50,300 per ton, and on March 8, 2022, the LME nickel futures March contract surged dramatically, reaching a record high of $101,365 per ton. This represented an increase of nearly 250% within just two days. The sudden and extreme rise in nickel prices severely impacted Tsingshan's financial position, causing their futures account to drop to -$12 billion and leading to a significant margin call.

Similarly, CAO's crisis was driven by greed and mismanagement, exemplified through several key actions. CAO's behavior in speculative oil options trading demonstrated its greed for enormous profits. These actions not only violated the regulations of the parent company and the government but also showed a loss of control by the management in their pursuit of short-term gains. Under the leadership of Chen Jiulin, CAO expanded beyond traditional oil trading and entered the high-risk oil options market on a large scale, seeking huge profits through speculative trading. In this pursuit, CAO's management neglected fundamental risk management measures, failing to establish effective internal controls and oversight mechanisms, which led to severe financial crises. To maintain and expand their speculative trading, CAO's management chose to hide the true nature of their transactions and losses, attempting to obscure the issues through opaque operations to continue reaping short-term benefits. The finance department, at the behest of senior management, produced falsified financial reports to mislead stakeholders and conceal the true financial state of the company. Facing enormous losses, Chen Jiulin delayed reporting to the board, only disclosing the problems when the company could no longer meet margin calls, resulting in a cash flow crisis. To continue engaging in high-risk speculative trading, CAO engaged in unreasonable financial operations to raise funds, further exacerbating the company's financial risk. After initial losses, CAO raised funds by selling company stocks to continue high-risk speculative trading, showcasing their greed for short-term profits and overconfidence in market predictions, assuming oil prices would decline after peaking. Due to the continuous rise in oil prices, Chen Jiulin's speculative trades necessitated substantial margin payments, ultimately triggering a cash flow crisis. Chen Jiulin's overconfidence in market judgment and misjudgment of risks also reflected the management's greed for high profits. Despite initial losses, Chen Jiulin believed that further investment could reverse the

DOI: 10.54254/2754-1169/2024.26704

situation and continued high-risk trading. This misjudgment of oil price trends, assuming that prices would inevitably fall after peaking, led to significant financial losses due to inadequate risk assessment [9].

Because of weak internal controls, Chen Jiulin was able to engage in unauthorized speculative trading and conceal huge losses, leading to a crisis for the CAO. Due to poor internal controls, Chen Jiulin was able to ask the finance department to falsify financial reports, mislead stakeholders, and conceal the company's true financial condition until it faced a cash flow crisis. Although CAO's parent company, China National Aviation Fuel Corporation (CNAF), explicitly prohibited high-risk speculative trading and Chinese government regulations required effective risk controls and prohibited unauthorized speculative trading, CAO failed to comply with these regulations due to weak internal controls and oversight. CAO's failure to adopt effective supervisory methods to monitor CAO's activities resulted in uncontrolled acts of Chen Jiulin's necessary authorizations or board approvals. CAO's lack of adequate mechanisms to ensure compliance with its prohibitions and broader regulatory requirements was the primary cause of CAO's financial crisis [8].

5.1.3. Differences allowing Tsingshan to avert disaster

5.1.3.1. Market reaction and regulatory intervention

During the nickel price surge, the London Metal Exchange (LME) intervened to stabilize the market by suspending trading and canceling trades. After the nickel price surge crisis, the LME took a series of countermeasures, canceling all transactions from March 8 and postponing nickel transactions from March 9. They also implemented a 5% limit on the decline and increase of nickel prices and reduced the margin that Tsingshan Group needed to make up. The delayed delivery date gave Tsingshan Group more time to convert products into spot goods that could be delivered directly.

Tsingshan Group reached a silent agreement with the futures bank creditor consortium through active negotiations. With the recovery of nickel futures prices in the market, Tsingshan Group reduced its holdings in a reasonable and orderly manner, effectively controlling its losses. The agreement gave Tsingshan Group more time to solve the problem [10].

In contrast, because of due to Chen Jiulin’s concealment, the CAO failed to take timely measures during the oil price decline, leading to further losses. Singapore’s regulatory authorities acted post-crisis but did not provide initial support.

