

BOCI Index Index Methodology

Standard Equity Market Index Family and Thematic Equity Index Family

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1) BOCI Index Series

BOCI index series include Standard Equity Market Index Family (such as BOCI China International and BOCI Hong Kong index) as well as Thematic Equity Index Family (such as BOCI HK Global Exposure Index). BOCI may expand its index family to cover more markets and varieties.

2) Equity Universe

Defining the Equity universe:

In general the equity universe includes all listed equity securities, including REITs, business trust and stapled securities. Mutual funds, ETFs, equity derivatives and most investment trusts in general are not eligible for inclusion into the index universe. However, eligible securities may vary for each market or index in order to better represent the specific market's condition.

Specifics for Individual Indices

Standard Equity Market Index Family

- BOCI China International Index:
 - Place of listing: Hong Kong and the USA
 - HK listed: Trade in HKD and listing on main board of HKEx-- ordinary shares, business trust, Stapled securities and HDRs.
 - US listed: ADRs
- BOCI Hong Kong Index:
 - Place of listing: Hong Kong
 - HK listed: Trade in HKD and listing on main board of HKEx -- ordinary shares, business trust, Stapled securities and HDRs

Thematic Equity Index Family

- BOCI HK Global exposure index:
 - Place of listing: Hong Kong
 - HK listed: Trade in HKD and listing on main board of HKEx -- ordinary shares, business trust, Stapled securities and HDRs

3) Classification of Index Universe

In general for the Standard Equity Market Index Family, a company's market classification is based on a review of the following:

- The company or its parent company's place of domicile
- The security's place of listing(s)

- Country where the company's headquarter is located
- Geographic breakdown of its revenue or profit
- Geographic breakdown of its asset
- The company's history
- The market investors consider to be most appropriately classified

For Thematic Index Series, its classification would include some or all of the above consideration as well as the definition of theme when determining a company's classification.

Index Universe Classification Review

Classification of each index's universe will be reviewed once a year and the result of the review will be implemented together with the annual index review.

Classification Rules for Specific Indices

BOCI HK Global Exposure Index

The BOCI HK Global Exposure Index is a thematic index to represent companies that is listed on the main board of the Hong Kong Stock Exchange but with relatively low economic exposure to both Mainland China and Hong Kong. This exposure is defined as the company's revenue and asset's geographic exposure. For some company BOCI will consider other factors such as profit's geographic segmentation, staff location and what investors consider the company to be most appropriately classified as when determining the final classification.

For any of the BOCI indices, if there are specific securities / cases where the above guidelines cannot be applied, or are considered inappropriate, BOCI would conduct further study that may include other factors or considerations to determine an appropriate classification.

4) Eligible Securities for Index Constituent Selection

For securities in the equity universe to be eligible for inclusion as index constituent in the Standard Equity Market Index Family, in general it has to satisfy a number of criteria, including but not limited to:

1. Minimum length of listing history
2. Liquidity criteria
3. Free float adjusted market capitalization ranking

The exact criteria may vary from index to index. Some thematic or standalone index may not include all the above criteria. For example, the BOCI HK Global Exposure index does not look at free float adjusted market capitalization ranking.

Minimum Listing History

Standard Equity Market Index Family

- All new listing must have over 3 months of trading history (at the index review reference data date) to be eligible for inclusion (except for mega IPOs, spin-offs and other corporate action related events).

Thematic Equity Index Family

- For BOCI HK Global exposure index the minimum trading history is six months.

Liquidity Criteria

For securities in the index universe to be eligible as index constituents, one of the conditions is to meet the liquidity criteria. Liquidity is measured by the median value traded ratio (MVTR). Both 12-months MVTR and 3-months MVTR were used to assess both the long term and short term liquidity condition of a security. For indices with special theme or weighting scheme, its measure of liquidity may adopt a different definition as appropriate.

Rules for Standard Equity Market Index Family

- To be eligible for index inclusion, the subject stock needs to have a minimum of 15% 12-months MVTR and 15% 3-months MVTR. Existing constituents with both 12-months and 3-months MVTR fall below 10% will be taken out at semi-annual or annual index review.
- For large IPOs (mega IPO) that have less than three months of listing history, if they meet the fast entry requirement for index inclusion during index review, such stocks do not have to subject to liquidity screen.
- During semi-annual and annual index review, for constituents that are passively added to the index during the last quarter due to corporate actions (e.g. Spin offs...etc)
 - If they are ranked at or above top Nth by free float adjusted market capitalization, they are not subject to liquidity.

