



Colombo Stock Exchange

Index Methodology

Version 04

(Refer Version History in the Appendix)

December 2021

List of Abbreviations

ASPI	All Share Price Index
ASTRI	All Share Total Return Index
CSE	Colombo Stock Exchange
EOD	End of Day
IMC	Index Market Capitalization
PH	Public Holding
XDJ	Ex Date Dividend Adjustment

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1. Introduction

1.1. Index Objectives

The Colombo Stock Exchange (CSE) calculates and disseminates its benchmark index All Share Price Index(ASPI) that is designed to measure the price performance of all listed securities and All Share Total Return Index(ASTRI) to measure the total returns (Price Return + Dividend Return). The ASTRI reflects returns due to both price changes and dividend income. The ASTRI is hence a better measure of returns from an investor's perspective. In computing the ASTRI, it is assumed that dividends earned from a share are re-invested in the market.

The ASPI is calculated on real time basis and ASTRI is calculated on end of day (EOD) basis.

1.2 Supporting Documents

The index calculation is based on public holding percentages disclosed quarterly by the listed entities. The CSE definition of public holding can be accessed at <https://cdn.cse.lk/pdf/cse-rules/listing-rules/Contents-Updated-as-at-22-06-2021.pdf>

2. Eligibility

The following classes of shares listed on the CSE are eligible for the index inclusion.

- Voting shares - Since inception
- Non-voting shares – Effective from 19 June 2017

3. Index Calculation

In general, the index level is calculated using the following formula.

$$\text{Index Level} = \frac{\text{Current Market Cap}}{\text{Divisor}} \quad \text{-----} \quad (01)$$

$$\text{where Divisor} = \frac{\text{Base Market Cap}}{\text{Base Value}}$$

3.1 Calculation of ASPI

The ASPI is calculated as follows:

$$\text{ASPI} = \frac{\text{Current Market Cap}}{\text{Divisor}} \quad \text{-----} \quad (02)$$

$$\text{where Divisor} = \frac{\text{Base Market Cap}}{100}$$

3.2 Calculation of ASTRI

3.2.1. Adjustment for Cash Dividends

In order to adjust the price index for dividends, an index dividend adjustment is computed representing the value of cash dividends declared by the component security on ex-dividend date, as expressed in index points. The formula used for the computation of the ex-dividend adjustment for a value-weighted total return index is given below:

3.2.2. Ex-dividend adjustment (XDJ)

$$XDJ = \frac{G_i W_i}{B} \times \text{Base Index Value} \quad \text{-----} \quad (03)$$

Where:

G_i = Dividend per share of the i^{th} component security

W_i = Weighting of the i^{th} component security (equal to the number of ordinary shares issued by the company)

B = Base market capitalization of the relevant price index

The formula used for calculating ASTRI is given below:

$$ASTRI_T = \frac{ASTRI_Y \times (ASPI + XDJ)}{ASPI_Y} \quad \text{-----} \quad (04)$$

Where:

$ASTRI_T$ = Total Return Index value today

$ASTRI_Y$ = Total Return Index value the previous day

$ASPI_T$ = Underlying Price Index(ASPI) today

$ASPI_Y$ = Underlying Price Index(ASPI) the previous day

XDJ = Ex-dividend adjustment as computed above

3.3 Divisor Adjustments

The key to index maintenance is the adjustment of the Base Market Capitalization (divisor). Changes in the index's market capitalization due to changes in composition or corporate actions require a divisor adjustment to maintain the continuity of the index. By adjusting the Base Market Capitalization, the continuity of the index value retains before and after the event.

The following formula will be used for divisor adjustments.

$$B_t = B_{t-1} \times \left(\frac{IMC_t}{IMC_{t-1}} \right) \quad \text{-----} \quad (05)$$

Where;

B_{t-1} – Base Market Capitalization at time t-1

B_t - Base Market Capitalization at time t

IMC_t – Index Market Capitalization at time t

IMC_{t-1} – Index Market Capitalization at time t-1

4. Index Maintenance

4.1 Rebalancing

The ASPI and ASTRI are rebalanced quarterly, effective after the third Friday of March, June, September, and December of each year.

Security weights in the index are calculated as per the dates given in the table below.

Table 01: Rebalancing Schedule

Rebalance of...	uses Public Holdings % of...	and is based on data of last trading day of	and is carried out after the market close of...	and effective from...
Quarter 1	Quarter 4 of last year	February	Friday of 3 rd week of Mar.	Monday of 4 th week of Mar.
Quarter 2	Quarter 1	May	Friday of 3 rd week of Jun.	Monday of 4 th week of Jun.
Quarter 3	Quarter 2	August	Friday of 3 rd week of Sep.	Monday of 4 th week of Sep.
Quarter 4	Quarter 3	November	Friday of 3 rd week of Dec.	Monday of 4 th week of Dec.

