

Contents

1 Introduction 1

1.1 Why Trade Options 1

1.2 Why This Book 3

1.3 What Do You Need 4

1.4 What Can You Get 5

2 Option Basics 7

2.1 Stock Option Defined 7

2.2	Moneyiness	9
2.3	Expiration	10
2.4	Option Chain	11
2.5	Option Quote	13
2.6	Index Options	14
2.7	Supplementary Topics	15
2.7.1	American vs. European Options	15
2.7.2	The No-Arbitrage Principle	16
2.7.3	Put-Call Ratio (PCR)	16

3 Trading Practicality 19

3.1	Option Level	19
3.2	Option Settlement	23
3.3	Rolling	25

3.4	Early Exercise and Assignment	....	26
3.5	Margin and Liquidity	.....	27
3.5.1	Buying Power	.....	28
3.5.2	Initial and Maintenance Margin	.....	30
3.5.3	Margin Call	.....	32
3.5.4	Capital Utilization	.....	33
3.6	Taxation Matters	.....	34
3.6.1	Profit & Loss Realization	.....	34
3.6.2	Long-term v.s. Short-term Capital Gains	.....	35
3.6.3	Wash Sale	.....	36
3.7	Supplementary Topics	.....	37
3.7.1	Account Transfer	.....	37
3.7.2	Portfolio Margin	.....	38
3.7.3	Professional Trader Status	.....	39

4	Option Pricing	41
4.1	Intrinsic Value and Extrinsic Value	41
4.2	Black-Scholes Formula	46
4.3	Volatility	49
4.3.1	Volatility Defined	49
4.3.2	Implied Volatility (IV)	51
4.3.3	Volatility Smile, Smirk and Skew	54
4.4	Greeks	57
4.4.1	Introduction	57
4.4.2	Delta	58
4.4.2.1	Delta Defined	58
4.4.2.2	Estimate Option Price Changes	60
4.4.2.3	Delta Hedge	61
4.4.2.4	Estimate In-The-Money Probability	62

4.4.3	Gamma	63
4.4.3.1	Delta Visualized	63
4.4.3.2	Gamma Defined	64
4.4.3.3	Estimate Option Price and Delta	65
4.4.4	Theta	65
4.4.5	Vega	66
4.4.6	Summary	67
4.5	Payoff Chart	68
4.5.1	Overview	68
4.5.2	Payoff Chart for Single Option	68
4.5.3	Payoff Chart for Stock Holding	71
4.5.4	Payoff Chart for Trading Strategy	72
4.5.5	Payoff Chart for Synthetic Option	73
4.6	Supplementary Topics	74
4.6.1	Put-Call Parity	74

4.6.2 Volatility Surface 76

4.6.3 Monte Carlo Simulation 77

5 Think Before Trade 78

5.1 Trading Goal 78

5.1.1 Risk Hedging 79

5.1.2 Speculation and Leveraging 80

5.1.2.1 Speculation 80

5.1.2.2 Leveraging 80

5.1.3 Income Generation 81

5.1.4 Summary 82

5.2 Investment Approach 83

5.2.1 Stock Ownership v.s. Options Trading 83

5.2.2 The Dollar-Cost Averaging (DCA) Method 84

5.2.3 Additional Income 86

5.2.4	Never Say Never	86
5.3	Tactic Matters	87
5.3.1	Choose Trading Strategy	87
5.3.2	Choose Right Trade	88
5.3.2.1	Hedging	88
5.3.2.2	Speculation	89
5.3.2.3	Income Generation	90
5.3.3	Expiration and Strike	91
5.3.4	First Trade	92
5.3.5	Take Assignment or Close Position	93

6 Trading Strategies 95

6.1	Introduction	95
6.2	Basic Strategies	97
6.2.1	Vertical Spread	97

6.2.1.1	Call Spread	98
6.2.1.2	Put Spread	101
6.2.1.3	Iron Condor	103
6.2.1.4	Option Level Impact	105
6.2.1.5	Maintenance Margin Impact	105
6.2.2	Straddle and Strangle	105
6.2.2.1	Straddle and Strangle Explained	105
6.2.2.2	Trading Guideline	107
6.2.2.3	Estimate Expected Price Move	108
6.2.2.4	Trading Guideline Revisit	109
6.2.3	Strip (Ratio Straddle)	109
6.2.4	Collar	110
6.2.5	Butterfly Spread	111
6.2.6	Word Of Caution	113
6.3	Advanced Strategies	114
6.3.1	Calendar Spread As An Example	114

6.3.2	Delta Insights and Applications	116
6.3.2.1	Estimate In-The-Money (ITM) Probability	116
6.3.2.2	Delta vs. Moneyness	117
6.3.2.3	Delta vs. Time-To-Expiration	119
6.3.3	Gamma Insights and Applications	120
6.3.3.1	Gamma vs. Moneyness	120
6.3.3.2	Gamma vs. Time-To-Expiration	121
6.3.4	Theta Insights and Applications	122
6.3.4.1	Theta Curve	122
6.3.4.2	Theta Trade (Deep OTM)	124
6.3.4.3	Theta Trade (LEAPS Call)	124
6.3.4.4	Calendar Spread Revisit	125
6.3.4.5	Review: Choosing Underlying and Strike	126
6.3.5	Vega Insights and Applications	127
6.3.5.1	Vega Curve	127
6.3.5.2	Calendar Spread Revisit Again	128

6.3.6	Calendar Spread Payoff	129
6.3.7	Diagonal Spread	132
6.3.7.1	Diagonal Spread Defined	132
6.3.7.2	Profits and Losses Analysis	134
6.3.7.3	Alternative Decomposition	135
6.4	Supplementary Topics	136
6.4.1	Expected Price Move Revisit	136