Nikkei 225 Covered Call Index
Index Guidebook

Nikkei Inc.

(March 24, 2014 version)

Nikkei 225 Covered Call Index

1 : Concept

"Covered Call strategy (Buy-write strategy)" is one of the major investment methods using options. Under this strategy, an investor holds a long position of the underlying asset and sells its call option concurrently. This strategy is taken when the investor expects the price of the underlying asset not to fluctuate widely in the short-term. While this strategy could decrease the downside risk due to the premium by selling the call option, the profit would be limited when the asset price rises more than the investor expected.

The Nikkei 225 Covered Call Index is designed to indicate the performance of "Covered Call strategy" to hold a long position of the Nikkei Stock Average (Nikkei 225) as the underlying asset and to sell the near-term call option of the Nikkei 225 listed on the Osaka Exchange (OSE). Option position will be "rolled" every month. The call option would be settled (i.e. purchased back) on the next trading day after the last trading day (i.e. SQ Date) of the option and the newly near-term call option with the strike price of 5% higher than the Nikkei 225 would be sold.

2 : Index Calculation

(1) Basic Points

・Index value on a day is calculated by multiplying the index value on the previous day by the change rate on the day based on the prices of the Nikkei 225 and the near-term call option on the Nikkei 225.

・The special quotations (SQ) and the prices of the options on the day and the previous day, published by the OSE on the morning session (including the evening session on the previous business day) and the afternoon session are used for the calculation.

・Unit of the index value is "points" and the figure is rounded to two decimal places.

・Index value on December 28, 2001 was 10,000 points.

・Index is calculated and published as the value on the end-of-day basis.

(2) Selection of the targeted call option

・Use the near-term option to calculate the index.

・The option used to calculate the index is rolled to the next delivery month on the "SQ date", the day when the SQ value is published by the OSE (on the next trading day after the last trading day of the option).

・The strike price of the targeted call option is the minimum strike price above 5% out-of-the-money (OTM), that is, the minimum in the strike prices which are greater than the value multiplied 1.05 by the Nikkei 225 closing price on the day before the SQ date.

(3) Formula

*In the following formula, "Nikkei 225" indicates its closing price.

① On each trading day excluding the roll date

$$\text{Index Value (current day)} = \text{Index Value (previous day)} \times \frac{\text{Nikkei 225 (current day)} - \text{Call option price (current day)}}{\text{Nikkei 225 (previous day)} - \text{Call option price (previous day)}}$$

② Roll date (SQ date)

$$\text{Index Value (current day)} = \text{Index Value (previous day)} \times R_a \times R_b$$

Where $$R_a = \frac{\text{SQ(*1)} - \text{Final settlement price of targeted call option(*2)}}{\text{Nikkei 225 (previous day)} - \text{Call option price (previous day)}}$$

$$R_b = \frac{\text{Nikkei 225 (current day)}}{\text{SQ}}$$

*1: SQ value for the call option with (former) near-term delivery month.

*2: Final settlement price determined by strike price of the targeted call option and the SQ value.

(4) Call option price

・ Priority in the usage of prices are as follows:

① Closing price (Last traded price)

② Mid price of the valid Bid price and Ask price at the closing

③ Settlement price

3 : Calculation Example (in case of February 9 and 10, 2011)

(1)Calculation on Feb 9, 2011 (On each trading day excluding roll date)

*In the following example, "current day" is Feb 9, 2011 and, "previous day" is Feb 8, 2011.

- Nikkei 225 Covered Call Index (previous day) = 10623.09
- Nikkei 225 (previous day) = 10635.98
- Call option price (previous day)(*3) = 1
- Nikkei 225 (current day) = 10617.83

・Call option price (current day)(*3)＝1

Nikkei 225 Covered Call Index (current day)

$$= 10623.09 \times \{(10617.83 - 1) \div (10635.98 - 1)\} = 10604.96029\ldots \approx \underline{10604.96}$$

*3: Targeted Call option with the strike price of 11250 and February 2011 delivery month.

(2)Calculation on Feb 10, 2011 (Roll date)

・Nikkei 225 Covered Call Index (previous day)＝10604.96
・Nikkei 225 (previous day)＝10617.83
・Call option price (previous day) (*3)＝1
・SQ value of the call option with Feb 2011 delivery month＝10561.41
・Final settlement price of targeted call option(*4)＝0
・Nikkei 225 (current day)＝10605.65

Nikkei 225 Covered Call Index (current day)

$$= 10604.96 \times \{(10561.41 - 0) \div (10617.83 - 1)\} \times (10605.65 \div 10561.41)$$
$$= 10593.79249\ldots \approx \underline{10593.79}$$

Newly targeted option was the call option with the strike price of 11250 and March 2011 delivery month. This is because the minimum strike price above 5% OTM was 11250, the minimum in the strike prices that are greater than the value (=11148.7215) multiplied 1.05 by the Nikkei 225 closing price (=10617.83) on Feb 9, the last trading day of Feb 2011 delivery month option.

*4: The final settlement price was 0 because the strike price of the targeted call option was greater than the SQ value of call options with Feb 2011 delivery month.

4 : Treatment of the index value

(1)Retroactive calculation in the past

Nikkei 225 Covered Call Index was calculated retroactively on the end-of-day basis; to December 28th 2001, base date of the index (=10,000 points). The strike price of call option with Jan 2002 delivery month used to calculate the index on the base date was determined based on the value which was multiplied 1.05 by the Nikkei 225 closing price on Dec 13, 2001 (the last trading day of the call option with Dec 2001 delivery month).

(2)Modification of the index value

If any event which affects the index value occurs, as a general rule, retroactive calculation for the modification will not be conducted. However if the Nikkei

Stock Average (Nikkei 225) used to calculate the Nikkei 225 Covered Call Index is modified retroactively, this index may also be modified retroactively.

5 : Others

(1) Licensing

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Nikkei calculates and publishes the Nikkei 225 Covered Call Index in accordance with the methods described in this document. In the event of circumstance not described in this document or Nikkei determines it is impossible to use the methods described in this document, Nikkei may use an alternative method of the index calculation as it deems valid.

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Contact

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Appendix : Change history of Index Guidebook

May 30, 2011 version	Initial Version
March 24, 2014 version	In “1:Concept” - modified the exchange name to “Osaka Exchange” due to the trade name change.