5.1.3.2. Failed timely measures and regulatory actions by Singapore authorities

Chen Jiulin played a central role in the China Aviation Oil (CAO) scandal by concealing critical information and misrepresenting the company's financial situation. He failed to disclose significant trading losses from speculative oil derivatives, which had accumulated to approximately US$550 million by November 2004. Despite being aware of these losses as early as the first quarter of 2004, Chen did not inform the Board, auditors, or the public. Instead, he signed off on financial statements that did not accurately reflect the company's financial condition, thereby misleading stakeholders. Furthermore, Chen violated risk management policies by allowing speculative trading to continue unchecked and fostering a culture of secrecy. He bypassed internal controls and failed to inform key stakeholders about the true nature of the losses. By deceiving regulators and investors and not providing accurate information to the Singapore Exchange (SGX), Chen downplayed the severity of the situation to CAOHC, which delayed necessary corrective actions [8].

DOI: 10.54254/2754-1169/2024.26704

5.2. The Zhuzhou smelter incident

5.2.1. Background

Zhuzhou Smelter (now known as Zhuzhou Smelter Group) was China's largest producer of lead and zinc. In 1997, to lock in future sales prices for zinc, Zhuzhou engaged in short hedging on the LME. The size of the deal was substantial, with traders issuing short contracts amounting to 450,000 tons of zinc, which was 1.5 times China's total zinc output that year. However, traders exceeded their authority and conducted large-scale speculative trading, leading to massive short positions and, eventually, a short squeeze. The incident can be traced back to 1997, when traders deviated from their initial hedging strategy as zinc prices rose, engaging in speculative trading to profit from market fluctuations [9].

As a result, foreign financial institutions collectively closed these positions, causing the zinc price on the LME to surge by over 50% in a very short time. From September 1996 to December 1998, Zhuzhou Smelter faced actual losses in futures trading amounting to $128 million, equivalent to 1.064 billion RMB. The incident caused a significant disruption in the zinc market, highlighting the dangers of speculative trading and the importance of adhering to hedging strategies.

5.2.2. Similarities leading to the crisis

5.2.2.1. Speculative behavior

Both Zhuzhou Smelter and Tsingshan Holding Group engaged in large-scale speculative short positions in the futures market. This exceeded their normal operational needs, aiming for additional profits from market fluctuations. This speculative behavior exposed both companies to significant risks during market volatility [11,12]

5.2.2.2. Market volatility

Both companies failed to predict dramatic price fluctuations, leading to short squeezes. Zhuzhou Smelter traders did not foresee the rapid rise in zinc prices, resulting in massive short positions being forcibly closed at significant losses.

5.2.2.3. Inadequate risk management

Both companies demonstrated inadequate risk understanding in their speculative operations. Zhuzhou Smelter lacked effective risk management mechanisms and failed to control unauthorized trading actions in time. Tsingshan showed similar deficiencies in risk control and market forecasting, failing to take timely measures to cope with market fluctuations. In 1997, during the Zhuzhou Smelter incident, the company had already engaged in zinc hedging for over two years. Due to lax supervision, the specific personnel handling the trades gradually began unauthorized transactions. When losses occurred, they were not reported promptly, and leadership failed to detect the issues in time. Boldly, they continued to increase their positions, causing the losses to escalate. It wasn't until the enormous positions and losses became undeniable, with creditors pressing for debt repayment, that the company's leadership and supervisory authorities became aware of the situation. This incident underscores the critical need for robust risk management practices and timely intervention to prevent similar failures in the future [9].

DOI: 10.54254/2754-1169/2024.26704

5.2.3. Differences in government intervention, market mechanisms, and resources

5.2.3.1. Extent of government intervention, company resources and market position

Despite the government's significant intervention, which included financial support from headquarters and banks and the release of substantial quantities of zinc from national reserves to help Zhuzhou cover its short positions, the scale of the losses was too large for full mitigation. The Chinese government, in coordination with banking institutions and Zhuzhou Smelter's parent company, provided substantial financial support to help the company meet margin calls and close out maturing futures positions. Specifically, Zhuzhou Smelter was able to acquire 254,800 tons of zinc futures contracts at high prices ranging from $1,560 to $1,760 per ton and organized the delivery of over 60,000 tons of zinc ingots to meet futures contract obligations. Additionally, some maturing futures positions were rolled over to 1998, providing extra time to manage financial commitments without immediate liquidation. These measures helped stabilize the company's operations and led to a decrease in speculative activities, causing zinc futures prices to fall from their peak. However, the extensive financial losses incurred by Zhuzhou Smelter highlighted the insufficiency of these interventions to fully recover from the speculative attack [9].

