

# ***Research on the Strategy of Using Option Hedging by China Eastern Airlines***

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**Abstract:** In recent years, with the increasingly fierce competition between major enterprises, under the tide of globalization and informatization, hedging strategy has become an important tool for enterprises to avoid risks. This article introduces and analyzes how China Eastern Airlines uses the hedging strategy to study this strategy. Through the in-depth analysis of the theoretical basis of hedging, it provides theoretical support for follow-up research. Subsequently, through a detailed analysis of the option hedging strategy of China Eastern Airlines Transportation Co., Ltd., its operation and effect are discussed. Finally, the research results are summarized and the future development of enterprises is prospected. Through objective analysis, this paper reveals that options hedging can successfully reduce the operating costs of enterprises, improve the profit level, reduce the capital risks faced by enterprises in the turbulent economic environment, and provide a guarantee for the sustainable development of enterprises.

**Keywords:** Eastern Airline, Option, Hedging, Strategy, Research

## **1. Introduction**

Under the wave of globalization, marketization and informatization, the risks faced by enterprises are becoming more complex and diverse. However, as an important financial tool, option hedging is of great significance for enterprise risk management [1]. This paper uses the literature research method and the case analysis method, through reviewing the relevant literature and analyzing the examples of China Eastern Airlines Company. The study of the option hedging strategy of China Eastern Airlines is not only conducive to improving the risk management level of enterprises but also can provide a reference for other enterprises when facing similar challenges. Therefore, it is of great practical significance and profound strategic significance to deeply study the option hedging strategy of China Eastern Airlines.

In 2023, Xiamen Zijin Mining Group Co., Ltd., Cao Wanjie analyzed the application of options tools in London gold hedging and found that the reasonable use of options tools for hedging can not only reduce the operating risk of the enterprise but also the income of the enterprise. Because gold is priced in dollars, the international gold price will go up and down with the turbulence of the dollar. Therefore, the familiar use of options for hedging has a very significant effect on the losses caused by the changes in the international market [2]. As an important financial tool, option hedging has been well-received at home and abroad. Black and Schole proposed the famous option pricing model, which provides a theoretical basis for option pricing and hedging [3]. On this basis, Hull conducted

in-depth research on option hedging strategies and proposed several option hedging strategies in different scenarios in 2006, which provided great help for enterprise risk management. In addition, Bekaert and Hodric conducted an in-depth study of the U.S. stock market and found that options hedging can effectively reduce the market risk of enterprises and provide more benefits for enterprises. In China, in 2017, Jun Li also conducted in-depth research on the theory of option hedging, proposed an option hedging strategy suitable for Chinese enterprises and in line with the domestic market, and conducted an empirical study on the risk management effect of option hedging. These studies provide a solid theoretical foundation and methodological support for the strategy research of option hedging. In addition, in 2019, Ming Wang conducted research on the application of option hedging for enterprises in different industries and found that enterprises in different industries have different effects on the use of option hedging. These studies provide an important reference for the application of option hedging in different industries and market environments and enrich the research content of option hedging strategies. In 2018, China's Jing Chen found that option hedging can effectively avoid the risk of fluctuations in China's financial market and improve the operational capacity and profitability of enterprises [4].

This paper is committed to the study of China Eastern Airlines using an option hedging strategy to profit. It can not only provide a reference for decision-making in risk management but also provide empirical research cases for academia in the field of option hedging. Through in-depth analysis and summary, this paper can find the rules and experience, and provide practical guidance for related enterprises.

## **2. The Theoretical Basis of Hedging**

### **2.1. Definition and Theory of Option Hedging**

Option hedging refers to a financial hedging strategy in which enterprises use the option market for hedging operations to avoid risks. In practice, an enterprise can choose the appropriate option contract for hedging according to its risk exposure situation. Option hedging can be done by buying call and put options, or by selling call and put options. This strategy can help enterprises to lock in the future asset prices, and avoid the impact of market fluctuations on corporate profits, to improve the risk management level of enterprises.

The theoretical basis of option hedging lies in the nonlinear characteristics of options, which can provide more flexible risk management tools in an uncertain market environment. At the same time, the option hedging strategy is also supported by the option pricing model, which enables enterprises to calculate the option price according to the option pricing model, to develop a more scientific hedging strategy [5]. This provides an important theoretical basis for enterprises to avoid market risks and improve their operating efficiency.

### **2.2. Implementation Process of Option Hedging**

The first step is to identify the risks. Through the analysis of the enterprise operation process, all kinds of risks are determined, and on this basis, further determine how to avoid risks through hedging. The second step is the quantification of the risk. This step uses a variety of risk quantification tools to select the most appropriate hedging strategy, especially to determine the hedging ratio. Finally, through the above two steps, the hedging strategy is formulated in detail and subsequent implementation.

### **3. The Analysis of the Strategy of Using Option Hedging**

#### **3.1. Implementation of Option Hedging of China Eastern Airlines**

As is known, airlines have always been fuel owners, so fuel use is very expensive. In the first half of 2021 alone, China Eastern's fuel cost reached 9.77 billion yuan, accounting for 25 per cent of the total cost. If fuel prices rise, it will certainly add a lot of costs to the company. So China Eastern Airlines chose hedging. China Eastern Airlines set up a special hedge team to judge the trend of international oil prices, specify the strict hedging system, personnel arrangement, the third-party consultant team, regular meeting system, trading and procurement system, drawing up the strict hedging strategy, based on the hedging strategy to choose the appropriate hedge position, proportion, tools, etc., to obtain profit [6].

