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Lesson from "Crude Oil Treasure" Failure in 2020

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Abstract: After the 2020 pandemic, the Chicago Mercantile Exchange (CME) changed its trading rules, allowing the negative oil price mechanism in the futures market. That same month, Bank of China's (BOC) "Crude Oil Bao" investment product brought huge losses to investors, exposing the product's risk management flaws. The purpose of this report is to conduct a comprehensive study of the factors that led to the losses suffered by Chinese investors in international crude oil product trading. It delves into the operational dynamics of these financial industry institutions, as well as the perspectives of Chinese banks and retail investors affected by the incident. Finally, recommendations are made to strengthen risk management measures in response to events such as the Crude Oil Treasure, with the aim of helping commercial banks to improve their product design methodologies. The article provides valuable insights into understanding financial product failures and offers guidance on mitigating risk.

Keywords: China's financial market, Oil Futures, Crude Oil Treasure, Risk management.

1. Introduction

With the growing maturity of China's financial market and the development of the Internet, people get to know all kinds of financial products through more channels, and the popularity of financial products is getting higher and higher. More and more investors choose to diversify their assets in order to improve their risk tolerance. They might buy derivatives futures. Crude Oil is a good example.

"Crude Oil Treasure" is a "crude oil treasure" product launched by the Bank of China (BOC) in January 2018 to provide domestic individual customers with trading services linked to overseas crude oil futures. Among them, the US crude oil varieties linked to the Chicago Mercantile Exchange (CME) Texas Light crude oil (WTI) futures first contract [1].

The above description of the characteristics of crude oil: easy to operate, low starting point, T+0 trading, and other advantages undoubtedly make crude oil the object of favor for investors, especially when the price of crude oil has dropped sharply during the COVID-19 pandemic. However, on the evening of April 20, 2020, the US crude oil 05 contract settled at its lowest price in history, and the settlement was negative. This is the first negative settlement since the advent of crude oil futures. and Chinese banks have lost tens of billions of dollars, and investors have also suffered heavy losses.

This article presents a case analysis of the trading rule implemented by CME and the product design and risk management strategies employed by the Bank of China in relation to their "Crude Oil Treasure" investment product, aiming to provide an in-depth examination of the reasons behind the

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failure of crude oil. It offers valuable insights into the operational dynamics of these institutions within the financial industry, as well as reflections on this event from Chinese banks' perspective and that of retail investors. Additionally, it puts forth suggestions such as enhanced risk management measures for addressing incidents like the crude oil treasure incident, with hopes of offering assistance to both investors and banks in terms of product design.

2. Background of falling oil price

2.1. Outbreak of COVID-19

Stock markets around the world have plunged as the coronavirus outbreak has led to a global economic downturn. At the same time, the epidemic has also had a great impact on the crude oil market. First, with the adoption of prevention and control measures in various countries, people are forced to stay at home and telecommute. All travel activities are suspended, which greatly reduces the demand for oil. Second, global growth expectations have fallen sharply due to disruptions in global supply chains. As a result, the demand for crude oil in the international market has slowed significantly. As shown in the chart below, between 2019 and 2020, the expected demand for oil did not rise steadily as previously predicted. Still, it fell sharply and then maintained a stable trend after bottoming out(see Figure 1).

