

TIP Customized Taiwan High Dividend and Momentum Index

I. Introduction

TIP Customized Taiwan High Dividend and Momentum Index (abbr., “TIP Taiwan HDM Index”) manifests the portfolio performance that combines high dividend yield, growth momentum, and profitability stocks of Taiwan equity markets. The index sampling universe is composed of the top 250 stocks by market capitalization and free float market capitalization which are listed in TWSE and TPEX. Stocks that pass liquidity, dividend payout rate, operating profit margin, and other indicators screening are sorted in descending order by their dividend yield. Constituents of 40 are selected, weighted by dividend yields, and further enhanced by their market capitalization or risk-adjusted returns.

II. Calculation and Management

1. The index types of TIP Customized Taiwan High Dividend and Momentum Index include the “Price Index” and the “Total Return Index”, which are maintained and managed by Taiwan Index Plus (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 and the TPEX, excluding managed stocks, emerging stocks, and 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: Stocks in the top 250 in terms of both free float adjusted market capitalization and market capitalization within the index universe.

2. Criteria of Constituent Selection.

A. Liquidity Test¹:

Meeting any one of the following criteria is considered passing the liquidity test:

- a. Stocks in top 20% of total trading volume over the last 12 calendar months.
- b. Stocks in top 80% of total trading volume over the last 12 calendar months, and meets any one of the following criteria:
 - i. Average monthly trading volume over the last three calendar months reaches 10,000 trading units.
 - ii. Average monthly turnover rate over the last three calendar months reaches 6%, where turnover rate = trading volume / issued shares.

B. Index Screening:

- a. The sum of earnings per share in the last 2 quarters is greater than 0.
- b. The average cash dividend payout ratio over the last 3 years falls between 0% and 120%.
- c. Exclude stocks with the operating profit margin and quarter-on-quarter growth rate both in the lowest 30% for the most recent quarter².
- d. Annual dividend-paying stocks that have gone ex-dividend before the effective date, or stocks that have declared not to distribute cash dividends are excluded.

C. Sorting method: Stocks in sampling universe after liquidity testing and indicator screening enter the sorting process. 40 constituents are selected in the following order:

- a. Stocks that have declared or proposed cash dividend distribution resolutions but have not yet gone ex-dividend are sorted in descending order by dividend yield³. After buffer zone adjustment, 30 constituent stocks are selected.

¹ Existing constituents pass the liquidity test unconditionally.

² A company shall not be excluded solely due to the non-submission of financial reports, provided that the deadline set by the competent authority has not yet lapsed.

³ Dividend Yield = Total sum of declared or proposed cash dividend distributions per share before the review date, which have not yet gone ex-dividend, divided by the closing price on the review date.

- b. From the remaining annual dividend-paying stocks in the sorting process, 10 constituent stocks are selected after sorting in descending order based on the following criteria and buffer zone adjustment:
 - i. Stocks with declared or proposed cash dividend distribution resolutions: sorted by dividend yield.
 - ii. Stocks without declared or proposed cash dividend distribution resolutions: sorted by estimated dividend yield⁴.

3. Weighting Method:

There are different weight calculation methods based on different periodic reviews:

A. Reconstitution Periodic Review - (May)

- a. Dividend yield weighted⁵, with weights adjusted by market capitalization.
- b. The individual weight limit for constituent stocks is 8%, and it must not exceed 5 times the following index:

$$\frac{\text{Proportion of } fmv + \text{Proportion of } td \text{ 3m avg}}{2}$$

ffmv = free float adjusted market capitalization

td 3m avg = average trading dollar (NTD) in the past three month

- c. The individual weight floor for constituent stocks is 0.5%.

B. Weight Periodic Review –(January, September):

- a. Based on constituents' weights at the cut-off date, adjust weights further based on risk-adjusted returns⁶.
- b. The individual weight limit for constituent stocks is 8%, and it must not exceed 5 times the following index:

⁴ Estimated Dividend Yield = (Earnings per share for the latest fiscal year × Average cash dividend payout ratio over the last three years) / Closing price on the cut-off date.

⁵ The use of dividend yield or estimated dividend yield depends on which data item the constituent stock is selected by in the sorting method.

⁶ Risk-adjusted return = $\bar{R}_i / \sigma_{R_i}$, where $\bar{R}_i$ represents the average yearly return over the last six months, and σ_{R_i} represents the annualized standard deviation over the last six months.

$$\frac{\text{Proportion of } ffmv + \text{Proportion of } td \text{ 3m avg}}{2}$$

ffmv = free float market adjusted capitalization

td 3m avg = average trading dollar (NTD) in the past three month

- c. The individual weight floor for constituents is 0.5%; however, if on the cut-off date, the weight of a constituent in the index is below 0.5% and after adjusting for risk-adjusted returns, the weight is reduced, then the weight floor for that constituent is set to the weight on the cut-off date.

IV. Index Calculation

1. Index Calculation Frequency:

- A. Starting November 27, 2023, the real-time TIP Taiwan HDM Index is calculated and disseminated every five seconds during the trading hours of the TWSE and the TPEx, 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.
- B. TIP also compiles TIP Customized Taiwan High Dividend and Momentum Total Return Index (abbr., “TIP Taiwan HDM Total Return Index”), which adjusts the TIP Taiwan HDM 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 Taiwan HDM 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 “SmartBeta 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 “SmartBeta Investment Index Category” described in the “[TIP Corporate Actions and Events Methodology](#)”; to maintain the index continuity. The adjustment method is as follows:

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

Note1 : The base date is October 27, 2023, 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 Taiwan HDM Total Return Index is a “Total Return Index”:

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

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

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

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

V. Constituent Adjustment and Index Maintenance

1. Periodic Review and Adjustment of Constituents:

- A. The constituents are reviewed once a year, with the 17th trading day of May as the review dates; the data cut-off date is the 10th trading day of May⁷. After each reconstitution periodic review, the number of constituents is fixed at 40.
 - B. Buffer Zone: In the sorting methods III-2-C, the handling of the buffer zone for selecting 30/10 constituent stocks is as follows: Stocks ranked within the top 15/5 positions are included as index constituent stocks, while existing constituent stocks ranked beyond the 45th/15th position are removed from the index. After processing, stocks ranked 16th to 45th/6th to 15th are considered candidate constituent stocks, with existing constituent stocks given priority in selection based on their ranking.
 - C. Weight periodic review is conducted twice a year, with the review dates set as the 7th trading day of January and the 17th trading day of September. Cut-off date is the last trading day of December and the 10th trading day of September. The review involves recalculating the weights of existing constituent stocks to comply with the regulations outlined in item III-3-B.
 - D. The results of the constituent periodic review will become effective following a five-trading-day interval after the review date(not included).
 - E. 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.
 - F. 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. TIP Taiwan HDM Index belongs to the SmartBeta 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,

⁷ Where otherwise prescribed, such other rules shall apply.

Reference only, the Chinese version shall prevail.

the vacancy created will not be filled.

3. Principles for implementation of the Free Float Coefficient:

- A. The update for the free float coefficient shall be in conjunction with the effective date of constituents periodic review.
- B. The free float coefficient are updated base on the latest data generated from TIP's "[TIP Free Float Coefficient Calculation Guide](#)".