In 2021, the hedging team of China Eastern Airlines used the theory of the future to hedge the jet fuel cost by 580 million yuan under the condition that the oil price increased by 7.09% year on year and the company's fuel cost increased by RMB 686 million yuan. At the same time, China's last energy crude oil futures function is also gradually into play. On June 21, 2021, crude oil options were listed in the previous energy period, forming an effective supplement to the crude oil futures market and further improving the hedge system of this industry in China.

In the future, as the impact of US crude oil on global supply and demand increases, the volatility of oil prices is bound to increase. Therefore, airlines need to face and improve through the establishment of professional teams, formulate the hedging system, accurately judge the oil price, choose the right financial derivatives and select the right exit time.

#### **3.2. Analysis of the Hedging Effect of China Eastern Airlines Options**

China Eastern Airlines has achieved a remarkable effect by using the option hedging strategy. First of all, in terms of the risk of fuel price fluctuations, China Eastern Airlines cleverly uses option hedging tools to effectively lock in the cost and reduce the impact of fuel price fluctuations on the company's profits. Secondly, in terms of currency risk management, China Eastern Airlines has successfully avoided the losses caused by foreign exchange fluctuations through option hedging and has guaranteed the stable operation of the company's funds. In addition, through the option hedging strategy, China Eastern Airlines also effectively and accurately reduced the impact of interest rate risk and stock market volatility and enhanced the company's profitability and risk resistance [7].

It is worth noting that in the analysis of the option hedging effect, China Eastern Airlines not only pays attention to the effect of risk management but also pays attention to the cost-benefit ratio of the strategy. Through the comprehensive evaluation of the cost and income obtained by the implementation of the option hedging strategy [8], China Eastern Airlines has reasonably controlled the hedging cost and ensured the economic benefits of the strategy. Therefore, the option hedging effect is remarkable, which provides a strong guarantee for the company's steady operation and sustainable development.

#### **3.3. Risk Risk Assessment of China Eastern Airlines Options**

In the implementation process of the option hedging strategy, China Eastern Airlines has fully realized the importance of risk management and made a comprehensive assessment of the option hedging risk [9]. First of all, China Eastern Airlines has a professional hedging team, which can reasonably establish feasible plans, conduct an in-depth analysis of the form of the authorities, and have a clear understanding of the risks it faces [10]. Secondly, China Eastern Airlines has fully considered the impact of the market environment changes on the option hedging strategy and established a flexible adjustment mechanism to timely respond to the risks and challenges brought by

the market fluctuations. In addition, China Eastern Airlines has also strengthened the training and management of operators to ensure the accuracy and standardization of operations and minimize operational risks.

#### 4. Conclusion

This study studies the strategy of option hedging and reveals its important role in enterprise risk management. In the process of research, this paper made a detailed analysis of the specific operation and effect of using option hedging, and thus summarized the following important achievements:

Through the case analysis of China Eastern Airlines' option hedging strategy, it is found that this strategy has achieved significant results in reducing enterprise risk and cost management. Specifically, through option hedging, China Eastern Airlines has successfully reduced the operating cost, improved the profit level, and provided an effective guarantee for the sustainable development of the enterprise [11].

In addition, this paper also found that in the process of option hedging, China Eastern Airlines can flexibly adjust the hedging strategy according to the market conditions, to maximize the effect of option hedging [12]. This provides useful reference and inspiration for other enterprises when using option hedging strategies, and emphasizes the flexibility and timeliness of strategies.

This paper analyzes the strategy of China Eastern Airlines using option hedging and summarizes its role in enterprise risk management, which provides useful theoretical guidance and practical experience for enterprises when using option hedging strategies and is of great significance in improving the level of enterprise risk management [13].

Based on the results of this study, this paper proposes the following management suggestions for enterprises to use option hedging strategies:

Enterprises should strengthen the study and understanding of option hedging theory, and formulate a reasonable hedging strategy according to their own characteristics and risk situation, to give full play to the hedging effect of options.

In practice, enterprises should track market changes promptly and flexibly adjust their hedging strategies to cope with changes in the external environment and minimize risks and costs.

In addition, enterprises can combine the case analysis and experience of this study to strengthen internal management and team training, improve the operation level and risk awareness of employees on option hedging strategies, and provide effective support for enterprise risk management.

The management suggestions put forward in this study can provide useful guidance and support for enterprises when using option hedging strategies, improve the risk management level of enterprises, and achieve sustainable development. In the future, the economic turbulence of globalization may still exist, therefore, enterprises should formulate plans for the uncertain factors that may exist in the future, and plan in time to prevent the impact of the factors on China Eastern Airlines.

In future research, this paper can discuss the options hedging strategy from the following aspects. Combined with the empirical data, the specific operational details of the option hedging strategy can be analyzed in depth, discussing the challenges and coping strategies that enterprises may face in the actual operation, to provide more operational guidance for enterprises. Future research can conduct a more comprehensive and in-depth discussion of the theoretical depth and empirical research, to provide more effective guidance and support for enterprises when using option hedging strategies.

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