In contrast, Tsingshan received more comprehensive and timely financial support, with the government providing various financial measures and policy support [11].

5.2.3.2. Market mechanisms and ownership of LME

The Zhuzhou Smelter incident did not benefit from market mechanism interventions like those seen in the Tsingshan case. The LME did not implement measures such as suspending trading or canceling transactions during the Zhuzhou incident, providing no buffer during market volatility. In Tsingshan's case, the LME suspended trading and canceled some transactions to stabilize the market. This may be because, at the time of the Zhuzhou incident, the LME was an independent exchange influenced by Western markets, potentially lacking flexibility in addressing crises involving Chinese market participants. By the time of the Tsingshan incident, the LME had been acquired by the Hong Kong Stock Exchange, allowing it to adopt more flexible measures in response to crises in Asian markets [13].

5.3. Other examples of speculative trading incidents

Speculative trading incidents have occurred across various industries, affecting companies regardless of their size or market expertise. Three notable examples illustrate the potential risks and consequences of speculative behavior in the futures market.

In 2004, British Petroleum (BP) engaged in speculative trading in the natural gas futures market with the aim of profiting from price fluctuations. However, adverse price movements led BP to incur massive financial losses exceeding $300 million. This incident demonstrated that large multinational corporations could suffer severe financial losses due to speculative behavior in the futures market, leading BP to reevaluate and enhance its risk management strategies [14].

Similarly, in 2011, the H.J. Heinz Company attempted to profit from market volatility through speculative trading of orange juice futures on the Chicago Mercantile Exchange (CME). Significant price fluctuations resulted in substantial financial losses for Heinz. This incident underscored the risks of speculative behavior in the futures market and the significant impact of price volatility on a

DOI: 10.54254/2754-1169/2024.26704

company's financial health. Consequently, it prompted companies to enhance their risk management and market forecasting capabilities [15].

6. Conclusion

These events illustrate the significant risks associated with speculative behavior, whether undertaken by corporations or individuals. The lack of effective risk control and market forecasting can lead to severe financial losses. Although Tsingshan Holding Group's ultimate losses were relatively small, this outcome was primarily due to timely government support and market mechanism interventions. These incidents highlight the necessity of robust risk management capabilities and the ability to anticipate dramatic market fluctuations when engaging in large-scale speculation and hedging in international financial markets. The role of government support and market mechanisms in mitigating crises cannot be ignored.

6.1. Common characteristics and lessons learned

Analyzing the Tsingshan nickel incident alongside other derivative market events reveals several common characteristics and lessons. One major issue is excessive speculation. In all the cases discussed, the parties involved held futures contracts far beyond their hedging needs, turning these positions into speculative trades. Such speculative behavior creates substantial risk exposure, reducing the ability to withstand market volatility. It is advisable that non-professional funds or investment companies should avoid using futures for investment purposes due to a lack of knowledge, which inevitably leads to losses over time. Conversely, other companies should employ hedging strategies to minimize losses, as exemplified by Glencore's approach to hedging in the copper market.

Another notable characteristic is the occurrence in overseas markets. All the aforementioned cases, including the Tsingshan nickel incident, took place in foreign markets. In the Tsingshan incident, adversaries exploited the Russia-Ukraine situation, causing Russian nickel to be undeliverable in London. In the Sumitomo copper affair, financial regulators and financiers in the counterparties' home countries exerted dual pressure on Sumitomo. During the CAO incident, brokers exacerbated the situation by increasing margin requirements, forcing the company to liquidate at high prices. Domestic traders in overseas markets often lack experience and familiarity with trading and regulatory rules, putting them at a disadvantage.

