

# SONET



US BENCHMARK  
INDEXES

## Index Rules and Methodology

<u>Index Name</u>	<u>Ticker</u>
S-Network US Equity 3000 Index	SN3000
S-Network US Equity Mid/Small-Cap 2500 Index	SN2500
S-Network US Equity Large-Cap 500 Index	SN500
S-Network US Equity Mid-Cap 500 Index	SNM500
S-Network US Equity Large/Mid-Cap 1000 Index	SN1000
S-Network US Equity Small-Cap 2000 Index	SN2000
S-Network US Equity Large-Cap 200 Index	SNL200
S-Network US Equity Mid-Cap 800 Index	SNM800
S-Network US Equity Micro-Cap Index	SNMCRO
S-Network US Equity Small/Micro-Cap Index	SNSMCR
S-Network US Equity Large/Mid-Cap Value Index	SN1000V
S-Network US Equity Large/Mid-Cap Growth Index	SN1000G
S-Network US Equity Large/Mid-Cap Deep Value Index	SN100DV
S-Network US Equity Large/Mid-Cap Aggressive Growth Index	SN100AG

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## 1. General Description of the of the S-Network US Benchmark Indexes

The S-Network US Benchmark Indexes (the “Benchmarks”) are a series of benchmark indexes designed to provide accurate coverage of publicly listed US stocks that represent over 98% of the market capitalization of the US market. All Benchmarks are weighted based on float market capitalization and are reconstituted at close of trading on the third Fridays of June and December and rebalanced at close of trading on the third Fridays of March and September.

The Benchmarks include the following indexes:

- **S-Network US Equity 3000 Index (SN3000):** The 3000 largest US stocks.
- **S-Network US Equity Mid/Small-Cap 2500 Index (SN2500):** The 501<sup>st</sup> through 3000<sup>th</sup> largest US stocks.
- **S-Network US Equity Large-Cap 500 (SN500):** The 500 largest US stocks.
- **S-Network US Equity Large-Cap 1000 (SN1000):** The 1000 largest US stocks.
- **S-Network US Equity Mid-Cap 500 (SNM500):** The 501<sup>st</sup> through 1000<sup>th</sup> largest US stocks.
- **S-Network US Equity Small-Cap 2000 (SN2000):** The 1001<sup>st</sup> through 3000<sup>th</sup> largest US stocks.
- **S-Network US Equity Large-Cap 200 (SNL200):** The 200 largest US stocks.
- **S-Network US Equity Mid-Cap 800 Index (SNM800):** The 201<sup>st</sup> through 1000<sup>th</sup> largest US stocks.
- **S-Network US Equity Micro-Cap Index (Ticker: SNMCRO):** The lower half of the S-Network US Small-Cap Index (SN2000) plus US stocks ranked too low for inclusion.
- **S-Network US Equity Small/Micro-Cap Index (Ticker: SNSMCR):** The S-Network US Small-Cap Index (SN2000) plus US stocks ranked too low for inclusion.
- **S-Network US Equity Large/Mid-Cap Growth (Ticker: SN1000G):** A portfolio of large- and mid-capitalization US stocks that are a) constituents of SN1000 and b) maintain certain characteristics associated with “growth” stocks.
- **S-Network US Equity Large/Mid-Cap Value (Ticker: SN1000V):** A portfolio of large- and mid-capitalization US stocks that are a) constituents of SN1000 and b) maintain certain characteristics associated with “value” stocks.
- **S-Network US Equity Large/Mid-Cap Deep Value Index (Ticker: SN100DV):** A portfolio of the 100 most value-oriented stocks in the S-Network US Large/Mid-Cap Value Index (SN1000V).
- **S-Network US Equity Large/Mid-Cap Aggressive Growth Index (Ticker: SN100AG):** A portfolio of the 100 most growth-oriented stocks in the S-Network US Large/Mid-Cap Growth Index (SN1000G).

