Futures Trading Guide

SET50 Index Options

Content

Bualuang Securities Public Company Limited produced this document in order to provide investors with additional knowledge about and understanding of SET50 Index Options. The information may be useful for the customers opening a futures trading account, but should not be construed as an investment recommendation.

Investment involves risk. Investors should make investment decisions with care.

1. Introduction to SET50 Index Options

1.1 What is an Option?

An option is a contract which provides the buyer with the right to buy or sell an asset in the future at the predetermined price and quantity. The option seller is the party that sells the right to the option buyer. An option contract has the following characteristics:

- The option buyer has the right to choose whether or not to exercise the option contract.
- If the option buyer chooses to exercise the option contract, the option seller has an obligation to follow the contractual agreement.
- On the day the contract is bought, the option buyer must pay the seller an amount of money called the "Premium".

Options are classified into two classes according to their rights:

1. Call Option
   A call option is a contract that provides the buyer with the right to buy the underlying asset (long call) at a quantity and price specified in the contract. The call option seller has an obligation to sell the underlying asset (short call) to the call option buyer.

2. Put Option
   A put option is a contract that gives the buyer the right to sell the underlying asset (long put) at a quantity and price specified in the contract. The put option seller has an obligation to buy the underlying asset (short put) from the put option buyer.

	Call Option	Put Option
Long Position	Right to buy	Right to sell
Short Position	Obligation to sell when the option is exercised	Obligation to buy when the option is exercised

The first option traded on the TFEX is for SET50 Index. The SET50 Index Options are European-style. The buyer has the right to buy or sell the SET50 Index from/to the seller at the specified exercise price (normally noted as X or K) and other contract conditions, as specified in the contract (both put and call options for the TFEX). Currently SET50 Index is still the only underlying asset traded in the options market.

1.2 Profit/Loss from an option

As the buyer will exercise the option only when there is some profit to be made from exercising, the maximum loss of the option buyer is equal to the premium. On the other hand, the maximum possible profit of the option seller is also equal to the premium (commission fee exclusive).

If the price of the underlying asset increases, the call option buyer—who has the right to buy the underlying asset at the specific price—can potentially profit massively (depending on how far the underlying asset rises in price). That means the call option seller is exposed to a loss of an equal amount. On the other hand, when the price of the underlying asset falls, the put option buyer—who has the right to sell the underlying asset at a specified price—can profit until the price of the underlying hits zero (it can't get any cheaper). At this point, the put option buyer would have made the maximum profit—equal to the strike price minus the premium; the put option seller's maximum loss would be equal to the strike price minus the premium.

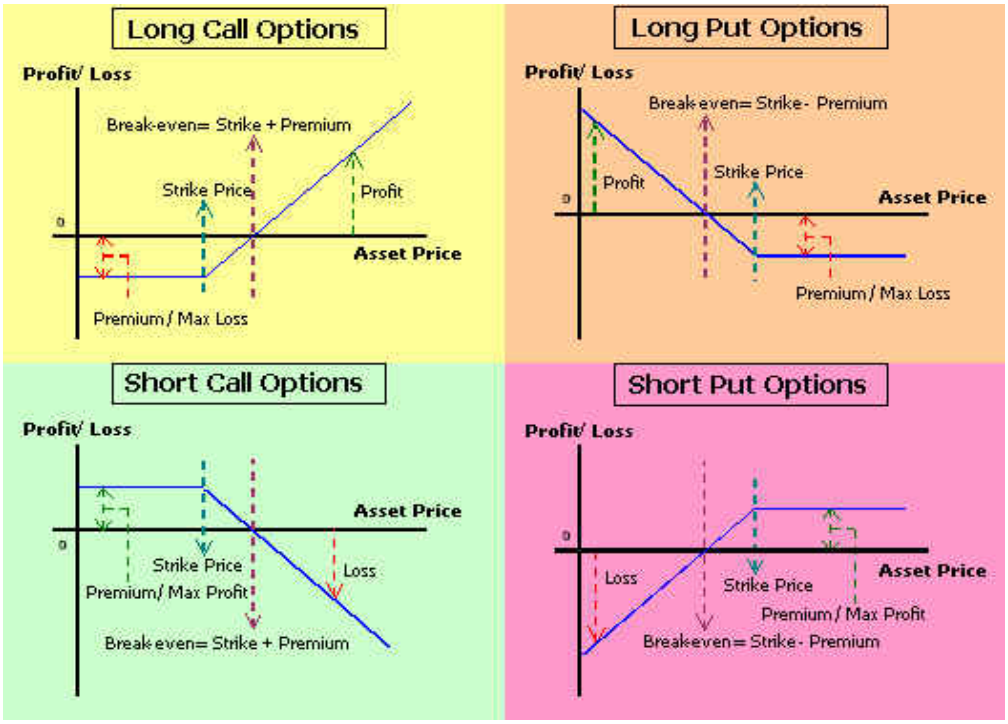
The conclusions are as follow:

	Maximum profit	Maximum loss
Long Call	Unlimited	Limited = Premium
Short Call	Limited = Premium	Unlimited
Long Put	Limited = Strike - Premium	Limited = Premium
Short Put	Limited = Premium	Limited = Strike - Premium

1.2.1 Break-Even Point

	Break-even point
Long Call	Strike + Premium
Short Call	Strike + Premium
Long Put	Strike - Premium
Short Put	Strike - Premium

1.2.2 Profit/Loss Chart



1.3 An Option's Moneyness

The moneyness of an option is its intrinsic value—that is, the value the option would have if exercised immediately. The three types of options moneyness are as follow:

1. In-the-Money (ITM)—positive intrinsic value.
   - A Call option with an exercise price (Strike) of Bt250 when the current price of the underlying asset (Spot) equals Bt300 (intrinsic = 300 – 250 = Bt50).
   - A Put option with an exercise price of Bt300 (Strike) when the current price of the underlying asset (Spot) equals Bt280 (intrinsic = 300 – 280 = Bt20).
2. Out-of-the-Money (OTM)—negative intrinsic value.
   - A Call option with an exercise price (Strike) of Bt270 when the current price of the underlying asset (Spot) equal Bt 200 (intrinsic = 200 – 270 = Bt -50).
   - A Put option with an exercise price (Strike) of Bt260 when the current price of the underlying asset (Spot) equals Bt290 (intrinsic = 260 – 290 = Bt -30)
3. At-the-Money (ATM)—has an intrinsic value of zero.

	Strike < Spot	Strike = Spot	Strike > Spot
Call option	OTM	ATM	OTM
Put option	ITM	ATM	ITM

2. Characteristics and Specifications of SET50 Index Options

TFEX has specified the characteristics for SET50 Index Options as follow:

Summary of SET50 Index Options Contract Specifications

Heading	Individual Contract specification
Underlying index	SET50 Index which is compiled, computed and disseminated by the Stock Exchange of Thailand
Contract Multiplier	200 Baht per index point
Contract Months	March, June, September, December up to 4 quarters
Minimum price fluctuations	0.10 index points
Price Limit	+/- 30% of the previous day's SET50 Index
Exercise style	European
Strike price interval	10 points (at least 5 in-the-money strikes, 5 out-of-the-money strikes and 1 at-the-money strike).
Trading Hours	Pre-open: 9:15 - 9:45 hrs. Morning session: 9:45 - 12:30 hrs. Pre-open: 14:00 - 14:30 hrs. Afternoon session: 14:30 - 16:55 hrs.
Speculative Position limit	Net 20,000 delta equivalent SET50 Index Futures contracts on one side of the market in any contract month or all contract months combined
Final Trading Day	The business day immediately preceding the last business day of the contract month. Time at which trading ceases on Final Trading Day is 16:30 hrs.
Final Settlement Price	The final settlement price shall be the numerical value of the SET50 Index, rounded down to the nearest two decimal points as determined by the exchange, and shall be the average value of the SET50 Index taken during last 15 minutes plus the closing index value, after deleting the three highest and three lowest values.
Settlement Procedures	Cash Settlement

2.1 Underlying Asset

The underlying asset of a SET50 Index Option is the SET50 Index. The index value is calculated from the market value of the top 50 stocks compiled and announced by the Stock Exchange of Thailand. The calculation used is the Market Capitalization Weight Method.

2.2 Contract Multiplier

The contract multiplier of a SET50 Index Option is equal to Bt 200 per 1 index point. That means if the index trades at 300 points, the value of the contract will be 300 x 200 = Bt60,000.

2.3 Contract Months

The TFEX has set the contract months (expiry months) of SET50 Index Options as the last month of each quarter—March, June, September and December. For example, if today is 24 Nov, 2008 the outstanding option contracts being traded will be for the following contract months only:

1. December 2008
2. March 2009
3. June 2009
4. September 2009

However, on the last trading day of the nearest contract, a new further contract will be opened for trading. Assuming that today is the last trading day for the contracts expiring in Dec 2008, a new contract expiring in Dec 2009 will automatically be opened for trading.