- If they are ranked below top Nth by free float adjusted market capitalization, they are only subject to 12-month MVTR liquidity rule.
- N value for each specific index is listed below:

Index	N Value
BOCI Hong Kong Index	20
BOCI China International Index	50

Rules for Thematic Equity Index Family

BOCI HK Global Exposure Index

- For this specific thematic index with different weighting scheme, the liquidity measure used for each security is its average traded value over different time periods as well as its average daily number of trades.
- Average traded value criteria: The criteria are applied on the average daily traded value over multiple periods (i.e. 3 Months, 6 Months and 12 Months of average traded value). Threshold for inclusion is HKD 10m for each of the period. At each index review, if the existing constituents' average traded value over any period (3 months, 6 months or 12 months) falls below HKD 6m then it will be deleted from the index.
- Number of trade criteria: For each stock, use three months average of daily number of trades as another liquidity threshold. For inclusion, each security needs to have at least 350 or more number of trades per day (3-months average) in order to be eligible for inclusion at index reviews. Existing constituents with less than 250 trades per day (3-months average) will be excluded from the index at index review.
- For stocks with less than 12 months of trading history (but more than 6 months as it is the minimum trading history required for Global exposure index) the 12 months average traded value would take the available trading history for the calculation but would exclude first two days of traded value (i.e. first two trading days since listing).

Definition of Median Daily Value Traded (MDVT)

- For any security, median daily value traded (MDVT) is defined as the median amount of daily traded value over the trading month.

Definition of Median Value Traded Ratio (MVTR)

- For any security, its MVTR of a month is calculated by taking the median daily value traded (MDVT) amount for the month (over the number of trading days for the specific security), multiplying the amount by number of trading days of underlying exchange in a month (e.g. 21 days), and dividing by the last float-adjusted market cap in the month.
- However, for the liquidity calculation in BOCI China International and BOCI HK Universe, the 12-month MVTR is the sum of last 12 months 1-month MVTR. 3-month MVTR is the sum of last 3-months of 1-month MVTR and then multiple by 4 (annualize).

5) Number of Index Holdings

The number of constituents for each index is determined by balancing the degree of market representation and ease of replication in real life portfolio.

- BOCI Hong Kong Index: Top 30 stocks at index review ranked by free float adjusted market cap, subject to liquidity rule, trading history rule and buffer rule.
- BOCI China International Index: Top 80 stocks at index review ranked by free float adjusted market cap, subject to liquidity rule, trading history rule and buffer rule.
- BOCI HK Global Exposure Index: No fixed number of holdings, select index constituents from the global exposure universe based on liquidity criteria and trading history criteria.
- The number of holdings may deviate from the number stated above due to corporate action / events (e.g. spin off, M&A...etc.), which will be reviewed during index review.
- For specific securities / cases where the above guidelines cannot be applied, or are considered inappropriate, BOCI would conduct further study that may include other factors or considerations to determine an appropriate treatment.

6) Weighting Scheme

Constituent in general is weighted by its free float adjusted market capitalization. Capping on individual constituents may apply.

For both BOCI China International Index and BOCI Hong Kong Index:

- Free float adjusted market Cap weighted
- Capping: maximum weighting is 10% per stock at each index review. Between index reviews, the weightings will be allowed to drift according to price fluctuations.

BOCI HK Global Exposure Index:

- Equally Weighted across constituents

7) Regular Index Review

In general, BOCI indices are reviewed every three months. There are quarterly index review, semi-annual index review and annual index review.

Index Review Date

- In general index rebalancing is effective at the open on the fourth Wednesday in the month of January, April, July and October. BOCI may change the rebalancing date for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with advance notice where possible.
- Annual index review is at October while semi-annual index review is at April. January and July are quarterly index review.
- Outside of quarterly index review, BOCI has full discretion to make ah-hoc index review when it is deemed to be necessary to allow the index to better represent the market.

Standard Equity Market Index Family

At Quarterly Index Review:

- In general, at quarterly index review, it will reflect recent mega size IPO or other major events
- Mega size IPO fast entry rule (Large IPO with listing history less than 3 months) -- For large IPOs that meet the index universe classification requirements:
 - Those recent IPOs that would rank top Yth by float adjusted market capitalization within the index universe. The Y value for specific index is listed below table.
 - With the addition of mega size IPO into the index, the smallest float adjusted market cap constituent will be deleted to give space to the addition to bring the number of constituents back to the designed level.

Index	Y Value
BOCI Hong Kong Index	5
BOCI China International Index	10

- To refresh the capping factor for individual constituents to bring maximum weighting back to 10%
- To update Free float factor and number of shares issued
- To consider addition or deletion of constituents to bring the number of holdings back to stated number (i.e. HK index = 30, China International = 80) due to corporate actions / major events (e.g. Spin-off, M&A...etc.)