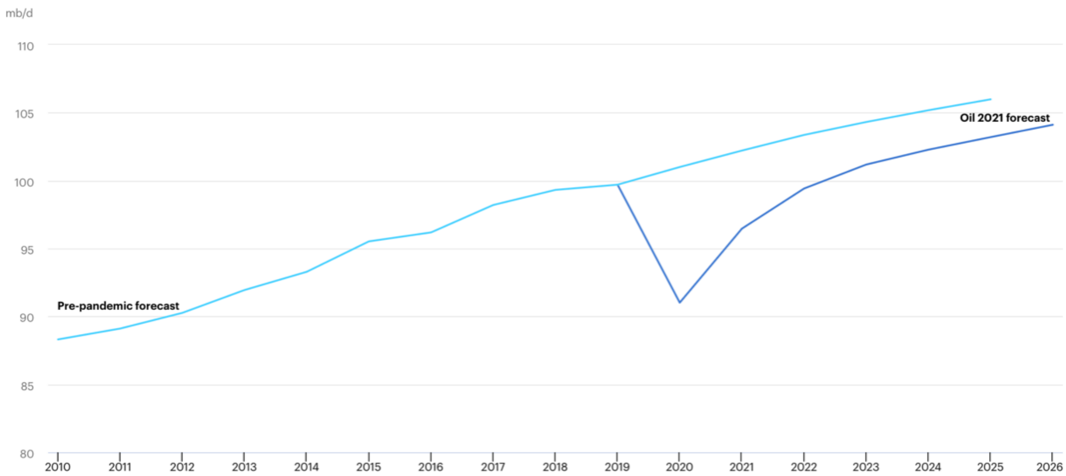

Figure 1: Oil Demand Forecast from 2010 to 2026 [2].

2.2. OPEC+ Meeting

With the development of the shale oil industry in the United States, the United States gradually turned from the largest importer of crude oil to the exporter of crude oil, threatening the market share of Saudi Arabia and Russia. However, the production cost of shale oil is high. After the outbreak of the new coronavirus, the global financial market has been violently volatile, and liquidity has been tight, resulting in the tight capital chain of shale oil companies. In addition, international oil prices continue to fall, even below the cost of shale oil production, and many shale oil companies are in trouble. The OPEC+ meeting, sponsored by the United States and co-organized by Saudi Arabia and Russia to reduce oil production and stabilize prices, was convened to preserve American shale oil companies. However, this event is a price war. Two countries refused to cut oil production, causing demand to excess supply a lot. So, oil prices fell quickly(see Figure 2).

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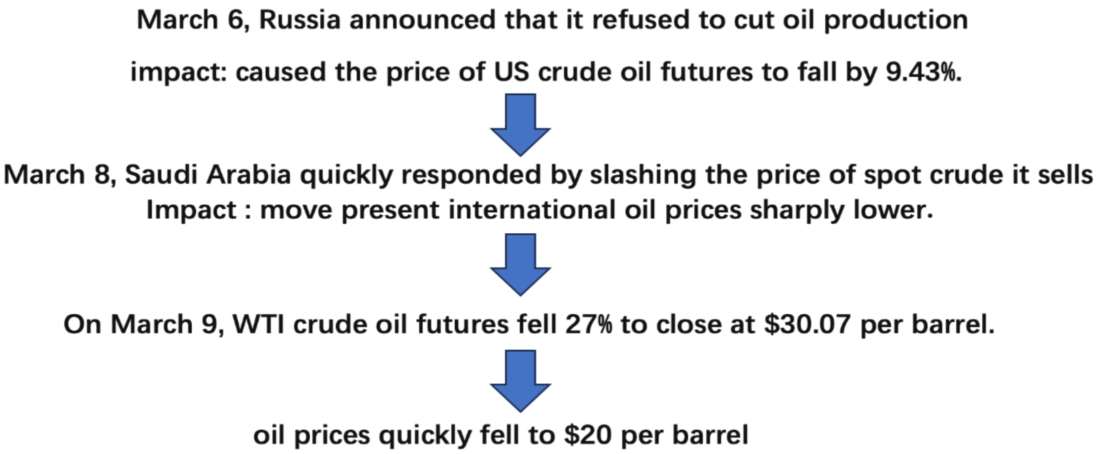

Figure 2: The Timeline of Negative Oil Price.

2.3. Process of the event

Due to the unprecedentedly low price of crude oil, people think that this is a rare investment opportunity. Still, they had no direct access to crude oil futures, so they bought a large number of crude oils as an investment, which led to the number of long positions exploding, and the original parity of crude oil was broken. To hedge its exposure, the Bank of China has built up a large, long position on the Chicago Mercantile Exchange, buying a precursor to negative oil prices.

April 8: the Chicago Mercantile Exchange issued an announcement: In order to prevent oil prices from falling into negative territory, clearing houses changed their clearing rules to deal with negative oil prices.

