

An Exploration of the Risk Management of Financial Derivatives in Chinese Commercial Banks

Jiayuan Zhang^{1,a,*}

¹Wuhan University of Technology, Wuhan, 430070, China

a. 1034619976@qq.com

*corresponding author

Abstract: Financial derivatives are products based on the innovation of financial products, which can be used for risk avoidance, investment management, etc. In recent years, with the rapid development of the financial market, the development of financial derivatives has become more and more diversified in Chinese commercial banks, ushering in new development opportunities. This paper introduces financial derivatives, discusses the risk management of financial derivatives in Chinese commercial banks, and compares the financial derivatives of commercial banks in China with those in the United States. According to the analysis, it can be concluded that the existing problems in risk management include the lack of rational consumers in China's financial trading market, the unregulated market system, the high risk of purchasing financial derivatives products, and the internal management problems of Chinese banks. In view of these problems, three effective methods are proposed for optimization, namely strengthening the training of human resources, establishing a sound financial regulatory system, and enhancing the internal management of banks.

Keywords: commercial banks, financial derivatives, risk management, comparative analysis

1. Introduction

Financial derivatives play an important role in global financial markets, providing investors with effective risk management tools and investment opportunities. However, along with their potential benefits come complex risks that, if not properly managed, can cause significant losses to the financial system and commercial banks. As a core component of the financial system, the risk management of Chinese commercial banks in the financial derivatives market is particularly important.

Risk management in the financial derivatives market has always been a topic that attracts wide attention, especially after the global financial crisis. Chinese commercial banks are facing multiple challenges in the field of financial derivatives, including market risk, credit risk, and legal compliance. Therefore, an in-depth investigation of risk management strategies, methods, and effects in financial derivatives of Chinese commercial banks is crucial for the stability of the financial system and the sustainable development of commercial banks.

The purpose of this paper is to explore in depth the risk management of financial derivatives in Chinese commercial banks, including the current situation of risk management, challenges, effective methods, and comparisons with international experiences. By analyzing the risk management

practices of Chinese commercial banks in the financial derivatives market, the problems and opportunities they face can be better understood. Meanwhile, this paper also provides useful thoughts on how Chinese commercial banks can further improve their risk management to ensure the healthy development of the financial system. Ultimately, the findings of this paper can provide practical guidance and suggestions for the risk management of Chinese commercial banks in the financial derivatives market and promote the healthy and sustainable development of the financial system.

2. The Development of Financial Derivatives in Chinese Commercial Banks

Financial derivatives are a kind of financial instruments, which are derived from underlying assets due to the growing scale of financial markets. Their value is derived from movements in other assets or indicators (e.g., stocks, bonds, currency exchange rates, etc.). The purpose of these instruments is to manage risks, hedges, investments, or speculation. The main financial derivatives include futures contracts, options, and swap contracts. In recent years, the emergence of financial derivatives has had a direct impact on the needs of the economic market.

The Bank of China (BOC), as a key component of China's domestic financial system, has always played an important role in the field of financial derivatives. BOC began participating in the domestic foreign exchange and precious metals markets in the early 1980s. During this period, BOC pioneered the provision of financial derivatives services such as foreign exchange options to provide risk management tools for its clients. In the 1990s, BOC actively participated in the internationalization of RMB. In order to meet the needs of foreign institutions and enterprises, BOC provided RMB financial derivatives services, such as RMB swaps, which facilitated the application of RMB in the international financial market. In 2000, with the gradual opening of China's financial market, BOC's financial derivatives business expanded rapidly. At this time, BOC not only provided foreign exchange options and RMB swaps but also covered a wide range of financial derivatives such as currency swaps, interest rate swaps, and commodity futures. In 2015, BOC successfully issued its first offshore RMB bond option, marking a further enhancement of its position in the international financial market. From 2015 to the present, BOC has been actively participating in global financial derivatives trading through its internationalization strategy and continuously expanding its international business network.

3. Problems in the Risk Management of Financial Derivatives in Chinese Commercial Banks

3.1. A Lack of Rational Traders

In the Chinese financial derivatives market, there are some irrational trading behaviors, which may lead to abnormal fluctuations in market prices [1]. Some investors may be too risky and blindly participate in high-risk trades, and they tend to use highly leveraged trading strategies, which can magnify potential losses to uncontrollable levels. High leverage may lead to extreme price volatility, which can pose a threat to the stability of the bank. Other speculative traders may be driven by market sentiment alone rather than basing their ideas on sound analysis and rational decision-making. Such speculative sentiment may lead to abnormal market volatility, a situation that may exacerbate market instability and pose a risk management challenge to banks and investors. There are also investors who do not have a good understanding of the nature and risks of financial derivatives, which can lead to blind financial transactions that result in large losses.