Eligibility for inclusion in the benchmarks is determined based on the company’s full market capitalization. Certain pass-through securities, including REITS, Mortgage REITS, Master Limited Partnerships, Closed-End Funds and Business Development Companies are excluded from the Benchmarks.

## 2. The Index Committee

The S-Network Benchmark Index Committee (“The Committee”) will be composed of not less than three members. The Committee Chairman will have extensive experience with

and expertise in International equity markets. The other members will have experience in financial markets, indexes and/or financial products.

The Committee will be responsible for overseeing the activities of the calculation agent and approving all changes to the index related to its semi-annual reconstitutions and quarterly rebalancings.

The Committee meets semi-annually, either in person or via teleconference, to discuss index issues and organize the semi-annual reconstitution and semi-annual rebalancing.

The composition of the Committee may from time to time be changed to reflect changes in market conditions.

All members of the index committee and their advisors shall comply with the S-Network Global Indexes code of conduct and ethics with respect to the disclosure and use of material non-public information.

### **3. Eligibility Criteria and Weighting**

The starting universe for the Benchmarks is the 3500 largest market capitalization stocks domiciled in the US. Certain stocks domiciled in countries other than the US are also included in the universe, provided the US is the principal place of business for these stocks and their primary stock exchange listing is in the US.

Eligibility for inclusion in the starting universe is determined based on the company's full market capitalization. Certain pass-through securities, including REITS, Mortgage REITS, Master Limited Partnerships, Closed-End Funds and Business Development Companies, are excluded from the Benchmarks.

Stocks must maintain an R-Score greater than 1 over the 90 days preceding the last business days of May and November ("the Snapshot Dates") to be included in a Benchmark. The R-Score is calculated as follows:

$$\text{R-Score} = 90\text{-day ADTV (thousands USD)} / \text{Float Market Capitalization (millions USD)}$$

The starting universe is updated semi-annually based on data as of the last business days of May and November ("the Snapshot Dates").

Stocks are selected for inclusion in the Benchmarks based on their full market capitalization rank in the starting universe.

- **S-Network US Equity 3000 (SN3000):** The 3000 largest US stocks in the starting universe.
- **S-Network US Equity Mid/Small-Cap 2500 Index (SN2500):** The 501<sup>st</sup> through 3000<sup>th</sup> largest US stocks in the starting universe.
- **S-Network US Large-Cap 500 (SN500):** The 500 largest US stocks in the starting universe.
- **S-Network US Equity Large/Mid-Cap 1000 (SN1000):** The 1000 largest US stocks in the starting universe.
- **S-Network US Equity Mid-Cap 500 (SNM500):** The 501<sup>st</sup> through 1000<sup>th</sup> largest US stocks in the starting universe.
- **S-Network US Equity Small-Cap 2000 (SN2000):** The 1001 through 3000<sup>th</sup> largest US stocks in the starting universe.

- **S-Network US Equity Large-Cap 200 Index (SNL200):** The 200 largest US stocks in the starting universe.
- **S-Network US Equity Mid-Cap 800 Index (SNM800):** The 201st thru 1000th largest US stocks in the starting universe.
- **S-Network US Equity Micro-Cap Index (SNMCRO):** The lower half of the S-Network US Small-Cap Index (SN2000) plus US stocks ranked too low for inclusion.
- **S-Network US Equity Small/Micro-Cap Index (SNSMCR):** The S-Network US Small-Cap Index (SN2000) plus US stocks ranked too low for inclusion.
- **S-Network Large/Mid-Cap US Growth Index (Ticker: SN1000G):** See Sections 6–7
- **S-Network Large/Mid-Cap US Value Index (Ticker: SN1000V):** See Sections 6–7

Buffers of 10% are applied to the eligibility criteria at each reconstitution for current constituents of the benchmark. Accordingly, stocks must fall below the following thresholds to be dropped from the Benchmarks:

- **S-Network US Equity Large-Cap 500 (SN500):** A constituent stock must fall below the rank of 550 to be deleted.
- **S-Network US Equity Large/Mid-Cap 1000 (SN1000):** A constituent stock must fall below the rank of 1100 to be deleted.
- **S-Network US Equity Large-Cap 200 Index (SNL200):** A constituent stock must fall below the rank of 220 to be deleted.