April 20: Boc Crude Oil stopped trading and started moving positions one day before the final settlement date of WTI crude oil (April 21)

April 21: The CME Group WTI crude oil futures contract is "negative oil" for the first time since its debut - $37.63 / BBL.

April 21: The official website of the Bank of China issued an announcement, saying that the US crude oil contract of the Bank of China's crude oil treasure product was suspended for one day on April 21, and the UK crude oil contract was normally traded. It also said that it is actively contacting the CME (Chicago Mercantile Exchange) to confirm the validity of the settlement price and relevant settlement arrangements.

April 22: The official website of the Bank of China issued an announcement, saying that the US crude oil contract of the Bank of China's crude oil treasure product was suspended for one day on April 21, and the UK crude oil contract was normally traded. It also said that it is actively contacting the CME (Chicago Mercantile Exchange) to confirm the validity of the settlement price and relevant settlement arrangements.

April 22: The Bank of China issued a "Note on the business situation of Crude Oil Bao" on its official website, saying that the futures exchange calculated the settlement price of the day according to the average price between 2:28 am and 2:30 am Beijing time.

April 23: Many investors receive a margin debit receipt telling them the margin account has been cleared.

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3. Case analysis

3.1. Product design

3.1.1. "Crude Oil Treasure" Design

At that time, there was a widely circulated joke that a ton of oil was cheaper than a ton of mineral water, and the reason why it had fallen to the floor price aroused the attention of domestic investors. Everyone thought that this was a once-in-a-lifetime opportunity to make a fortune. The original intention of the future market is to avoid the risk of uncertain future prices. Usually, there would not be so many long positions, but clients in China believe that the future price of oil will keep decreasing. The original purpose of this product to be designed is to hold the position and earn profit from customers' fees and the foreign exchange difference. But that's for the best base; the crude oil guaranteed long position and short position will not be as much come back to earth since there is a large number of investors in the crude oil. When the long position and the sort position in the "Crude Oil Treasure" platform cannot be equal, the problem of the risk of more longer position cannot be solved, then BOC must move extra positions on the crude oil treasure to the US futures exchange intact. Then comes a question: why does almost everyone expect oil prices to decrease?

In early March 2020, Saudi Arabia and Russia organized a production cut to stabilize the oil price of the Opak meeting. No one expected that the theme of saving the market meeting would evolve into a price war. On March 6, Russia announced that it refused to cut oil production. Affected by this, the United States crude oil futures closed down 9.43%. Oil prices plunged on March 8th when Saudi Arabia responded by slashing the price of spot crude it sells to key markets by the most in two decades. Actually, The delivery mechanism is that the buyer rents oil tanks in the new area of the library or directly to the new oil tanks in the library to extract the crude oil. Affected by the epidemic, crude oil has been oversupplied, and the new crude oil inventory in the library has long been full. Even if there is excess storage space, it has been booked by other businesses when the contract expires in May, the Bank of China has been unable to rent inventory, and the physical delivery road has long been blocked. So, the trade can only be a cash transaction, and the negative price of oil means that investors pay money to buyers to let them buy the oil.

There are two types of players in the futures market. One is industrial customers. The other is speculative customers. Industrial customers are really engaged in the oil trade, such as the boss of petrochemical plants. They do futures to run to crude oil, industrial customers will hold futures contracts to expire, and finally, physical delivery and speculative customers are simply futures speculators with no ability to deal with crude oil. Speculative clients, in order to avoid physical delivery, would rush to withdraw from the contract before the expiration date and then move to the next month. Here, BOC crude oil investors cannot deal with crude oil. There is another example for industrial customers. Chinese company Tsingshan is a company that used to short nickel in the market, and speculators in the market raise the price of nickel to lead Tsingshan to pay extra securities. Still, Tsingshan can choose to get the nickel by itself because it is useful to its industry while crude oil investors cannot.

3.1.2. Features of the crude oil

1. Crude Oil Treasure adopts the form of margin trading, does not provide leverage for the time being, and can carry out long and short operations.

2. Crude Oil supports simultaneous trading of USD and RMB. WTI and Brent crude are priced in US dollars (USD) and Chinese yuan (CNY).

3. Low starting point: the starting point of the transaction is 1 barrel, and the minimum increment unit of the transaction is 0.1 barrel.

