

The Application Value of Option Instruments in Risk Management within Corporate Finance

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Abstract: Option instruments are frequently used in corporate finance to reduce the risk of a decline in price asymmetrically and do not restrict the upward movement of the price. Research on the application of options in enterprise risk management. The above options are relatively more suitable for handling the firms' uncertain exposures and non-linear risks and demand for strategic flexibility. Options are relatively precise hedging instruments for foreign exchange risk, commodity price risk and interest-rate risk, etc., and can be used to manage equity exposure of a company. Based on the study of corporate option use and real options and option incentives, the four dimensions of value in this paper are downside protection, flexible hedging, strategic real-option value, and risk governance. In short, options are for speculation; however, if they are well-managed by the company, the risk can be reduced and firm value increased at the same time.

Keywords: Options, corporate finance, risk management, hedging, real options, derivatives.

1. Introduction

The risk factor of corporate finance is gradually intensifying. Risks to the company include foreign exchange fluctuation, changes in commodity prices, interest rate rise, demand fluctuations, project delays and investment risks. Considering the above reasons, options have begun to be used for hedging to reduce the risk of a decline in value while still maintaining some potential for profit. Therefore, the options are generally more suitable than the basic linear hedge for the above reasons.

Based on the above study, a certain proportion of non-financial enterprises have started to use options for risk management. Options are relatively convenient when exposures are unknown, non-linear, or cannot be covered by forwards and swaps. Flexibility of strategy is also available; at any time, an investment can be changed, postponed, expanded or dropped. Thus, options are now being used in a more general way.

Research on the application value of option instruments in risk management for corporate finance. Firstly, expound on the reasons for choosing the risk-reduction path; then, introduce anticipated benefits in the scope of strategic design and enterprise management. Finally, put forward the problems of implementation. The selection of the above options is to strengthen the entire risk control system of the company in accordance with the general financial plan, rather than handling risks in isolation.

2. Hedging Value

The first and most common reason for having choices is downside protection. A put option can be used to hedge against a decline in the price of assets, an unfavorable shift in exchange rates, or a fall in commodity prices; a call option can be employed to reduce high input-cost-sensitivity of production. As the holder has the right but not the obligation to exercise, options create a floor without losing the upper bound of gains [1, 4].

It is particularly necessary in the case of an unknown basis for the exposure. Bartram's studies on enterprise risk control

indicate that options are more suitable for managing both linear and non-linear risks of price and quantity in a hedging situation due to their hedging properties for both [1]. Due to the combined risks of price and demand uncertainty, the company will likely prefer options over a fixed forward contract.

The company has the following options. The company does not wish to hedge all of the risk as it will be too inflexible or overly hedged. Selective hedging or maintaining exposure to favourable changes in the market may use option options. Therefore, they will be a good way to help the treasury office handle both protection and opportunity.

The goal of the hedging theory for corporations is to reduce the costs associated with financial distress, reduce tax-related uncertainties and underinvestment problems. A company has not adopted a hedging strategy due to a fear of risk, and will continue to invest and raise funds stably in the face of fluctuations in the external market [3]. Options are relatively more suitable than forwards and futures for firms with asymmetric exposures. A forward contract locks in a future price and thus eliminates both the risk of decline and potential gains, but an option offers the protection of a lower bound and still allows for upward market movement [1, 10]. Therefore, it is not advisable for enterprises whose timing, scope or purpose of disclosure cannot be determined. For example, the exporter does not know how much foreign currency income it will receive in the future, and the manufacturing company is unable to know whether raw material prices will change significantly. Options can offer protection without obligating the company to take a fixed-income hedging position.

Options also have the function of reducing risk in situations where information is not complete for a company. The risk of a company will also fluctuate throughout the course of a financial year. The amount of foreign currency income, the quantity of raw materials needed, and when the next loan will be taken out will all be influenced by the scale of sales and production plans. If a company employs a linear hedge too early, it may find that its own risk has changed and therefore is no longer covered by that hedge. Options reduce this mismatch by allowing a firm to choose whether to exercise the contract based on new information after the fact. A typical

scenario is that a company with seasonal fluctuations in demand or new export contracts to be signed is in such a state. Therefore, the options will reduce both the cost of risk and the impact of uncertainty on operation.