3.2. Unstandardized Systems

The regulatory system of China's financial derivatives market is relatively new and may have some imperfections [2]. The regulatory system of China's financial derivatives market may have some loopholes and fail to adequately monitor the operation of the market and the behavior of participants [3-5]. Such regulatory inadequacies may lead to potential market manipulation and misconduct. Some financial derivative products are too complex, making it difficult for ordinary investors to understand their operation principles and risks, which may result in opacity and risk accumulation in the financial derivative market. Some banks in China may lack complete risk management tools and models to accurately measure and manage the risks of financial derivatives, and this lack of regulation may make it difficult for banks to adequately assess and manage risks in financial derivatives transactions, thereby exposing them to potential risk of loss.

3.3. Internal Management Problems

Some Chinese commercial banks may have internal management problems. Some banks suffer from inadequate risk control and fail to establish a sound risk management system [6], which may make it difficult for banks to accurately measure and manage risks in financial derivatives transactions. In addition, some banks may have the problem of over-concentration of risk, which may have a significant impact on the financial stability of the whole bank if there are problems in certain financial derivatives transactions.

In summary, commercial banks in China face a series of risk management problems in the financial derivatives market. In order to improve the stability of the financial market and protect the interests of banks, measures need to be taken to strengthen regulation, standardize market behavior, enhance investor education, and further improve the internal risk management system. Only through comprehensive improvements can Chinese commercial banks effectively respond to the risk challenges in the financial derivatives market and ensure the healthy development of the financial market and the sound operation of banks.

4. Effective Methods for Strengthening Financial Derivatives Risk Management in Chinese Commercial Banks

The stability of the financial derivatives market is inseparable from the risk management of commercial banks. In order to strengthen the risk management ability of Chinese commercial banks in the field of financial derivatives, three effective methods are discussed in detail and described in the following sections: strengthening the cultivation of human resources, establishing a sound financial regulatory system, and improving the internal management of commercial banks. The combined application of these methods is expected to enhance the risk management level of Chinese commercial banks in the financial derivatives market and ensure the stability and sustainability of the financial system.

4.1. Strengthening the Training of Human Resources

The U.S. has a strong talent pool in the field of financial derivatives, and many top universities and financial institutions actively cultivate risk management professionals, which provides a solid foundation for the healthy development of the financial derivatives market. Chinese commercial banks need to increase their investment in talent training in the field of financial derivatives. This includes training risk management professionals with sufficient knowledge and skills in financial derivatives to better understand and respond to market risks.

Firstly, training and education should be enhanced. Commercial banks should increase their investment in training and education in the area of risk management to train people with specialized knowledge and skills in financial derivatives, including risk analysts, financial engineers, and traders. These training programs should cover different levels, from basic knowledge to advanced skills, to meet the needs of different positions. Secondly, it is necessary to increase the accumulation of experience among professionals. Through actual operations and participation in the market, risk management professionals in banks can accumulate valuable experience. At the same time, case studies and simulated transactions related to risk management can help improve employees' decision-making ability, as well as their ability to respond and better understand market risks and changes. Thirdly, it is important to cultivate an international perspective. Cooperating, exchanging, and studying with international financial institutions can cover the internationalization component, including training on international financial regulations, international market trends, and international financial products, which can help broaden the internationalization vision of employees and enable them to better cope with the challenges of the global financial market.

4.2. Establishing a Sound Financial Regulatory System

The U.S. has a mature financial regulatory system, including agencies such as the Federal Reserve System and the Commodity Futures Trading Commission, which are responsible for regulating the financial derivatives market and providing strong regulatory and law enforcement protection. China, on the other hand, should continue to strengthen its regulatory framework for the financial derivatives market to ensure market transparency and fairness. This includes formulating stricter regulatory policies, monitoring the behavior of market participants, and guarding against improper trading practices.

First, the Chinese government and regulators should formulate stricter regulatory policies and regulations [7], such as adjustments to the loan prime rate (LPR) [8] and other measures, to ensure the stability and transparency of the financial derivatives market. This includes regulating the behavior of market participants and improving market transparency and traceability. Second, in terms of risk assessment, regulators should establish effective risk assessment tools to monitor changes in market risk. This can be done by monitoring market trading data, modeling risk scenarios, and assessing the financial position of market participants. Third, international collaboration should be strengthened. Chinese regulators need to actively cooperate with international regulators to share information and best practices. This will help improve the internationalization of regulation and better address cross-border risks.

