

TIP TAIEX⁺ Small/Mid-Cap Alpha Momentum 50 Index

I. Introduction

According to financial theories, Alpha can be regarded as an excess return of individual stocks. Therefore, high-alpha stocks tend to capture the upward momentum; Followed by sampling from the TWSE-listed small and medium-sized companies that profits, Taiwan Index Plus Corporation(TIP) utilizes this characteristic to construct the high-alpha portfolio with similar price trends to the market index and compiles the TIP TAIEX⁺ Small/Mid-Cap Alpha Momentum 50 Index (abbr. TIP SAM 50 Index).

II. Calculation and Management

1. The index types of the TIP SAM 50 Index include the “Price Index” and the “Total Return Index”, which are maintained and managed by TIP. Taiwan Stock Exchange (TWSE) is designated to carry out the real-time calculation and dissemination.
2. TIP conducts periodic reviews of constituents according to the index rules.
3. TIP retains the closing market capitalization records of all constituents.
4. Refer to the “[General Principles for TIP Securities Indices](#)” for the principles of index development, maintenance, and management.

III. Eligibility of Constituents

1. Sampling Universe:
 - A. Index Universe: Common stocks listed on the TWSE, excluding stocks with altered trading method or suspended from trading; however, those suspended from trading due to corporate actions, including but not limited to, capital reduction, conversion to holding companies, exchange of shares into the shares of newly established companies or change of par value may still be included in the Index Universe.
 - B. Sampling Range: After excluding the stocks listed on the Taiwan Innovative Board (TIB), the top 50 stocks by market capitalization are also excluded.

2. Criteria of Constituent Selection:

A. Liquidity Test:

- i. The summation of the trading amount in the last 12 months with regard to each stock is ranked by descending order. The top 20% will unconditionally pass the liquidity Test; the bottom 20% will be excluded.
- ii. Fulfilling at least one of the following criteria will be included:
 - a. The average monthly trading volume in the last 3 months is greater than or equal to NTD 10 thousand.
 - b. The average monthly turnover rate in the last 3 months is greater than or equal to 6%. Turnover rate = trading volume/total issued shares.

B. Index Screening:

- i. Listed for at least one year.
- ii. Positive net profit after tax in the most recent quarter.
- iii. Positive 20-Day Beta coefficient¹.

C. Sorting Method:

After conducting the Liquidity Test and Index Screening, stocks are sorted by descending order of the 20-Day α (Alpha) coefficient², and the top 50 stocks are selected.

3. Weighting Method:

- A. Free float adjusted market capitalization.
- B. According to the free float adjusted market capitalization, the weight of individual constituent shall not exceed 20%, and the total weights of the top five constituents shall not exceed 60%.

IV. Index Calculation

1. Index Calculation Frequency:

- A. Starting March 13, 2017, the real-time TIP SAM 50 Index is calculated and disseminated every five seconds during the trading hours of the TWSE, based on the latest trading prices of the constituent stocks. The end-of-day (EOD) index is calculated once a day after the market closes.

¹ Using the TAIEX as the benchmark index.

² Same as above.

- B. TIP also compiles TIP SAM 50 Total Return Index, which adjusts the TIP SAM 50 Index after considering the cash dividend factor, in order to reflect the cash dividend-included return. The index is calculated and disseminated once every day after the market closes.

2. Calculation Formula:

- A. TIP SAM 50 Index is a “Price Index”:

$$\text{Index} = \frac{\text{Total Index Market Values}}{\text{Index Divisor}} \times \text{base value}$$

$$\text{Index}_t = \frac{\sum_{i=1}^n cp_{i,t} \times s_{i,t} \times p_{i,t}}{\text{Divisor}_t} \times 5000$$

$cp_{i,t} \times s_{i,t} \times p_{i,t}$ = index market value” of constituent i on day t

n = number of index constituents

$p_{i,t}$ = trading price of constituent i on day t

$s_{i,t}$ = number of issued shares of constituent i on day t

$cp_{i,t}$ = the adjustment coefficient of constituent i on day t is decided in accordance with the “Market-Value Investment Index Category” described in the [“TIP Corporate Actions and Events Methodology”](#).

Divisor = index divisor of the Price Index; after the market closes, the index divisor is adjusted in accordance with the “Market-Value Investment Index Category” described in the [“TIP Corporate Actions and Events Methodology”](#), to maintain the index continuity. The adjustment method is as follows:

Index divisor = index divisor on the previous day $\times$

$$\left(\frac{\text{total index market values at the previous day's close} \pm \text{total index market values changes}}{\text{total index market values at the previous day's close}} \right)$$

Note1: The base date is March 10, 2017, and the base value is set at 5000 points.

Note 2: The index divisor on the base date is the total index market values at that time.

$$\sum_{i=1}^n cp_{i,launch} \times s_{i,launch} \times p_{i,launch}, \text{ launch} = \text{base value}$$

B. TIP SAM 50 Total Return Index is a “Total Return Index”:

$$\text{Index} = \frac{\text{Total Index Market Values}}{\text{Index Divisor}} \times \text{base value}$$

$$\text{Index}_t = \frac{\sum_{i=1}^n c p_{i,t} \times s_{i,t} \times p_{i,t}}{\text{DivisorTR}_t} \times 5000$$

DivisorTR = index divisor of the Total Return Index; after the market closes, the index divisor is adjusted in accordance with the “Market-Value Investment Index Category” described in the [“TIP Corporate Actions and Events Methodology”](#) to maintain the index continuity. The adjustment method is as follows:

$$\text{Index divisor} = \text{index divisor on the previous day} \times \left(\frac{\text{total index market values at the previous day's close} \pm \text{total index market values changes}}{\text{total index market values at the previous day's close}} \right)$$

V. Constituent Adjustment and Index Maintenance

1. Periodic Review and Adjustment of Constituents:

- A. The constituents are reviewed four times a year, with the 7th trading day of January, April, July and October as the review dates; the data cut-off date is the last trading day of the last month. After each periodic review, the number of constituents is fixed at 50.
- B. The results of the constituent periodic review will become effective following a five-trading-day interval after the review date(not included). The index is rebalanced over 5 consecutive trading days starting from the review effective date (the rebalancing period). A transitional weight is allocated to each security in the index during the rebalancing period.
- C. For the index divisor maintenance, the closing data of each previous trading day during the rebalancing period is adopted to calculate the difference, which is used as the total index market value changes between the total index market value of the new portfolio and the original one.
- D. If the review data of holding companies or newly established companies is insufficient, and the representative companies of the converted stocks meet the Sampling Universe qualification, the data of the representative

companies or their stocks may be used in the review.

2. The TIP SAM 50 Index belongs to the Market-Value Investment Index Category. The related maintenance such as the non-periodic adjustment of constituents, the adjustment coefficient, the number of issued shares, and the index divisor is handled in accordance with the [TIP Corporate Actions and Events Methodology](#)". If a constituent is removed as a result of the above reasons, the vacancy created will not be filled.
3. Principles for implementation of the Free Float Coefficient:
 - A. If the free float coefficient is lower than 10%, it will not be included in the Sampling Universe.
 - B. The update for the free float coefficient shall be in conjunction with the effective date of constituents periodic review.
 - C. The free float coefficient is updated based on the latest data generated from TIP's "[TIP Free Float Coefficient Calculation Guide](#)".