3. Strategic Value

3.1. Real options

The choices are strategically significant and close to the real options for investment analysis. Investment timing, expansion and contraction, abandonment and deferral are all considered real options in real options theory. Triantis believes that by reducing risk through real options and financial derivatives, more value can be added to the company under conditions of uncertainty [2, 5].

Therefore, the risk control system of a company does not need to deal with only financial risks. It will be feasible for the management. If the project needs to be delayed due to a lack of information, there will be no loss. If a project cannot be implemented, there will be no corresponding losses. Thus, the choices will help the company adapt to changes.

Real options also promote the economic reasons for corporate investments. Traditional net present value analysis generally assumes that a project will be immediately accepted or rejected, but many corporate investments are not. A company may postpone a project, increase production after the demand becomes more obvious, abandon an unprofitable investment, or switch to a different mode of production when market conditions change [2, 9]. The above managerial choices are option-like in value because they can address the problems of uncertainty in the firm proactively rather than dealing with them passively. Therefore, the risk-thinking model can be employed to guide the design of control measures. Corporate finance does not seek to minimise losses through risk control but rather to make it easy to expand the company in the future.v

3.2. Risk-adjusted Investment

Options help to reduce the risks managers are willing to take on for investments. Investment opportunities are presented as choices, and firms will not be willing to undertake unavoidable obligations that are deemed too risky. It is relatively suitable for enterprises with high fixed costs, irregular demand and rapid changes in technology [5-6].

Convert the uncertainty into a specific selection problem and then improve the timing and project selection. The company can wait, observe and then take action at a later time. Options serve to hedge and to direct the choice in this way.

Option thinking in risk-adjusted investment analysis can also help avoid excessively conservative choices by the firm. Under conditions of high uncertainty, some desirable projects may be excluded due to a relatively high initial risk. However, if the project has multiple stages of investment opportunities, abandonment rights or expansion prospects, then its actual economic value may be higher than what a static net present value calculation indicates. The Selection System will classify managers' choices as either permanent or flexible trials. The company can begin with a small-scale trial project to collect information from the market and expand only if needed. Therefore, the company will limit the amount of losses from a decline and retain the right to future development. Thus, options offer a relatively balanced investment option that is both risk-averse and flexible in terms of strategy.

4. Governance Value

The choice will serve to manage the country. A few choices have been available for building an incentive system that aligns managers' decisions with those of shareholders, but a poorly designed system may also promote excessively high-risk-taking behaviour [7]. Given the two kinds, special rules will be set for option instruments. To manage risk, one aims to reduce the increase in risk to a reasonable level and not to increase the overall risk.

Governance will also be needed because of the choices. The three reasons for the change are volatility, time to maturity and strike price, etc. Strengthen the valuation, accounting and disclosure systems of the company to enhance the transparency of its hedging activities. A weak government will not address the problem, and as a result, there will be an indirect loss.

Thus, good-governance option use requires policy discipline. Set risk appetite and limits for the company; limit mark-to-market exposure, and maintain records of why each option position was established. The above control measures will serve as an effective and open risk-control mechanism.

Know the level of governance value for the option. Management stock options will motivate the managers to make value-adding decisions for shareholders by aligning their interests. Options may also be riskier because the payoff structure of options rewards upside gains for managers and limits downside losses [7]. Managers take on too many high-risk projects, increase debt, use financial derivatives without proper internal control, etc. Recent studies have also found that active options markets may be associated with a higher risk of corporate default, and therefore, option-related activities are not unconditionally favourable to governance [8]. Therefore, the company can use options in conjunction with explicit risk limits, independent review, disclosure procedures and board-level supervision.

5. Application Areas

All of the above choices can be used by the company. Currency options for foreign-exchange risk management can reduce the negative impact of currency fluctuations on importers and exporters, and also provide some gains when the market is favourable. To reduce the impact of an increase in input costs, a company can buy a put option. Interest-rate ceilings and floors limit the rise in borrowing costs. Equity-linked finance can use options to build convertible structures and other hybrid financing models [1, 3, 6].