Stocks that trade over-the-counter (pink sheets or bulletin board) are excluded from the Benchmarks.

All stocks selected for inclusion in the Benchmarks are weighted based on their float market capitalization. Share weights will be based on prices as of the close of trading on the day before the second Friday of the rebalancing month (“The Record Date”).

#### 4. Sector Weightings

The S-Network US Equity Large/Mid-Cap 1000 Index (SN1000) and the S-Network US Equity Mid-Cap 500 Index (SNM500) are used as universes for the US Equity Large/Mid-Cap Sector Benchmarks and the US Equity Mid-Cap Sector Benchmarks, respectively. The Sector Benchmarks track stocks in 10 GICS sectors (all besides Real Estate):

1. Information Technology
2. Consumer Discretionary
3. Financials
4. Health Care
5. Industrials
6. Telecommunication Services
7. Consumer Staples
8. Energy
9. Materials
10. Utilities

Sector weights within the SN1000 and SNM500 are applied as part of the index rebalancings that occur on the third Friday of each June and December. Certain adjustments may be made to the sector weightings to eliminate data anomalies and to address investment issues related to equity markets.

Sector Benchmark constituents shall be subject to limitation on their float-adjusted capitalization weighting as follows:

- a) No stock's weight shall exceed 20%.
- b) The aggregate weight of stocks exceeding 5% shall not exceed 45%.

The following procedure shall be used to ensure that no Composite constituent weighting exceeds a pre-determined maximum weight on the rebalancing date:

Step 1: Sort the Composite constituents by float market capitalization in descending order. Starting with the second largest company in the index, calculate a float market capitalization ratio for each company to the next largest company in the index.

Step 2: Adjust this ratio by the following formula:

$$NewRatio = 1 - \left( \frac{1 - OriginalRatio}{Factor} \right)$$

where:

Original Ratio = the float market capitalization ratio of each company to the next largest company calculated in Step 1.

Factor = a divisor, that starts with 1, that increases the ratio calculated in Step 1

Step 3: Calculate new float market capitalization using the New Ratio for each company.

Step 4: Calculate the new weights for each company based on the new float market capitalization and check to see if the weight limits described in V(ii) are satisfied.

Step 5: If the weight limits are not satisfied, repeat Steps 2 to 4, increasing the Factor by .01 for each round until the weight limits are satisfied.

Step 6: Once the weight limits are satisfied, calculate the final cap factors for each company using the float market capitalization calculated in Step 3 such that the smallest company in the index has a cap factor of 1.0.

## **5. Index Values at Inception**

Each of the Benchmarks had values at inception of 1000 on their inception date of December 17, 1999 (or 6/17/2005 for the Growth and Value Benchmarks). The Benchmarks are calculated daily on both a Price Only and on a Total Return basis.

## **6. General Description for Growth and Value Indexes**

The S-Network Large/Mid-Cap US Growth Index (Ticker: SN1000G) is a portfolio of 700 large/mid-cap US stocks that are a) constituents of the SN1000 Index and b) maintain certain characteristics associated with "growth" stocks.

The S-Network Large/Mid-Cap US Value Index (Ticker: SN1000V) is a portfolio of 700 large/mid-cap US stocks that are a) constituents of the SN1000 Index and b) maintain certain characteristics associated with “value” stocks.

## 7. Style Rating Methodology

Growth and value ratings are determined for each of the constituents of the SN1000. Style ratings are based on data as of the last business days of May and November of each year.