2.4 Tick size

The tick size for a SET50 Index Options equals 0.1 of an index point. That means that the price difference between each order cannot be less than 0.1.

- Examples of valid price ranges are 5 points, 5.1 points and 5.5 points.
- Examples of invalid price ranges are 5.11 points, 5.25 points and 5.99 points.

2.5 Ceiling/Floor

The TFEX has set a daily ceiling and floor for SET50 Index Options. The ceiling is 30% above the previous day's settlement price; the floor is 30% below the previous day's settlement price. In addition, the lowest price cannot be less than 0.10 of an index point.

Example:

Underlying	Close (1)	30% of Close (2) = (1) x 30%
SET50	274.51	82.353

Series	Settlement Price (3)	Ceiling* (3) + (2)	Floor** (3) - (2)
S50Z08P280	36	118.35	0.10
S50Z08P290	42	124.35	0.10
S50Z08P300	49	131.35	0.10
S50Z08P310	56	138.35	0.10
S50Z08P320	71	153.35	0.10
S50Z08P330	79.9	162.25	0.10
S50Z08P340	70.8	153.15	0.10
S50Z08P350	79.7	162.05	0.10
S50Z08P360	88.9	171.25	6.55
S50Z08P370	98.3	180.65	15.95
S50Z08P380	107.8	190.15	25.45
S50Z08P390	117.4	199.75	35.05

* 3-decimal point rounded up
** 3-decimal point rounded up, the minimum value is equal to 0.1

2.6 Types of Options

There are two types of options, differentiated by whether there is right to pre-exercise:

1. A European option can be exercised only on the expiration date.
2. An American option can be exercised at any time prior to or on the expiration date.

All SET50 Index Options currently traded are European.

2.7 Exercise Price/Strike Price

The spread of the exercise prices specified by the TFEX are equal to 10 index points. That means each strike price differs by a minimum of 10 points and the unit number is always 0, such as 280 290 300 310 and 320 etc.

In addition, there are always eleven option contracts at the beginning of every trading day, regardless of the contract month. They comprise:
1. At-the-Money (ATM), or the contract with a strike price as closest to ATM (one contract).
2. In-the-money (ITM) and Out-of-the-money (OTM) contracts (not less than five contracts of each).

Assuming that the strike price closest to ATM is equal to 300 index points, the contract expiring in December 2009 (Z09) consists, at a minimum, of the following contracts:

Call Options				Put Options			
S50Z09C250	S50Z09C260	S50Z09C270	S50Z09C280	S50Z09P250	S50Z09P260	S50Z09P270	S50Z09P280
S50Z09C290	S50Z09C300	S50Z09C310	S50Z09C320	S50Z09P290	S50Z09P300	S50Z09P310	S50Z09P320
S50Z09C330	S50Z09C340	S50Z09C350		S50Z09P330	S50Z09P340	S50Z09P350	

2.8 Trading Hours

The trading day is divided into four sessions

Session	Details	Period
1	Pre-open	9:15 – 9:45
2	Morning session	9:45 – 12:30
3	Pre-open	14:00 – 14:30
4	Afternoon session	14:30 – 16:55

2.9 Last Trading Day

The last trading day of each contract is the day prior to the final exchange business day in the contract month. Examples are as follows:

Expiration Month	Last trading day
December 2008	29 December 2008
March 2009	30 March 2009
June 2009	29 June 2009
September 2009	29 September 2009
December 2009	29 December 2009

In addition, on every final trading day, the contract can be traded until 16.30 hrs.

2.10 Final Settlement Price

The price comes from the average value of SET50 Index on the last trading day of the option contract. It is calculated from the SET50 index on a minute-by-minute basis during the last 15 minutes before trading ends, starting from 16:15 hrs through to 16:30 hrs, and the close value of

the index on that day. The 3 highest and 3 lowest values are excluded from the sample and two decimal points are used for rounding the number to an average.

2.11 Cash Settlement

For the sake of convenience, there is no physical delivery of an option contract of the SET50 Index. Only cash settlement is made. The gains and losses from the contract's position will result in a cash transfer to the customer's account. When a contract is settled in cash, its position is declared closed.

3. Contract Code

3.1 Single Order

The contract code for a single order for a SET50 Index Option comprises the five parts shown below.

