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Interpreting the "Black Swan" Case of United Petrochemical from the Perspective of Behavioral Finance

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Abstract: Most of the huge losses of Chinese financial enterprises in the international market are concentrated in the failure of gambling with enterprises in other countries, which is not only due to the mistakes in internal management decisions, but also due to the deliberate set-up of the counterparty through the skillful application of psychological principles. However, most of the current case studies focus on the discussion of the internal management of enterprises, and there is a lack of psychological research based on counterparties. This study aims to analyze and summarize the case studies from the perspective of behavioral finance, deeply explore the psychological principles of China's losses in the international market, and propose corresponding prevention plans. Based on the perspective of the counterparty Goldman Sachs Group, combined with existing research and behavioral finance theories, this study will expose the psychological trap of Sinopec and Sinopec's "black swan" huge losses in 2019 through stage discussion and detailed analysis. Through case review and theoretical analysis, it is found that counterparties such as Goldman Sachs Group mainly use the principles of behavioral finance, and take advantage of China's financial market's incomplete knowledge reserve of derivatives and operation and management methods, and design relevant psychological traps in a targeted manner. On the basis of understanding the relevant principles, it is proposed to strengthen the learning and mastery of behavioral finance theories of corporate management, and improve the ability to identify and dismantle psychological traps, so as to better prevent losses caused by psychological induction.

Keywords: Behavioral finance, Psychological traps, Counterparty perspectives

1. Introduction

Since the 90s of the last century, a number of large Chinese financial enterprises have suffered relatively serious losses in the international market, and their losses are mainly concentrated in the derivatives market, and the losses are mainly in the form of the failure of the Valuation Adjustment Mechanism (VAM) agreement on the trend of commodity prices between enterprises. China COSCO, China Eastern Airlines, Air China and other enterprises have suffered losses ranging from hundreds of millions to billions of yuan, the deficit of the Industrial and Commercial Bank of China has even reached as much as 10 billion, and China Aviation Oil, which has an annual income of 10 billion yuan, has lost billions of yuan in derivatives and gone bankrupt. From 2018 to 2019, Sinopec's subsidiaries and petrochemical companies hedged crude oil, and the wrong decision-making in the VAM agreement led to a loss of about 4.65 billion yuan due to the original futures trading in 2018, that is, Sinopec's "black swan" incident, which can be called a repeat of the huge loss of China

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Aviation Oil, which fell by nearly 10 billion yuan compared with the previous year. Behind a series of gambling failures is a well-designed business trap by the gambling party, among which psychological inducements are important factors that cannot be ignored [1].

However, the interpretation of cases as of the end of the day is mostly based on the management mistakes of the top management of Chinese financial enterprises and the lack of understanding of the situation of the derivatives market and the international financial market in China, and lacks the analysis of the reasons from the perspective of the VAM, and the research and interpretation of the psychological principles used by the profit side to design the trap is not comprehensive. Based on existing research and theories related to behavioral finance, this study aims to explore the psychological trap principle in VAM agreements in the international market, and provide new ideas and methods for preventing related losses [2].

Based on the perspective of behavioral finance, this study will focus on the analysis of the "black swan" case of United Petrochemical in 2019, based on the perspective of the counterparty, Goldman Sachs Group on Wall Street, through the stage combing of the development of the case, in-depth analysis of the psychological principles used in the design of financial traps, summarize the overall "routine" of the psychological trap packaged by "price gambling" in the international market, and clarify the theoretical significance of studying behavioral finance in dealing with financial traps in the international market, so as to put forward effective identification and prevention plans. It has certain practical significance.

2. Case description

On December 17th, 2018, Sinopec (hereinafter referred to as "Sinopec") announced that its wholly-owned subsidiary, United Petrochemical, had suffered huge losses in crude oil futures trading, which caused widespread concern in the market and was called the "black swan" event of Sinopec. In addition to the company's internal decision-making mistakes, this huge loss is naturally inseparable from the counterparty's step-by-step operation. The following will sort out the process of Goldman Sachs Group's psychological trap from the perspective of behavioral finance.