A final commonality is preemptive targeting by adversaries. In the Tsingshan case, adversaries hoarded physical stock and sharply increased prices, indicating thorough preparation and knowledge of Tsingshan's futures and physical inventories. Tsingshan seemed unprepared for this. Similarly, other cases involved financial powers preemptively positioning themselves to create a one-sided market, leading to significant losses for the involved parties.

6.2. Implications for risk management

The common threads in these events emphasize the importance of strong risk management and market familiarity. Companies must avoid excessive speculative positions and ensure their trades are well within their hedging needs. Understanding the regulatory environment and trading rules in foreign markets is crucial. Additionally, companies should be aware of potential adversaries' strategies and prepare accordingly. Effective risk management, robust internal controls, and strategic

DOI: 10.54254/2754-1169/2024.26704

planning can mitigate the impact of market volatility and reduce the likelihood of severe financial crises.

Acknowledgement

Xiaole Tang, Ziwei Wang and Jiali Guo contributed equally to this work and should be considered co-first authors.

References

[1] Liu, Y., Sun, Y., Wang, J., Li, S., & Yao, Y. (2022, December 27). Risk Management Analysis and Reset Strategy of High-risk Financial Derivatives - A Case Study of Tsingshan Nickel Incident. Www.atlantis-Press.com; Atlantis Press. https: //doi.org/10.2991/978-94-6463-098-5_77
[2] Russia nickel mine production 2020. (n.d.). Statista. https: //www.statista.com/statistics/260770/russias-mine-production-of-nickel-since-2006/
[3] Fizaine, F. (2015). Modeling the copper market: A toolbox for decision making in the short term. Minerals & Energy, 30(2), 20-33. doi: 10.1080/14041040.2015.1065290
[4] Dong, N., Wang, J., & Yang, Y. (2022). Study of Speculative Trading Risks Based on Example of Short Squeezing. In Y. Jiang (Ed.), ICEDBC 2022, AEBMR 225 (pp. 1230-1236). Atlantis Press. https: //doi.org/10.2991/978-94-6463-036-7_182
[5] Liu, J. (2024). Case Analysis and Future Expectations of Chinese Enterprises Suffering Heavy Losses in the International Futures Market: Take the Bank of China and Tsingshan LME as Examples. In SHS Web of Conferences (Vol. 188, p. 02012). EDP Sciences.
[6] National Business Daily. (2022) “Tsingshan’s nickel 'thrilling 48 hours’: who is closing in on the epic surge? Hedging or gambling?”. https: //xw.qq.com/cmsid/20220313A08G7800
[7] Eric Onstad (2022) LME imposes price limits for the first time after nickel crisis https: //www.reuters.com/business/lme-imposes-price-limits-first-time-after-nickel-crisis-2022-03-15/
[8] Li, S., & Nadeem, M. (2010). Risk Management and Internal Control: A case study of China Aviation Oil Corporation Ltd.
[9] Dyer, G. (2005). China makes habit of losses on commodity markets: LONDON 1ST EDITION. The Financial Times (London Ed.).
[10] Liu, C. (2022, July 16). Tsinghua study on the impacts of digital transformation on Chinese enterprises. Fortune China. Retrieved from https: //www.fortunechina.com/shangye/c/2022-07/16/content_415340.htm
[11] Ge, Z., Liu, J., & Pan, X. (2023). An analysis of Tsingshan Holdings Group's short-selling strategy and its failures. Journal of Financial Markets and Derivatives, 19(3), 101-120. doi: 10.1016/j.finmar.2023.05.002
[12] Yeo, A. (2014). Sliding down a Slippery Slope: The US$550m Derivative Trading Loss of November 2004. INSEAD.
[13] Kurien, D. (2005). Commodities Report: China may quietly cover short position in copper; Similarity to 1997 crisis leads some to speculate Beijing may step in again. The Wall Street Journal Asia.
[14] C. Valvi, A., & C. Fragkos, K. (2013). Crisis communication strategies: A case of British Petroleum. Industrial and Commercial Training, 45(7), 383-391.
[15] Manna, D. R., Marco, G., Khalil, B. L., & Esola, C. (2011). Sustainable markets: Case study of Heinz. Journal of Business Case Studies (JBCS), 7(5), 35-42.