

Financial Risk Identification and Management: Based on the Case Study of "Crude Oil Treasure" of Z Bank

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Abstract: Financial risk is one of the core problems in the financial market. Z Bank "Crude oil Treasure" is a financial event that has attracted wide attention. This paper aims to discuss the importance of financial risk management, the types and causes of financial risks, the basic principles and specific measures of financial risk management based on the "crude oil Treasure" event. It is found that investors should be fully aware of investment risks, and financial institutions should take effective risk management measures to cope with them. Under the framework of Basel III, banks should pay more attention to the risk characteristics of financial products and the market environment, and establish an effective risk management system.

Keywords: Crude oil treasure; Financial risk; Risk management

1. Introduction

Bank Z "Crude Oil Treasure" is an investment product based on over-the-counter derivatives trading, which aims to allow investors to obtain gains from changes in crude oil prices by purchasing derivatives related to crude oil prices. Launched in July 2018, this product is based on the trading of oil price index futures contracts. By holding crude oil Treasure, investors can realize the gains corresponding to the changes of oil price index. The product can be bought and sold in real time during the trading day, and there is no need to buy or hold physical crude oil, thus avoiding the storage and delivery problems of physical oil.

However, as Crude Oil Treasure adopts the holding and rolling mechanism, the product itself has the risk of being inconsistent with the fluctuation of the actual crude oil price. In addition, Bank Z did not fully explain the risks of crude Oil Treasure to investors. Under CME's trading rules, trading in the current delivery month must be suspended on the third business day prior to the 25th day of the month preceding the delivery month, or on the third business day prior to the business day preceding the 25th day if the 25th day is a non-business day. Under CME's trading rules, April 25 is a business day, so April 21 is the last trading day for the May crude oil futures contract. On April 20, 2020, oil prices fell below minus \$40, causing widespread controversy and complaints, with many investors suffering huge losses due to the price drop. As complaints and lawsuits from investors mounted, Bank Z announced compensation to affected investors in April 2020. Specifically, Bank Z will compensate investors "up to the principal" and "up to 20 percent" for their losses. In other words, if an investor buys 100,000 yuan of crude oil treasure and loses more than 20,000 yuan, then they can only get compensation of 20,000 yuan, rather than full compensation for all losses.

This compensation scheme caused a lot of controversy, and eventually the CBRC punished Z Bank, and the court also ordered Z Bank to bear the loss of the hole and 20 percent of the principal.

2. Reasons for the "Crude Oil Treasure" thunderstorm

2.1. Design problems of crude oil Treasure

There are problems in the design of crude oil Treasure. The trading variety is a passive tracking of international oil prices of investment variety, investors in the holding of this product, need to pay a certain margin, and this margin is according to the change of international oil prices and changes, investors face

the risk of price fluctuations. If the oil price falls, the margin needs to be supplemented, and when the oil price falls by a large margin, it may not be able to withstand these losses, resulting in the explosion of crude oil treasure.

2.2. Investors' cognitive bias

Many investors have a deviation in risk perception of crude Oil Treasure. This product is issued by Z Bank and is considered to be a financial product endorsed by the state. Many investors believe that its risk is very low and blindly follow the trend of investment. Due to the low threshold of crude oil treasure, it attracts many investors who do not have enough investment experience and knowledge to enter the market, which increases the investment risk.

2.3. External factors

2.3.1. Impact of COVID-19

In early 2020, when the COVID-19 pandemic hit and the global economy stagnated, the demand for crude oil fell, and oil prices fell. Lockdowns and restrictions imposed by various countries to curb the spread of the pandemic led to oversupply in the global oil market.

2.3.2. Crude oil price war between Saudi Arabia and Russia

In early March 2020, a disagreement between Saudi Arabia and Russia over a deal to cut production sent crude prices tumbling. At this point, Saudi Arabia announced it would increase oil production and Russia also said it would not cut production, resulting in oversupply in the global crude market and falling oil prices.

3. Identification of financial risks

3.1. Risk identification methods

Risk identification refers to the identification and assessment of risk factors through effective methods in the process of financial business, so as to avoid or reduce potential financial losses. Identifying financial risks is a very important part of the financial industry. It can help financial institutions and investors discover and evaluate potential risks in investment activities in advance, so as to take appropriate risk control measures to ensure the safety and stable appreciation of assets. The following are some commonly used financial risk identification methods:

3.1.1. Statistical analysis

From the perspective of mathematics, risk can first be abstracted as a random variable, and then become a random process after adding the dimension of time, which includes both the possibility of suffering a certain loss and the size of the loss under a certain possibility.^[1] Through the statistics and analysis of historical data, the type, frequency and influence degree of risk events can be identified. This method can be carried out by building risk models, statistical analysis and trend analysis.