In 2018, Sinopec almost covered China's crude oil market, and its subsidiary, United Petrochemical, as a crude oil import and trade platform, had an excellent development foundation and industrial expansion trend. Second, in the early stage of new energy development, the fluctuation of crude oil prices is extremely unstable, and the business risk is almost in the red line area. In this bottleneck period of development, the leadership of United Petrochemical will set its sights on the derivatives markets of other countries, but it will also expose the problem of information blockage in the international crude oil trading market and the lack of knowledge reserves in the derivatives market to an unprecedented extent, and the contradiction between the urgent need for the application of the company's new products and insufficient information storage has caused a certain degree of anxiety within the enterprise, and the long-term conflict of ideas within the leadership has also faintly exploded, and even the bad incident of the company's decision-making leakage has occurred. It aggravates business anxiety. Goldman Sachs, the main behind-the-scenes of the decision-making leakage incident, was keenly aware of the psychological hidden dangers of United Petrochemical, and threw out the first bait in April 2018, asking the leadership of United Petrochemical whether it would hedge crude oil that the company is not familiar with, and after receiving a negative answer, it further advocated that crude oil prices were about to skyrocket, which almost met all the expectations of United Petrochemical to solve the current problem, and signed a premeditated VAM agreement under the inducement to buy a call option on crude oil prices at a price of $70. Selling a put option is the first step in the psychological trap.

In September 2018, Goldman Sachs Group and United Petrochemical formally signed a VAM agreement, since then, almost coincidentally, the turbulent crude oil prices for most of the year began to show a warming trend, Brent and WTI crude oil futures prices hit a high of $8,629 barrel and $76.41 barrel respectively on October 3, United Petrochemical obtained the first relatively easy profit in 2014 under the high-intensity business model of self-financing, although the amount is not large, but it caters to the inertia of the momentum effect of the management. Ignoring the finite nature of arbitrage for a while, it is convenient for Goldman Sachs Group to successfully reverse short crude oil trading on the New York Stock Exchange. After a short spring, Goldman Sachs dormant for more than half a year began to close the net, crude oil prices plummeted at a high level, and the sudden loss made United Petrochemical panic, Goldman Sachs Group appeased the leadership of United Petrochemical, and even united with a number of foreign companies to increase the noise effect, increase the chips to maliciously induce the reversal effect of the premium effect of United Petrochemical, and missed the opportunity to stop loss in time. At the end of December 2018, the VAM agreement came to an end, and the two major crude oil futures prices ended at low prices of $50.47 barrel and $42.53 barrel, a decline of more than 40%, Sinopec faced a loss of 4.65 billion yuan, the stock price plummeted by 10%, and the market value of 50 billion yuan disappeared.

However, looking at the overall situation of the case, it seems that the culprit Goldman Sachs Group has always played the role of instigator and inducer, and the signing of the agreement did not involve any form of pressure, and the company's handling method was to stop the relevant transactions, suspend the main person in charge, and disclose relevant information in a timely manner, and even the official evaluation of the SASAC for the VAM failure was that the internal control system should be strictly implemented after the establishment of the internal control system until the incident came to an end. None of the perpetrators of the psychological trap wrapped in this agreement have been held accountable at the official level [3].

3. Case analysis

According to the recent research and discussion, the large deficit is undoubtedly a decision-making mistake of United Petrochemical, but this study is based on the perspective of Goldman Sachs Group to sort out the beginning and end of the case, it can be seen that the hidden danger of this loss runs through the psychological loopholes that have never been solved in the operation and management model of United Petrochemical since 2014, and in the context of oil price turmoil in 2018, the counterparty seized the opportunity to skillfully use the principles of behavioral finance to predict and even induce a "black swan" event.

Through the combing of the case timeline, it can be seen that the psychological trap is gradual and regular, as far as the previous research analogy, there are not a few related cases, and it can even be said that China has basically experienced a similar stage in the international market led by Goldman Sachs Group since the nineties of the last century, such as the bankruptcy case of China Aviation Oil in 2009, the loss of 10 billion yuan of Industrial and Commercial Bank of China, etc., and also experienced the signing of a VAM agreement under the bottleneck period of the company's pure profit stage, and the initial profit. In the middle of the sudden loss but due to the noise effect of the stop loss is not timely, the end of the situation of no return, based on the opponent's set of "psychological tactics" can be regarded as almost a hundred tried. In the case of United Petrochemical Co., Ltd., the counterparty must have skillfully applied some psychological principles to make the trap run smoothly.

3.1. Overconfidence

Overconfidence is a common psychological bias among investors, which is manifested in overestimating their own judgment ability and information advantage, and underestimating the uncertainty and risk of the market. Since 2014, United Petrochemical has been trading crude oil at its

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own profit and loss, contracting Sinopec's crude oil import and trade, maintaining the company's profitability for four years, and its position in the domestic market is increasing day by day, and there are few serious decision-making mistakes. Against this backdrop, the leadership is confident in crude oil price assessments. In 2018, the international market was affected by environmental protection initiatives, and the call for new energy and energy-saving products was once high, but the maturity of product research and development and application popularity in the initial stage could not be guaranteed. However, considering the industrial nature of United Petrochemical Corporation, the leadership's expectation of crude oil prices is still "higher", considering that the company's industrial distribution at that time is mainly in the domestic market, as well as the lack of information reserves of the leadership, coupled with the short-term development trend, this "expectation" is mistaken as a "prediction" by the immature and unstable leadership under the inducement of overconfidence. Goldman Sachs has taken advantage of this overconfidence, even catering to speculation that crude oil prices will rise [4].