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4. Convenient channels: Customers can handle transactions through Bank of China online banking, mobile banking, and other banking channels.

5. T+0 trading: trading can be carried out several times within the day to maximize capital efficiency.

6. Crude oil treasure is an account trading product, and the share of crude oil in the account cannot be extracted in kind [3].

3.1.3. Time zone difference& Risk management

On April 8, which is 12 days before the 05 contract(contract ended in May) expires, the CME issued a bizarre announcement called to prevent crude oil prices from falling negative, and the clearing house plans to modify its systems and trading rules to deal with the possible form of negative oil prices, which is the first time negative oil prices have been officially mentioned. When we look back on this incident, this change of rules led to the May 2020 crude oil contract of BOC loss. In order to hold a fixed futures position, the futures investor must trade the current month's contract before the contract expires and then buy the next month's contract. This process of rolling the contract from May to June and from June to July is known as moving the position to month. Compared with BOC contracts, the other two Chinese banks ICBC and CCB avoided negative oil prices by withdrawing early from the 2005 contract and moving into the 2006 contract (the contract ended in June). If bulls want to close the position, it is significant and necessary to find a short counterparty in the market, and both sides operate in reserve at the same time the position can be stopped. The closer the future contract is to the expiration date, the fewer counterparties can be found to close the position, which means that the liquidity of the contract is worse. China Construction Bank (CCB) and Industrial and Commercial Bank (ICBC) chose to withdraw earlier because the contract liquidity was the best at that time, and easy to close the position. Most crude oil investors only follow the crowd, and they cannot look at the price all the time because of the time zone difference. The opening time is actually the bedtime of Asian crude oil investors. As a consequence, investors cannot trade at midnight. When they wake up, the contract is already closed at a negative price [4,5].

4. Reflection of Event

The continuous development of the financial market has also brought a series of changes. A series of significant risk events represented by the crude oil futures contract, the " Oil Treasure Event," not only caused deep thinking within the Bank of China and other institutions but also provided valuable insights and lessons to the whole financial community. This incident highlighted the shortcomings of major financial institutions in product design, risk management, and compliance with rules. It reminded investors that in the face of financial markets, they should remain rational, pay attention to relevant investment education, and protect their rights and interests.

First, the incident highlights the importance of transparency in products. Financial institutions should know its significance to ensure investors fully understand its operational mechanism, risk characteristics, and possible risks." The " Oil Treasure Event" shows that investors' losses are partly due to a lack of understanding of the products held by the company and the risks it brings. To this end, financial institutions should proactively communicate clear and transparent information to investors to avoid unnecessary risks to investors.

Second, when designing products, financial institutions must fully consider investors' cognitive degree and risk tolerance so that investors can understand the structure and characteristics of the product. At the same time, proper information disclosure and warning can also help investors make the right investment decisions. Before the official issuance, financial institutions must conduct a systematic risk assessment of the product, make accurate estimates of its impact in various

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circumstances, and then put forward corresponding preventive measures. It is also crucial to strengthen cooperation with the regulatory authorities so that the design and operation of the products can meet the needs of the regulatory authorities to create a safer financial environment for investors.

It is also urgent that financial institutions strictly follow the rules. The incident concerning crude oil futures contracts highlights the need for regulatory agencies to play a more significant oversight role to ensure that their commodities meet regulatory requirements and protect investors' rights. As a considerable market entity, financial institutions should strictly abide by the law and create a good atmosphere for law-abiding operations to ensure the market's benign development. At the same time, to ensure market stability and transparency, financial institutions should actively cooperate with regulators to develop and implement appropriate systems. Financial institutions should also enhance effective communication with customers and collect customer feedback. Actively respond to the concerns of investors to help investors understand the projects concerned by investors and maintain a good relationship with investors. Financial institutions can timely release market reports, organize investor roundtables to maintain communication with investors, exchange views on the market, answer their questions, and provide them with professional investment advice.