3.1.2. Market research

The traditional research method is to set up various questionnaires according to different research contents, which are filled by the respondents according to their real thoughts, and then make contingency table analysis by sorting out the data.^[2] By analyzing the market environment and competitors, we can identify potential market risks, such as market changes and the rise of new technologies.

3.1.3. Internal control audit

The internal audit department of the central bank of China can play an effective role in the risk management framework of the central bank. It has a good practical basis and institutional environment to establish the risk-oriented audit mode of the internal audit department of the central bank of China, which includes multidimensional requirements such as objectives, processes and organizational structure, and needs to be gradually promoted at the macro, meso and micro levels.^[3] Through the audit of internal control, potential internal risks can be identified, such as employee fraud, system loopholes and so on.

3.1.4. External assessment

As an effective alternative mechanism outside the law, external evaluation institutions pay more

attention to the financial market and greatly reduce the impact of information opacity on financial risks.^[4] By hiring professional third-party institutions to evaluate financial business, potential risks and room for improvement can be identified.

3.1.5. Risk management system

Establishing a sound risk management system, including risk strategy, risk assessment, risk control and risk monitoring, can help identify potential risks and take timely measures to deal with them. Since the People's Bank of China issued licenses for third-party payment in 2011, the Internet financial market has entered the stage of large-scale development. Due to the high degree of openness, strong transaction correlation and great harm of risks in the Internet financial market, it is urgent to establish a corresponding credit risk management system.^[5]

3.1.6. Data mining technology

Through data mining technology, relationships and rules between data can be found, so as to identify potential risks. The establishment of a digital information platform centered on compliance information transmission and a risk assessment platform centered on screening and assessment, as well as online compliance training and system integrity risk assessment management, can improve the intelligent level of digital financial data processing, compliance risk review and prevention and control processes, and form a compliance mode with "prevention - screening - response" as the chain.^[6]

3.2. Types of financial risks

3.2.1. Market risk

Market risk refers to the risk that investors are exposed to loss of asset value due to market fluctuations. Crude Oil Treasure is a fund-like investment product whose underlying asset is crude oil futures. As crude oil prices have fallen sharply in a short period of time, investors are exposed to the market risk of falling crude oil prices. The decline in crude oil price makes the value of investors' assets decline rapidly, which leads to serious losses for investors. Market risk is an inevitable risk in the financial market. Investors should understand and recognize the market risk and take appropriate risk management measures to reduce the risk.

3.2.2. Credit risk

Credit risk refers to the possibility that a counterparty is unable or unwilling to perform its repayment, settlement or other contractual obligations as agreed in the contract, resulting in the other party being unable to obtain due benefits or suffering losses. Crude Oil Treasure is supported by the credit of Bank Z. In case of credit default or capital chain breakage of Bank Z, Crude Oil Treasure will not be able to pay the principal and income of investors in the way agreed in the contract, resulting in losses of investors. The price of crude oil futures fluctuates greatly. If investors' leverage operation is too large and the market situation reverses, the account may burst. In this case, Bank Z needs to make margin calls or force the investor to close out the position. However, if the investor does not have enough funds to meet the requirements, there may be a default situation, so that Bank Z cannot pay the investor's principal and income on time. In addition, when the market environment changes, for example, the crude oil price falls sharply, a large number of investors will redeem the crude oil Treasure, which will lead to a large number of redemption pressure on Bank Z. Bank Z does not have enough funds to meet the redemption requests, which will lead to losses for investors and affect the reputation and credibility of Bank Z.

3.2.3. Operational risk

Operational risk is a type of financial risk, which refers to losses caused by problems such as errors, negligence, fraud, or technical malfunctions in financial transactions. In the Crude Oil Treasure event, operational risk is one of the important reasons leading to the occurrence of the event.

3.2.3.1. Poor management of funds

Crude Oil Treasure products raise funds from the public through online sales, which has problems such as low fundraising efficiency and insufficient risk diversification. Some investors have invested a large amount of funds due to their failure to fully understand the risks of the products. The funds raised by Bank Z are mainly used to purchase futures contracts, which are highly risky. Bank Z did not give adequate warning and warning about this risk, and its operation in futures trading also had problems. The price of the futures market fluctuated greatly, and Bank Z did not establish a reasonable risk control mechanism. Some investors failed to liquidate their positions in time when the market fluctuated sharply,

resulting in huge losses. Bank Z did not find and deal with the problems of investors' complaints in time, and did not establish a sound risk warning and monitoring mechanism, which led to the damage of investors' interests.

