

DOCTORAL THESIS

A study on the risk and return of option writing strategies

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Abstract

This thesis conducts an extensive study on the risk and return of option writing strategies. Chapter 2 compares covered option writing strategies with pure directional futures positions. Specifically, the chapter compares the performance of a covered call writing strategy with a long futures position and that of a covered put writing strategy with a short futures position. The empirical results show that the covered option writing strategies outperform the corresponding pure directional futures positions on a risk-adjusted basis.

Chapter 3 of the thesis focuses on studying returns from writing uncovered or “naked” at-the-money (ATM) and out-of-the-money (OTM) put and call options. The mean returns from writing call options and writing put options are both positive. The returns from writing put options are higher than those from writing call options. The study finds that the market return and the realized volatility are negatively related, consistent with the general findings. The negative correlation between futures returns and the volatility forces the returns from writing put options to be more negatively skewed than the returns from writing call options. These findings help explaining the high volatility spread (or negative volatility risk premium) investors are willing to pay for put options. Even astute traders may find the prices of put options are justified since put options are powerful instruments to bet simultaneously on both the market direction and the volatility. The results of the chapter also provide an alternative explanation on the implied volatility structure of put and call options.

Chapter 4 extensively tests the economic value of forecasting volatility by comparing the performance between trades that incorporate a volatility forecast and those that do not. The chapter is motivated by the fact that the performance of an option writing strategy is significantly affected by the “*ex-post*” volatility spread – i.e., the difference between the implied volatility of an option and the realized volatility of the underlying over the life of the option. The chapter finds that option implied volatility dominates other time-series models in forecasting volatility, a result consistent with the literature. Despite this fact, the study shows that there are significant incremental economic benefits for forecasting volatility.

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