In addition, risk management and investor education should be emphasized. Financial institutions should comprehensively evaluate market risks in advance and give investors detailed risk advice. But simply focusing on risk management is not enough; Financial organizations should also increase investors' publicity and improve their risk awareness to be treated rationally when facing the stock market. These measures include conducting training courses for investors, holding seminars, issuing investment guidebooks, etc., to help investors understand the stock market and make correct investment decisions. To improve the financial literacy of investors, it is necessary to improve the financial knowledge of investors through online courses, investment research reports, and market analysis. At the same time, through communication with investors, investors can improve their understanding of market dynamics, investment strategies, and investment strategies and improve investors' confidence and investment decision-making level. Investors should also take a lesson from the Crude oil debacle. Prudent investment requires careful consideration; Investors should carefully assess their risk tolerance and not unthinkingly follow market trends. Take the initiative to participate in investment training, enhance financial knowledge, enhance the ability to withstand market risks, and make the right investment decisions. In addition to relying on the opinions of financial institutions, investors should also learn to gather information from multiple sources and develop their independent judgment. In addition, in the investment process, we should keep a clear mind, not be affected by the market's emotions and fluctuations, and avoid excessive trading to grasp the pace of our investment better.

When financial institutions measure the market access of investor products, they should implement investor appropriateness management and strictly check whether the customer's risk tolerance matches the product risk. After entering the market, it is necessary to review the delivery qualification according to the risk level, and those investors who do not have the delivery ability are excluded to effectively protect the legitimate rights and interests of small and medium-sized investors. On the one hand, it is necessary to implement the delivery month limit system for natural persons to prevent them from taking delivery month positions. The relatively weak strength of natural persons participating in spot trading restricts their participation. The adverse impact of the recent months of the Bank of China crude oil treasure contract for the month is mainly due to the enormous losses suffered by individual investors.

On the other hand, strictly review the delivery qualification of corporate investors and only allow qualified long and short sides to perform delivery pairing. Each financial institution shall inform the customer of the relevant regulations and understand the customer's delivery. The customer cannot or

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does not intend to educate the customer participating in the physical delivery of the liquidity risk near the delivery month. The exclusion of investors who need more strength to deliver is a safeguard.

Whether it is for financial institutions or investors, it must be adaptable. Financial institutions must optimize their products in time, strengthen their risk control mechanism, and enhance their recognition and response-ability according to different situations. At the same time, financial institutions should also take the initiative to participate in exchanges and exchanges in related fields to promote the sound development of the financial industry. On the other hand, investors need to be sensible about short-term fluctuations in the stock market. When making long-term investments, consider the business's actual situation and try not to make overly emotional decisions. In addition, investors should also have a heart with intellectual curiosity to continuously improve and broaden their knowledge and better adapt to market development.

5. Conclusion

In summary, the "Oil treasure incident" as a thought-provoking case also reminds us that financial institutions, regulators, and investors interact very complexly in the changing economic system. The experience learned from this accident will have profound implications for financial institutions. It will be essential in encouraging institutions to improve their risk control capabilities, enhance compliance awareness, improve customer communication, and pay attention to investor publicity. At the same time, we should warn investors to be cautious and patient and have a long-term investment concept when investing. Through this reflection, the financial community can create a more resilient, transparent, and sustainable market for all investors by sharing its experiences.

Crude oil is an important industrial raw material, and its price changes have always been the most complex and challenging to speculate. This time, it directly fell into the negative price abyss, in people's expectations, but it has brought extreme market risks and substantial economic losses to the "crude oil treasure" investors. At the same time, China's commercial banks have suffered many setbacks in developing diversified businesses and internationalization.

Products such as the bank's "crude oil treasure" expose investors whose risk identification and tolerance are not in line with the crude oil futures market to the mismatched market risk. Its product design has defects, all of which retain the considerable risk of international crude oil futures, and at the same time, it limits its risk response measures and makes trading plans public through rules. Moreover, CME International Futures Exchange acted "quickly" to revise the rules at a critical period, causing international policy risks and becoming an essential driver of this risk event. We can not make requirements for the international market; we can only investigate the enormous losses of this incident, what specific hidden dangers are buried deep, and how to reflect on and summarize these risks or operational errors to obtain valuable lessons and Revelations to guide the future risk.

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