



METROPOLITAN STOCK EXCHANGE OF INDIA

Index Methodology Document

Introduction

Preface to SX40

SX40 is the flagship Index of the Metropolitan Stock Exchange of India Limited. It is an adjusted free float based index of 40 large-cap liquid stocks representing diversified sectors of the Indian economy. SX40 is designed to measure the economic performance of the country, through optimal representation of various industries and sectors. The Index is devised to offer cost-effective support for investment and structured products such as index futures and options, index portfolio, exchange traded funds, index funds, etc

Guiding Features

Distinguishing guiding features of SX40 are as follows:

- Rule based index methodology – easily replicable
- Optimal reflection of the organized sector in the economy
- Enhanced industry diversification
- Competitive portfolio maintenance cost
- Potential to offer superior risk adjusted return
- Global best practices and standards

Selection Criteria of Constituent Stocks

Selection Variables

SX40 would comprise of stocks that comply with below terms and conditions;

- Only common stocks which are of equity in nature will be eligible for inclusion in the index.
- Stock must have free float of at least 10%.
- Stock must have a positive net-worth.
- Stock must be within top 100 ranking when arranged in terms of average daily trading value for the preceding three months (henceforth termed as review period) and must have been traded on at least 90 percent of the trading days during the review period.
- From the basket of the shortlisted 100 stocks, the top 40 stocks in terms of average free float market capitalization would form the index basket.
- Number of companies representing any specific Industry will be capped at 20%, which limits the number of companies representing any specific industry to 8 (Eight), given that SX40 comprises of 40 scrips.
- Industry level weights in SX40 Index would be capped at 20% at the time of periodic review and rebalancing.

Industry Capping Criteria

At each periodic review and rebalancing, if the Industry-level weight in the index is greater than the maximum allowed weight (20%), its weight will be capped at the maximum allowed weight (20%). Within the capped industry, securities will be weighted in proportion to their average free-float adjusted market capitalization. The weight of the securities forming part of other industry outside of the capped industry will be increased in proportion to their weight prior to such capping. The factor used for the weight adjustment for both the capped and uncapped industry is known as “free-float adjustment factor”.

Index Maintenance

Periodic Review and Rebalancing

The Index will be reviewed & rebalanced twice in a calendar year, during April (review period: January – March) and October (review period: July – September). In case of a special situation dictated by corporate events or adverse market movements, intermediate review would be carried out for necessary modification of the index.

Inclusion & Exclusion criteria: The rules for inclusion or exclusion of a company in / from the index during the semi-annual review process has been designed to provide stability in selection of constituents, while ensuring that the index would continue to be representative of the market by including or excluding those companies whose free float market capitalization would have risen or fallen significantly.

Index Replacement Pool: An index replacement pool is created of top 100 stocks measured in terms of average daily trading value for the preceding three months (review period), which have traded on at least 90 percent of the trading days during the review period.

Exclusion Criteria:

- A stock will be excluded from the index in the semi-annual review, if it does not appear in Index replacement pool.
- A stock will be excluded from the index in the semi-annual review if it does not appear in top 50 stocks in terms of average free float market capitalization during the review period. (this would not be applicable if better alternative is not available)
- Companies that are involved in merger / demerger, acquisition or significant restructuring would be excluded from the index.

Inclusion Criteria:

- A stock appearing within top 30 in terms of average free float market capitalization during the review period will be automatically included in the index subject to industry capping. As a result a company with lowest free float market capitalization in the existing index basket will be excluded.
- A stock with highest free float market capitalization from the replacement pool would be considered to replace the outgoing stock.

Notice to market about SX40 composition change: Except the special situations mentioned above, there shall be four weeks notice before any change is made in SX40.

SX40 Calculation Guideline

Index Calculation: SX40 is calculated real-time whenever there is a change in price. SX40 is computed based on the traded prices of the constituent stocks on MSEI. In absence of trade in the constituent stock(s), the mid-point of best Bid and best Ask quote would be considered for SX40 computation.

Price Return Index: SX40 is computed in real-time; it takes into account only the stock price movements. The Index is calculated based on free-float market capitalization of all the constituents adjusted to the divisor. The divisor is adjusted to smoothen out effects of corporate actions or other composition change.

Total Returns Index: SX40 does not consider the return from dividend payments of constituent stocks. Only the capital gains and losses due to price movement are measured by a price return index. In order to get a true picture of returns, the dividends received from the constituent stocks also need to be included in the index movement. Such an index, which includes the dividends received, is called the 'total return index'.