Since index shares are assigned based on prices prior to the rebalancing, the actual weight of each stock at the rebalancing differs from these weights due to market movements

4.2 Public Holding %

In ASPI an ASTRI, the index constituents are weighted by public float-adjusted market capitalization, subject to a 5% company weight cap applied at each quarterly rebalancing. The calculation depends on public holding percentages (PH%) that are disclosed by companies. By the time the index is rebalanced if the required PH% has not been disclosed, then the immediately previous disclosure is used. In case of a new listing, the pre-listing PH% as disclosed in the Prospectus or Introductory Document is used. If it is not available, the minimum PH% requirement for listings in each board is used.

4.3 Capping

The highest index constituent weight of ASPI is capped at 5% and the excess weight is distributed proportionately among the remaining index constituents at each rebalance. This technique uses an additional multiplication factor to adjust the float-adjusted market capitalization to a value such that the index weights are capped at 5%.

4.4 Corporate Actions

Corporate actions that require divisor adjustments will be implemented prior to the opening of trading on the effective date (Ex-Date) ensuring that the movement of the index does not reflect the corporate actions of the companies in it. The table in Annex1 shows the necessary adjustments to the index and the Base Market Capitalization for corporate actions.

4.5 Adjustment to the Previous Closing Price

In the event that a listed issuer announces a share sub-division or a share consolidation or makes changes to its capital structure by way of rights issues, bonus issues, cash dividend payments, etc., the previous closing price (P) of the relevant listed security on the Ex- date should be adjusted. The formulas that may be used for corporate actions are in Table 02.

Table 02: Adjustments for Corporate Actions

Event	Index Adjustment	Base Adjustment
Rights Issue 'B' new shares for 'A' shares held at subscription price of 'C' per share	$\text{Indexed Price (New)} = \{\text{Indexed Price (Old)} \times A\} + (B \times C)(A+B)$ $\text{Indexed Qty (New)} = \text{Indexed Qty (Old)} \times \{(A+B)/A\}$	Yes. As per the above base adjustment formula
Scrip Dividend/ Capitalization of Reserves 'B' new shares for 'A' shares held	$\text{Indexed Price (New)} = \text{Indexed Price (Old)} \times A(A+B)$ $\text{Indexed Qty (New)} = \text{Indexed Qty (Old)} \times \{(A+B)/A\}$	No. The increase in Indexed quantity and the decrease in the Indexed Price ensures the Base value to be unchanged
Share Split/Reverse Split/Capital reduction 'A' share split into 'B' shares	$\text{Indexed Price (New)} = \text{Indexed Price (Old)} \times AB$ $\text{Indexed Qty (New)} = \text{Indexed Qty (Old)} \times BA$	No. The change in Indexed quantity and the change in the Indexed Price ensures the Base value to be unchanged
Share Repurchase	$\text{Indexed Qty (New)} = \text{Indexed Qty (Old)} - \text{Repurchased Qty}$	Yes. As per the above base adjustment formula

The index market capitalization values of the relevant listed securities in the index are calculated based on this Adjusted Share Prices on the Ex-date.

4.6 Base Date, Base Value

Table 03

Index	Base Date	Base Value	CSE Ticker	Bloomberg Ticker
ASPI	2-Jan-85	100	ASPI	CSEALL
ASTRI	2-Jan-04	1,000	ASTRI	

5. Index Governance

5.1 Index Committee

The indices of CSE are maintained by the CSE Index Committee. The Index Committee is composed of full-time employees of CSE and outside expertise. The committee's responsibilities would include periodic review of the index methodology, any necessary maintenance, and an evaluation of whether the index continues to measure what it is designed to measure and/or achieve the objective it is intended to achieve and consulting with other stakeholders as necessary.

6. Appendices

6.1 About CSE

About CSE The Colombo Stock Exchange (CSE) operates the only stock market in Sri Lanka and is responsible for providing a transparent and regulated environment where companies and investors can come together. The CSE is a company that is limited by guarantee established under the Laws of Sri Lanka. The CSE is licensed by the Securities and Exchange Commission of Sri Lanka (SEC) and is a mutual exchange consisting of 15 Members and 13 Trading Members. All Members and Trading Members are licensed by the SEC to operate as Stockbrokers. For more information, please visit: www.cse.lk.

6.2 Contact Information

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6.3 Methodology Change History

Table 04: Methodology change history is as follows:

Change	Effective Date (After Market Close)	Previous	Updated	Methodology Version No.
Introduction of Total Return Index	31-Dec-03	N/A	New Index is added	1
Discontinuation of Milanka Index	31-Dec-12	Milanka Index	Discontinued	2
Eligible Securities	16-Jun-17	Only Voting Shares	Voting Shares and Non-Voting Shares	3
Security Weighting Scheme	21-Jan-21	Weighted on full market cap.	Weighted on float adjusted market cap.	4
Rebalancing	21-Jan-21	N/A	Quarterly (as per the Rebalancing Schedule)	