3.2. Anchoring effect

The anchoring effect is when investors rely too much on initial information or a reference point, causing subsequent decisions to deviate from reality. In 2018, crude oil prices were volatile, but before the signing of the VAM agreement (September), the overall trend was always higher, although it entered a plateau from May to July and even fell, but the range was still controlled within 5%, and then from August to early October, the agreement was signed in the early stage of a gratifying rise, and the easy short-term profit created the illusion that oil prices will continue to rise. The "prey" stage was left behind, and the ensuing plunge in oil prices was even more unexpected, and United Petrochemical did not have time to adjust its strategy in the stage of falling oil prices, and even ignored the signals of market fundamental changes and technical adjustments [5].

3.3. Loss aversion

Loss aversion refers to the fact that investors are more sensitive to losses than to gains, and tend to take risks to avoid realizing losses, which often leads investors to make irrational decisions when they lose money. At the end of 2017, crude oil prices even had a brief plunge, and the recovery rate was slow, coupled with the catalyst of high-level decision-making leakage, United Petrochemical can be regarded as "Gao Sensitive" for losses, when oil prices began to fall, United Petrochemical may fail to stop losses in time due to loss aversion, Goldman Sachs Group at this time agitated and deliberately created noise effects to exacerbate the panic, United Petrochemical continued to increase its positions or hold positions in an attempt to recoup its losses, which eventually led to the expansion of losses [6].

3.4. Herd mentality

Herd mentality refers to the tendency of investors to imitate the behavior of others in an uncertain environment, believing that the majority of people make safer decisions, which can lead to non-sexual exuberance or panic in the market. This is the last increase in the psychological trap, in the middle and late stages of the agreement, the leadership in the illegal trading stage has smelled the danger signal, began to conduct internal investigations, and is facing the last chance to stop loss, Goldman Sachs Group and a number of foreign companies have created a false market atmosphere for United Petrochemical, blindly chasing when oil prices rise, cautiously waiting and watching when falling, and using carefully crafted market sentiment to influence the judgment and trading strategy of United Petrochemical [7].

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All in all, the psychological trap set by Goldman Sachs Group comprehensively considers the business model, development history, and decision-making habits of United Petrochemical, and accurately grasps the psychological trends of United Petrochemical in an unfamiliar market. It can be seen from the case that the loss of United Petrochemical can be terminated early and even effectively prevented. By analogy, if Chinese enterprises can make effective judgments and be vigilant in a timely manner, they will also have the opportunity to jump out of the game and avoid falling into a psychological trap if they can make effective judgments and be vigilant in the international market.

Enterprises should improve their sensitivity to information in the international market, comprehensively consider the impact of multiple fields on the market, maintain a learning attitude and awareness at all times, and avoid confirmation bias caused by information gaps; The leadership should ensure the flexibility of thinking and judgment, not always follow a set of business methods, cannot be limited to the business perspective, always pay attention to market trends, maintain a humble attitude, and avoid overconfidence; Enterprises should have advance planning for different development directions at different stages of short-term and long-term, avoid the business strategy of "taking one step at a time", not only focus on short-term interests, refuse to anchor psychology, and make comprehensive and adequate preparations for the development of enterprises to adapt to social development [8]; In the face of losses, enterprises should pay attention to the causes of losses, block the root causes of losses in a timely manner, do not have a speculative mentality, and refuse meaningless panic [9]; Enterprises should have many channels for market cognition, and should be cautious in verifying and comparing the information collected, and realize that different enterprises have different feedback in the market and cannot blindly follow the crowd [10].

4. Conclusion

Based on the perspective of the counterparty, this study focuses on the analysis of the "black swan" incident of Sinopec, summarizes the principle of the psychological trap that enterprises fall into when they lose money in the VAM agreement, puts forward the correct psychological attitude and business awareness that should be maintained in the international market from the perspective of behavioral finance, and proposes effective preventive measures to deal with the psychological trap in the international market.

The innovation of this study lies in the fact that this paper selects the counterparty perspective, jump out of the enterprise from the perspective of behavioral finance to conduct a case analysis, and put forward and analyze the psychological trap hypothesis of the malicious design of the counterparty behind the decision-making error. However, there are no ready-made successful practice cases of the proposed method in case analysis, and there is a lack of verification of theoretical feasibility. The future research direction will be based on the principles of psychology and market development, as well as the development characteristics of Chinese enterprises under the new situation, so as to better cope with the losses caused by psychological induction in the international market.

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