At Semi-annual Index Review

- Full rebalancing to select index constituents with index universe that include both recent mega size IPOs (fast entry) and other large IPOs if it meets the inclusion criteria.
- To refresh the capping factor for individual constituents to bring maximum weighting back to 10%
- To update Free float factor and number of shares issued

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- Mega size IPO fast entry (with listing history less than 3 months): same as quarterly rebalancing.
- Entry & Exit buffer rule: This rule is design to reduce index turnover because of short term price fluctuation
 - A buffer zone is set around the number of index constituent number (Z). For existing index constituent with free float adjusted market capitalization ranking that fall within top Z+X ranking, it will generally be kept as index constituent during semi-annual and annual index review. For non-index constituent with free float adjusted market capitalization ranking at or below top Z-X number ranking it would remain as non-index constituent.
 - For example, if the index constituent number Z is 30 stocks and X is 3 then existing constituents that are ranked within top 33 by float adjusted Market Cap would be kept. For new entrant (non-index constituents), it needs to rank above 27 in order to be included.
 - The X values for specific indices are listed below.

Index	X Value
BOCI Hong Kong Index	3
BOCI China International Index	5

At Annual Index Review:

- Similar to Semi-annual but based on a refreshed universe after review of stock classification and new listings.

Thematic Equity Index Family: BOCI HK Global Exposure Index

Quarterly and Semi-annual Review

- Weighting: Rebalance to equal weight.
- Addition/deletion due to liquidity review, recent IPOs...etc.
- Universe only to include recent IPOs that meet the index classification criteria.

Annual Review

- To refresh the classification of the universe
- Full rebalancing (same as Semi-annual)

For an existing constituent that has been deleted from the index at the index review, it will not be eligible for inclusion in the subsequent index review (i.e. the immediate next quarter) but will become eligible for inclusion consideration after that (i.e. two quarters after deletion).

Trading Suspension

- Non constituent stocks that are suspended during index review will not be considered for inclusion unless it has announced its trade resumption date for further review.
- Long period trading suspension: Existing constituents with trading suspensions of 60 consecutive business days or more will be subject to review of potential index deletion during index review.

For specific securities / cases where the above index review guidelines cannot be applied, or are considered inappropriate, BOCI would conduct further study that may include other factors or considerations to determine an appropriate treatment.

Detail of Entry/Exit Buffer Rule

- The buffer rule is to reduce the entry/exit of index constituents due to minor price movement at the margin.
- When the number of entry stocks < number of exit stocks as proposed under the buffer rule, the largest proposed deletion(s) (by free float adjusted market cap) will be kept in the index instead to maintain the number of constituents and to minimize index turnover.
- When number of entry stocks > number of exit stocks as proposed under the buffer rule, the smallest proposed addition(s) (by free float adjusted market cap) will not be added to the index as to maintain the number of constituents and to minimize index turnover.

Reviews and Liquidity Thresholds Summary

Category	Ranking	Quarterly Review				Semi-annual/ annual review			
		Applicable?	Liquidity Screen	12mo MVTR	3mo MVTR	Applicable?	Liquidity Screen	12mo MVTR	3mo MVTR
Existing constituents that are passively added to the index during the last quarter due to corporate actions (e.g. Spin offs...etc)	Ranked at or above top N^{th} (1)	No	N/A	N/A	N/A	Yes	No	N/A	N/A
	Ranked below top N^{th} (1)	No	N/A	N/A	N/A	Yes	Yes	10%	N/A
IPOs (Stocks listed less than 3 months)	Mega IPOs - Ranked at or above Y^{th} (2)	Yes	No	N/A	N/A	Yes	No	N/A	N/A
	Ranked below Y^{th} (2)	No	N/A	N/A	N/A	Yes	Yes	15%	N/A
Other existing constituents	NA	No	N/A	N/A	N/A	Yes	Yes	10%	10%
Non constituent stocks listed over 3 months	NA	Yes	Yes	15%	15%	Yes	Yes	15%	15%

(1) N refers to the threshold for top stocks for different indices. $N = 20$ for Hong Kong Index and $N = 50$ for China International Index

(2) Y refers to the threshold for top IPO stocks for different indices. $Y = 5$ for Hong Kong Index and $Y = 10$ for China International Index

8) Other Information

Calculating Agent

- S&P Dow Jones Indices LLC is the calculating agent for the following indices:
 - BOCI China International Index
 - BOCI Hong Kong Index
 - BOCI HK Global Exposure Index

Corporate actions

- The following indices adopt the S&P Dow Jones Indices' corporate action methodology:
 - BOCI China International Index
 - BOCI Hong Kong Index
 - BOCI HK Global Exposure Index

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