3.2.3.2. Non-standard trading operations

Crude Oil Treasure is a futures contract product sold through an online platform, through which investors can directly trade. Bank Z did not fully alert investors of the risks of the product when selling the Crude Oil Treasure product. As a result, investors have insufficient awareness of the real risk of the product, which leads to improper operation in subsequent transactions and serious risk losses. Another reason for investors' improper operation is the lack of rules for investors' trading operation. For example, rules such as transaction fees and closing conditions are not detailed in the product description, which leads to the lack of clear trading rules for investors when they operate, making it difficult to resist risks in the market fluctuations.

3.2.3.3. Technical failure

One is inaccurate information. In this product, investors can check the real-time oil price through the trading platform, but in some cases, the market information displayed on the platform is different from the actual market price, which may lead to the deviation of investors' trading decisions, unable to timely respond to market changes, miss the opportunity to stop losses, resulting in larger losses.

The second is the problem of system shutdown. On the trading day of April 20, 2020, when the international oil price collapsed, the trading system of Crude Oil Treasure of Z Bank was paralyzed, and the trading order withdrawal and settlement could not be carried out in time, which caused considerable losses to customers. For the crude Oil Treasure system of Bank Z, the reason for the system shutdown was that the risk control mechanism failed due to abnormal price fluctuations, and the system could not timely withdraw and clear trades, resulting in customer investment losses.

4. Identification of financial risks

4.1. From the perspective of investors

4.1.1. Understand product characteristics and risks

Investors should understand the features, benefits, fees, and risks of investment products. In the Crude Oil Treasure incident of Bank Z, many investors did not fully understand the characteristics and risks of the product, resulting in heavy losses.

4.1.2. Diversify your investments

Investors should diversify their money across different asset classes and markets to reduce their overall risk. In the case of Z Bank Crude Oil Treasure, many investors put all their money into the product, resulting in huge losses.

4.1.3. Monitor your portfolio regularly

Investors should monitor their portfolio regularly to identify and respond to potential risks. In the case of Z Bank Crude Oil Treasure, many investors did not monitor the price fluctuation of the product in a timely manner, resulting in out-of-control losses.

4.2. From the perspective of financial institutions

4.2.1. Improve product design

Product design should be in line with customers' risk tolerance. When designing financial products, financial institutions should fully consider customers' risk tolerance and avoid selling high-risk products to customers with low risk tolerance, so as to reduce risks.

4.2.2. Establish a risk assessment and management mechanism

Financial institutions should establish a sound risk assessment and management mechanism, including risk pricing, risk control, risk monitoring and risk early warning, to ensure that risks are controllable.

4.2.3. Establish and improve the regulatory system

Financial institutions should establish and improve regulatory systems to ensure that product sales comply with laws and regulations and avoid illegal operations and risk outbreaks.

4.3. From the perspective of regulatory authorities

The Crude Oil Treasure incident of Bank Z has raised questions about the supervision ability of financial regulators, therefore, regulators need to strengthen supervision and financial risk management to protect the interests of investors and maintain the stability of the financial market.

4.3.1. Strengthen the supervision of financial institutions

Regulators should strengthen supervision of financial institutions, including product design, sales and customer risk tolerance assessment, to ensure that financial institutions operate in a standardized manner and avoid illegal operations and risk outbreaks.

4.3.2. Improve regulatory systems and standards

Regulators should improve regulatory systems and standards, ensure that regulatory policies, regulations and standards are in line with market practices, and revise and improve them in a timely manner.

4.3.3. Improve the professional level of regulators

Regulators should improve their own professional level, recruit and train more financial professionals, understand market development and risk change trends, strengthen risk monitoring and early warning, and take timely measures to deal with risks.

5. Conclusions

With the continuous innovation and development of financial markets and financial products, various risks are intertwined, and financial institutions and investors need to manage different types of risks in an integrated manner. Under the framework of Basel III, banks should pay more attention to the risk characteristics of financial products and the market environment, and establish an effective risk management system. In addition, banks should also provide sufficient information to investors so that they can have a comprehensive understanding of the risks and characteristics of financial products. Through these measures, banks can better protect the interests of investors and promote the stable and healthy development of the financial market. Regulators play a crucial role in supervising financial markets and preventing and controlling risks. In the future, regulators also need to constantly reform and improve regulatory policies and frameworks to make regulation more scientific and effective.

Financial risk management is an indispensable part of financial markets and financial products. By strengthening financial risk management, we can effectively prevent and control various risk factors and promote the stable and healthy development of the financial market.

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