4.3. Strengthening the Internal Management of Commercial Banks

U.S. commercial banks usually have sophisticated risk management systems, including strong internal audit and risk control organizations, which help identify and correct potential problems in a timely manner. It can be seen that Chinese commercial banks need to establish a comprehensive risk management system, including risk control and risk assessment. In addition, banks should improve risk management training for internal employees to ensure that they can fully understand and respond to the potential risks of financial derivatives.

First, Chinese commercial banks need to establish a sound risk management system [9], including mechanisms for risk control, monitoring, and reporting. This helps to detect and respond to risk events in a timely manner. Second, Chinese commercial banks should establish an independent internal audit department responsible for monitoring and evaluating the effectiveness of risk management. Internal audits help identify potential internal problems and provide recommendations for improvement. Moreover, Chinese commercial banks need to pay attention to diversified risks [10],

including market risk, credit risk, and operational risk. By considering different types of risks in a comprehensive manner, the risks associated with financial derivatives transactions can be managed more comprehensively.

The effective and comprehensive use of these methods will help Chinese commercial banks better manage the risks in the financial derivatives market and improve the stability and sustainability of the financial system. The sustainable development of the financial derivatives market requires a solid foundation for risk management, which is crucial for the long-term healthy development of China's financial market and economy.

5. Conclusion

In summary, this study has thoroughly examined the risk management of financial derivatives market in Chinese commercial banks. Although Chinese commercial banks have made significant progress in this area and established a relatively mature risk management system, certain problems still exist, such as the lack of rational traders, the higher risk due to the non-standardized system, and some internal management problems in Chinese commercial banks, and there is still room for improvement when comparing with the international experience, especially in terms of cultivating human resources, establishing a sound financial regulatory system, and strengthening the internal management of commercial banks. Although this study has made some progress in exploring the risk management of financial derivatives in Chinese commercial banks, there are some limitations. First, the data source mainly relies on public information and literature research, which limits the in-depth understanding of the actual operation and internal situation. Second, the study mainly focuses on qualitative analysis and lacks sufficient quantitative data support. Finally, the timeframe of the study is limited and it fails to comprehensively cover all relevant issues. Future research can further improve the understanding of the risk management of financial derivatives in Chinese commercial banks through more extensive data collection and long-term tracking studies. In addition, strengthening comparative studies with financial derivatives markets in other countries can provide Chinese commercial banks with more internationalized perspectives and inspiration. In conclusion, risk management in the financial derivatives market of Chinese commercial banks is an area of continuous development and improvement, and future research can provide more guidance and suggestions for the stability of the financial system and the enhancement of the risk management level of commercial banks.

References

- [1] Ji, Z. X. (2021). *Exploring the path of financial derivatives development in commercial banks*. *China Market*, (20), 28-29. DOI:10.13939/j.cnki.zgsc.2021.20.028.
- [2] Yang, D. D. (2014). *Exploring the risk management of financial derivatives in China's commercial banks*. *China Collective Economy*, (16), 71-72.
- [3] Ge, Z. X. (2022). *Risk management research on financial derivatives of China's commercial banks*. *China Market*, (30), 56-58. DOI:10.13939/j.cnki.zgsc.2022.30.056.
- [4] Guo, Y. (2020). *Risk management of financial derivatives in commercial banks*. *Modern Marketing (Lower Decade)*, (02), 43-44. DOI:10.19932/j.cnki.22-1256/f.2020.02.024.
- [5] Yang, H. Q. (2019). *Several discussions on credit risk management of financial derivatives in China's commercial banks*. *Modern Marketing (Business Edition)*, (10), 193-194. DOI:10.19921/j.cnki.1009-2994.2019.10.154.
- [6] Cheng, J. (2018). *Research on risk management of financial derivatives in China*. *Modern Business*, (10), 85-86. DOI:10.14097/j.cnki.5392/2018.10.039.
- [7] Bi, Y. (2020). *China's commercial banks financial derivatives credit risk management strategy talk*. *Modern Marketing (Lower Decade)*, (03), 52-53. DOI:10.19932/j.cnki.22-1256/f.2020.03.031.
- [8] Chen-Pu, J. Y. (2021). *Analyzing the impact of reforming LPR generation mechanism from the perspective of commercial banks*. *Mall Modernization*, (01), 134-137. DOI:10.14013/j.cnki.scxdh.2021.01.047.
- [9] Lu, D. Q. (2018). *Risk management of financial derivatives in commercial banks*. *Financial Electronic*, (03), 42-43.

- [10] Wu, Y. and Zhao, Y. K. (2020). Risk management analysis of financial derivatives in commercial banks. *National Circulation Economy*, (12), 142-143. DOI:10.16834/j.cnki.issn1009-5292.2020.12.062.