Options are most practical when a firm is uncertain about the time, scale, or direction of a change in uncertainty. Therefore, the above choices are more suitable for companies in an unstable environment or facing a cash flow risk. They are also convenient for management if a flexible-type hedge that cannot be obtained through forwards or swaps is required.

Currency options are suitable for enterprises that have uncertain foreign-currency income from exports and imports or foreign-currency investment returns. Based on the above research, it has been found that foreign-currency derivative use can be linked to firm value under conditions of foreign-currency exposure [5]. Options can be used in commodity risk management to lock in the purchase or sale price range of the goods at a certain time. Floating-rate debt has a certain level of fluctuation, and interest-rate caps and floors can be used to reduce this fluctuation. Based on the survey data, many non-financial enterprises have also employed derivative products

to hedge against interest rate fluctuations and currency fluctuations as well as commodity price risks [4]. The above applications show that these options are not merely isolated financial products. They are a set of expanded corporate risk management that connects treasury activities, investment plans, financing options and governance controls.

The kind of enterprise structure and its own income are also reasons for choice. Export-oriented enterprises will be exposed to changes in foreign currency more readily and need to use forward contracts and other risk-management devices. Energy and Transportation, and other enterprises that manufacture goods will also be involved in futures and commodity swaps because a large amount of the raw materials in their production costs come from energy, metals and other items. The company has a floating-rate loan, and thus can use an interest-rate cap to set an upper limit on the increase in borrowing costs. Options for embedded in convertible bonds or callable securities affecting financing decisions may also impact the cost and flexibility of fundraising. The above cases do not suggest that option instruments should be used alone. First, determine the cause of the exposure, and then choose an option structure that is suitable for the time, size and direction of this exposure.

6. Practical Limits

The choices have some strengths, but they are not always superior. They have a high premium and are therefore relatively expensive for large-scale or extended-term hedging. They need to be able to analyse well; they are not simple linear functions. If the managers are not familiar with the option profile, they may pay too much for protection or underestimate the remaining risk [1, 4].

There is also a problem of accounting and liquidity. Option premiums are short-term changes in cash flow, and hedge accounting rules may reduce the attractiveness of some structures. Therefore, the choice of options should be based on their economic value rather than on the appearance of being high-tech.

However, in practice, options are difficult to value professionally and are not continuously monitored. Option premiums are relatively high in a high-volatility environment or for longer-term hedging instruments. If the managers do not know what the option Greeks, implied volatility, time decay and liquidity refer to, they will fail to determine a suitable hedging strategy [10]. Hedge accounting treatment and disclosure requirements may also affect whether a hedging strategy is shown as stable in the financial statements [6]. The above reasons indicate that the company should not use options solely due to their flexibility or high-tech nature. A reasonable option strategy should be based on known risks and upper limits to losses, and hedging costs must be lower than expected economic benefits.

Another problem is that the option strategy will not work if the company does not communicate internally. The Treasury Department can understand the technical benefits of an option position, but the operating department will not promptly provide information on sales orders, procurement schedules or other project changes. If the original business exposure has not changed, then the hedge ratio will be inaccurate. Present the reasons for selecting each option to the higher-ups and the

board of directors before submitting it for approval. Otherwise, the protection hedge will gradually turn into a speculative investment. Therefore, the company should build an institutionalised reporting mechanism to connect option position information with actual business risks and market-value upper bounds regularly. Only when option use is supported by internal information sharing can it be used reliably in the company's risk management.

7. Conclusion

Instruments have a large number of applications in corporate finance and are also risk-reducing. Reduce the uncertainty and non-linearity of risk, support real-option-based investment decisions, and strengthen governance under good control. The first is asymmetry; it has a lower floor and an unlimited ceiling. Therefore, they are more suitable for unstable environments and require high strategic flexibility.

Therefore, at the top level, options should be used for risk management rather than as speculative luxury goods. Under the guidance of the government, a reasonable price has been set, and good management by the company reduces risks and enhances corporate value.

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