PIN RISK IN OPTION SPREAD STRATEGIES

Charlie Charoenwong, Nanyang Technological University, Republic of Singapore
Chee K. Ng, Ithaca College, New York, U.S.A.

dx.doi.org/10.18374/JIFE-23-2.9

ABSTRACT

Of the two ways to form the bull spread and of the two ways to form the bear spread, two of these four ways will result in non-trivial pin risk, which forcibly assigns investors the underlying shares they originally do not intend to buy or sell. Incidentally, both ways that give rise to the pin risk are credit spreads when initiated. Major investment textbooks, that ignore the existence of the pin risk, mislead their readers into believing the deterministic values of the maximum gain, maximum loss, and the breakeven stock price at maturity. The DNE (do not exercise) option available to debit spread investors offers only limited optimal exit strategy. This note attempts to highlight pin risk in option spread strategies and hopes to narrow the gap between theory and practice.

***Keywords**: Pin risk, investors, strategy*

1. Introduction

Option spread strategies are taught widely in Investment courses. The strategies present valuable critical-thinking opportunities for students to hone their understanding on call and put pricing relative to the strike price. The two most common spreads are bull spread and bear spread.

A bull spread is formed by buying low-strike calls or puts and concurrently selling the same number of respective high-strike calls or puts of the same underlying that mature at the same time.

A bear spread is formed by buying high-strike calls or puts and concurrently selling the same number of respective low-strike calls or puts of the same underlying that mature at the same time. Simply put, a bear spread is the short position on a corresponding bull spread. The graphics for the maturity payoffs for bull spread and bear spread are shown in Fig. 1a and Fig. 1b below.

Maturity payoff, $

Fig. 1a: Bull spread's maturity payoff