

「Nikkei 225 Leveraged Index」

「Nikkei 225 Inverse Index」

## Index Guidebook

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Nikkei Inc.

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# Nikkei 225 Leveraged Index Nikkei 225 Inverse Index

## 1 : Concept

The Nikkei 225 Leveraged Index represents the doubled performance of the Nikkei Stock Average (Nikkei 225), and the Nikkei 225 Inverse Index represents the inverse performance of the Nikkei 225.

For instance, if the Nikkei 225 rises by 5%, the Leveraged Index rises by 10% and the Inverse Index falls by 5%. Similarly, Nikkei 225 falls by 5%, the Leveraged Index falls by 10% and the Inverse Index rises by 5%.

## 2 : Index Calculation

### (1) Basic points

- Index value on a day is calculated by multiplying the index value on the previous day by the daily return based on the change rate of Nikkei 225 on the current day.
- 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) Formula

\*In the following formula, “Nikkei 225” indicates its closing price.

$$\begin{aligned} \text{Index Value (current day)} &= \text{Index Value (previous day)} \\ &\times \left\{ 1 + \alpha \times \left( \frac{\text{Nikkei 225 (current day)}}{\text{Nikkei 225 (previous day)}} - 1 \right) \right\} \end{aligned}$$

- Nikkei 225 Leveraged Index :  $\alpha = 2$
- Nikkei 225 Inverse Index :  $\alpha = -1$

## 3 : Calculation example (in case of February 9, 2011)

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

### (1) Nikkei 225 Leveraged Index

- Nikkei 225 Leveraged Index (previous day) = 5735.05
- Nikkei 225 (previous day) = 10635.98
- Nikkei 225 (current day) = 10617.83

$$\begin{aligned} &\text{Nikkei 225 Leveraged Index (current day)} \\ &= 5735.05 \times \{1 + 2 \times (10617.83 \div 10635.98 - 1)\} = 5715.47659... \approx \underline{5715.48} \end{aligned}$$

## (2) Nikkei 225 Inverse Index

- Nikkei 225 Inverse Index (previous day) = 5623.37
- Nikkei 225 (previous day) = 10635.98
- Nikkei 225 (current day) = 10617.83

$$\begin{aligned} & \text{Nikkei 225 Inverse Index (current day)} \\ & = 5623.37 \times \{1 - 1 \times (10617.83 + 10635.98 - 1)\} = 5632.96612... \approx \underline{5632.97} \end{aligned}$$

## 4 : Treatment of the index value

### (1) Retroactive calculation in the past

The Nikkei 225 Leveraged Index and the Nikkei 225 Inverse Index were calculated retroactively on the end-of-day basis; to December 28th 2001, base date of these indices (=10,000 points).

### (2) Modification of the index value

If the Nikkei Stock Average (Nikkei 225) used to calculate the Nikkei 225 Leveraged Index and the Nikkei 225 Inverse Index will be modified retroactively, these indices may also be modified retroactively.

## 5 : Others

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