Part 1	Part 2	Part 3	Part 4	Part 5
S50	Z	09	C	300

Part 1: Underlying Asset

The SET50 index is the only underlying asset for an index option. S50 is used as its symbol.

Part 2: Contract Month

The symbol of each expiry month is represented by a letter, see below.

Contract Months	Symbol
March	H
June	M
September	U
December	Z

Part 3: Expiry Year

The last two digits of the expiry year are used—such as 08 for the contract expiry year 2008 and 09 for a contract due to expire in 2009.

The contract codes of SET50 Index Options for all contract months can be found in Attachment 1

Part 4: Types of Rights

C stands for a Call option and P for a Put option.

Part 5: Exercise/Strike Price

The contract codes of SET50 Index Options for all contract months can be found in Attachment 1

3.2 Combination Order

A Combination Order is not yet available for an option contract.

4. Circuit Breaker

Circuit Breaker of TFEX will be in line with that of SET. Therefore whenever the SET closes due to a circuit breaker, the TFEX will also close for trading.

Circuit Breaker conditions specified by SET are as follow:

The first Circuit Breaker kicks in when the SET Index declines 10% from its previous day's closing price. The SET stops trading for 30 minutes.
The second Circuit Breaker is engaged when the SET Index falls 20% from its closing price on the previous trading day. The SET stops trading for one hour.

After the second Circuit Breaker has kicked in and then one hour has elapsed, the SET reopens for trading until normal closing time without any further stops. In cases where the remaining trading time of the session is less than 30 minutes or 1 hour when the Circuit Breaker engages, the SET will stop trading during that remaining time only.

5. Commission fee and Brokerage fee

5.1 Commission fee

The commission fees for SET50 Index Options are specified by the TFEX as a sliding scale based on the number of contracts (VAT exclusive) traded in a day. The fees for offline and Internet trading are as follows:

Contracts	Commission fee from 1 Nov 08 to 31 Dec 09 (Bt/contract)	Commission fee from 1 Jan 10 onwards (Bt/contract)
1st – 25th	85	90
26th – 100th	65	70
For 101st contract and on	45	50

Examples

- An investor buys one contract of S50Z11C300 per day. He must pay a commission fee (VAT exclusive) of Bt90.
- An investor buys 50 contracts of S50Z11C300 per day. He must pay a commission fee (VAT exclusive) 90 x 25 + 70 x 25 = Bt 4,000 (Bt80 per contract, on average).
- An investor buys 125 contracts of S50Z11C300 per day. He must pay a commission fee (VAT exclusive) 90 x 25 + 70 x 75 + 50 x 25= Bt9,125 (Bt73 per contract, on average).

5.2 Brokerage fee

Service Type	Fee (Bt/contract)
Exercise	10

Deny	10
Assign	None

The above brokerage fee is VAT exclusive. In the case of Auto-Exercise, the fee collected does not exceed the exercising value.

6. Opening and closing Positions

When trading options for the first time, an investor must specify whether to buy open or to sell open the position. Examples of the two actions are explained below:

6.1 Buy-Open a Call Option

After an investor buy-opens a call option, he can choose to close out the position before the contract expires by sell-closing the same series contract. Examples follow:

1. An investor buy-opens call options of the SET50 Index at a strike of 300 index points expiring in Dec 2010 for two contracts with a premium of 10.0 index points
The commission fee for options trading equals Bt90 per contract, plus VAT 7%, so the buy open order of S50Z10C300 for two contracts at 10.0 points will cost the investor:
- premium 2 x 10.0 x 200 = Bt4,000
- commission fee and VAT 2 x Bt90 x 1.07 = Bt 192.60

2. The investor decides to close out the two call positions. By that time, S50Z10C300 has a premium equal to 17.0 index points. Therefore the investor sends an order to sell-close S50Z10C300 for two contracts. The investor is entitled to:
- receipt of premium 2 x 17.0 x 200 = Bt 6,800
- profit = 6,800 – 4,000 – (2 x 192.60) = Bt2,414.80 (ignore the cost-of-carry)

However, he also has to pay:
- commission fee and VAT 2 x Bt90 x 1.07 = Bt 192.60

6.2 Sell-Open a Put Option

After an investor sell-opens a put option, he can choose to close-out the position before the contract expires by buy-closing a put option with the same contract conditions as the one he opened. For example:

1. An investor sell-opens put options of the SET50 Index at a strike of 250 index points expiring in September 2011 for three contracts with a premium 10.1 index points. If the commission fee for options trading equals Bt90 per contract, plus VAT of 7%, sending a sell-open order of S50U11P250 for three contracts at 10.1 points will mean the following transactions for the investor:
- receipt of premium 3 x 10.1 x 200 = Bt6,060 (initial margin is required)
- payment of the commission fee and VAT 3 x Bt90 x 1.07 = Bt 288.90

2. The investor decides to close-out the three sell positions. By that time, S50U11P250 has premium equal to 8.3 points. Therefore the investor sends an order to Buy-close S50U11P250 for three contracts. This creates the following transactions for the Investor:
- payment for premium 3 x 8.3 x 200 = Bt4,980

- payment for commission and VAT 3 x Bt90 x 1.07 = Bt288.90
- receipt of profit = 6,060 – 4,980 – (2 x 288.90) = Bt1,368.90 (ignore cost of carry)

The transactions occurred as a result of the above actions are summarized in the below table.

	Buy-open an option	Sell-close an option
Cash Received/Paid	Pay premium Pay commission fee Pay VAT	Receive Premium Pay commission fee Pay VAT
Initial Margin	Not required for Buy-Only position	Required

7. Contract Holding Till Expiration

Once the contract expires, the system will use the final settlement price to check the levels of strike prices that are viable to exercise automatically from remaining long positions. Profits less exercise fee will be added to the equity balance of long position holders, while losses will be deducted from the short position issuers (no fee applied).

7.1 Example of Profit and Loss Calculation on Expiration

Investor A bought while Investor B sold 2 S50Z09C300. On the expiration, the final settlement price is 323.01 point. The exercise fee is Bt10 per contract and VAT is 7%.

Investor A gains profit = 2 x {(323.01 – 300) x 200 – (10 x 1.07)} = Bt9,182.60 (added to the equity balance).

Investor B losses = 2 x {(300 – 323.01) x 200} = -Bt9,204 (deducted from the equity balance)

Remark: If investors do not want to exercise the options for any reason, they can give instructions to cancel the automatic exercising to the account officer. For online investors, the auto exercise cancellation instruction can be self-entered into the system.

Caution: Normally, the system will not exercise out-of-the-money options. If an investor overrides the criteria either intentionally or mistakenly, he or she has to bear the incurred loss. Therefore, to send an overriding instruction should be done only when the final settlement price is known at 17.45 hours on the last trading day.
Example

Position / Investors	Investor A	Investor B
Position	Buy call options S50Z09C300	Sell call options S50Z09C300
Number of contract	2 contracts	2 contracts

Final Settlement Price	323.01 points	
Exercising fee	Bt 10 per contract	Bt 0 per contract
VAT (7%)	10 x 0.07 = Bt 0.7 per contract	Bt 0 per contract
Profit / loss	2 x [(323.01 – 300) x 200 – (10 + 0.7)] = Bt 9,182.60	2 x [(300 – 323.01) x 200 = Bt -9,204

Conclusion: Investor A gains (equity balance increase) and investor B loses (equity balance decrease)

8. Speculative Position Limit

The maximum number of contracts that a speculator may hold in SET50 Index Options (calculated as delta equivalent to the position of SET50 Index Futures) is not more than 20,000 contracts on one side of the market in any contract month or all contract months combined.

9. Reportable Limit

As specified by the SEC and TFEX, all brokers must report name lists of clients that hold at least 500 contracts or equivalent in SET50 Index Futures and/or SET50 Index Options in any contract month or all contract months combined. The contract will be computed from one single contract month and net of all contract months. However, investors can still increase net holding positions so long as they do not exceed their authorized credit limits and do not exceed the speculative position limit set by the TFEX.

Attachment 1

Examples of contract codes for SET50 Index Options using Single Orders

Contract Codes	Underlying Asset	Contract Months	Code	Contract Year	Code	Option Class		Strike
	Full name					Class	Code	
S50H09C250	SET50 Index	March	H	2009	09	Call	C	250
S50M09C260	SET50 Index	June	M	2009	09	Call	C	260
S50U09C270	SET50 Index	September	U	2009	09	Call	C	270
S50Z09C280	SET50 Index	December	Z	2009	09	Call	C	280
S50H09P250	SET50 Index	March	H	2009	09	Put	P	250
S50M09P260	SET50 Index	June	M	2009	09	Put	P	260
S50U09P270	SET50 Index	September	U	2009	09	Put	P	270
S50Z09P280	SET50 Index	December	Z	2009	09	Put	P	280