The total return index is being calculated by considering the returns on the index from stock price fluctuations plus dividend payments by constituent index stocks.

Base Date

The base date for the Index is 31 March 2010. The base value of index is 10000.

Index Precision

- Index is disseminated to the level of 2 decimal digits
- Stock prices are rounded to two decimal places
- Free-Float Shares are expressed in units

Currency of Calculation

All prices are in Indian rupees.

Adjustments to Corporate action

Corporate actions such as, but not limited to, share changes, stock splits, stock dividends, and stock price adjustments due to restructurings or spin-offs, right issues etc. affects the common shares outstanding and the stock prices of the companies in the index which may require a divisor adjustment to prevent the value of the index from changing due to corporate action. Divisor adjustments are made after the official closing of the market.

Outstanding issue size: Corporate action with respect to issuance of further shares of companies such as shares issuance/ buyback, ESOPs, QIPs, ADR/GDR issues, private placements, warrant conversions, and FCCB conversions etc. would be effected on a monthly basis. Where the impact in share changes is more than (+/-) 5% of the existing free-float shares of a company then the corporate action would be given effect after informing the market participant with a prior-notice of at least 5 working days.

Corporate Action: Corporate action in respect to Dividend, Rights, Bonus, Splits, Mergers, etc. would be incorporated on the ex-date as per the announcement. Partly paid up shares would not be included in the index.

Free Float Shares for Index: Free float shares for each company in the index will be updated based on the shareholding pattern and related information submitted by companies to stock exchanges. Further, the following categories would also be excluded from the free float shares where identifiable separately:

- Strategic stakes by corporate bodies
- Central /State Government holding in the capacity of strategic investor
- FDI category of Investments
- Employee Welfare Trusts (ESOP)
- Equity held by associate companies
- Shares under lock-in category

Corporate action with respect to change in free float shares of companies would be effected on a monthly basis. If the Corporate action for a company changes free float shares by more than 5% of the company free float shares then such corporate actions would be given effect after intimating the market participant with prior notice of at least 5 working days.

Free-float shares will now be adjusted with the “free float adjustment factor”, calculated as a part of the capping process and will be used as Index Free Float shares

Divisor/Price Adjustment: The following corporate actions would lead to Divisor/Price adjustment as illustrated below:

Sr. No	Corporate action Type	Price Adjustment	Divisor Adjustment
1	Dividend	No	No
2	Rights	Yes	Yes
3	Bonus	Yes	No
4	Splits	Yes	No
5	Warrants	No	Yes
6	New Issues	No	Yes
7	Spin-off	Yes	Yes
8	Merger	No	Yes
9	Buyback	No	Yes
10	Free Float	No	Yes

Divisor Adjustments:

Adjusted market cap before adjustment = Adjusted market cap after adjustment

Adjusted market cap after adjustment (New Divisor) should be equal to the Adjusted market cap before adjustment (old divisor) + change in market cap.

Adjustments to Constituent stocks' Industry Classification

Where a constituent is the subject of a merger, restructuring or takeover which results in a constituent, or part of a constituent, being absorbed by another, the Industry classification, of the resulting constituent(s) will be determined by the Advisory Committee, at the same time the constituent changes are implemented.

Index Dissemination

Daily Index Values are available on the MSEI website and the same are also being displayed by data vendors

Sr. No	Data feed Vendor	Index Code
1	Bloomberg	SX40 Index
2	Thomsonreuters	MCSX40
3	Tickerplant	SX40

Index Governance

Index Advisory Committee

MSEI has constituted an Index Advisory Committee (IAC) comprising of academicians, industry experts, and fund managers to evaluate, consult and examine SX40 rules to guarantee its scientific nature and transparency on a continuous basis. The Committee would also provide suggestions to other index operations issues.

Index Policy

Announcements

All index-related Circulars by the exchange would be uploaded on the MSEI website (www.msei.in). Changes impacting the constituent list are also posted on the MSEI web site.

Holiday Schedule

For the calculation of indices on a daily basis, please refer to the official holiday schedule. A complete trading holiday schedule for the year is available on MSEI website.

Index Calculation Formula

SX40 is calculated as follows with Current float adjusted Market Capitalisation as the numerator and Index Divisor as the denominator.

$$\text{SX40} = \frac{\sum_{i=1}^n (\text{Index free float shares}_i \times \text{Price}_i)}{\text{Index Divisor}} \times \text{Index Base Value}$$

For more details

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