Growth ratings incorporate the following five fundamental factors:

1. Future short-term growth in earnings per share (FSGE)
2. 3-year historical growth in earnings per share (HGE)
3. 3-year historical growth in sales per share (HGS)
4. Investment-to-assets (INV)
5. 3-year historical growth in return on assets (ROA)

Each growth factor is Winsorized at the 2<sup>nd</sup> and 98<sup>th</sup> percentiles. Z-scores are then calculated for each Winsorized growth factor. A single composite growth score (gross) is then calculated using the following formulation:

$$G = 2/3 G1 + 1/3 G2, \text{ where:}$$

$$G1 = 1/2 zFSGE + 1/3 zINV + 1/6 zROA$$

$$G2 = 2/3 zHGS + 1/3 zHGE$$

Value ratings incorporate the following four fundamental factors:

1. Book to price (BP)
2. Historical earnings to price (HEP)
3. Dividend to price (DP)
4. Sales to price (SP)

Each value factor is Winsorized at the 2<sup>nd</sup> and 98<sup>th</sup> percentiles. Z-scores are then calculated for each Winsorized value factor. A single composite value score (gross) is then calculated using the following formulation:

$$V = 2/3 V1 + 1/3 V2, \text{ where:}$$

$$V1 = 2/3 zHEP + 1/3 zBP$$

$$V2 = 2/3 zSP + 1/3 zDP$$

Net style scores are then calculated for each stock using the following formulation:

$$\text{Net Growth Score} = \text{Gross Growth Score, less the Gross Value Score}$$

$$\text{Net Value Score} = \text{Gross Value Score, less Gross Growth Score}$$

## 8. Selection and Weighting Methodologies for SN1000G and SN1000V

The seventy percent of the SN1000 stocks with the highest net growth scores are selected for inclusion in SN1000G and the seventy percent of the stocks with the highest net value scores are selected for inclusion in SN1000V.

Stocks are weighted using the following formulation:

1. The stocks contained in the SN1000 are ranked based on percentile on a quarterly basis for both growth and value. The thirty percent of eligible stocks with the highest net growth scores are weighted based on their full float-adjusted market capitalization for SN1000G. The same is done based on value scores for SN1000V.
2. The float-adjusted market capitalizations of the remaining forty percent of selected stocks are modified by their percentile ranks for weighting purposes. The same is done for value stocks. (e.g. 70<sup>th</sup> percentile stock will be accorded 70% of its float market capitalization for weighting purposes; 50<sup>th</sup> percentile stock would be accorded 50%; etc.)
3. These stocks are then weighted based on their style-modified float-adjusted market capitalization.

## **9. Index Values at Inception**

SN1000G had a value at inception of 1000, on its inception date of December 31, 2004. SN1000G is calculated on both a Price Only and on a Total Return basis.

SN1000V had a value at inception of 1000, on its inception date of December 31, 2004. SN1000V is calculated on both a Price Only and on a Total Return basis.

## **10. Index Changes**

The Indexes are reconstituted semi-annually on the third Fridays of June and December and are rebalanced quarterly on the third Friday of the last month of each calendar quarter. Index changes take place at each reconstitution date, except in the event of certain corporate actions, such as mergers, acquisitions, and delistings. In such cases, the change is applied on the effective date of the action, unless otherwise determined by the Index Committee. Whenever possible, changes will be announced at least two business days prior to their implementation.

Deletions are made at any time in the event a stock is liquidated, de-listed, files for bankruptcy or is acquired. Upon deletion, the weight of the removed stock is reallocated proportionately to the remaining constituents. Additions are made only upon the effective date of the semi-annual reconstitution.

## **11. Quarterly Rebalancings**

The Indexes are rebalanced quarterly on the third Friday of the last month of each calendar quarter, at which time the weighting methodology described in Section #3 herein are applied.

## **12. Roles of the Parties in the Semi-Annual Reconstitutions**

Two parties participate in the semi-annual reconstitution: The Calculation Agent, which is responsible for applying the relevant index rules to the Indexes; and The Benchmark Index Committee, which is responsible for reviewing and approving the changes to the Indexes that are recommended by the Calculation Agent.



Data used for the semi-annual reconstitutions is as of the close of US trading on the last business days of May and November (the “Snapshot Dates”).

The Calculation Agent will submit to the Index Committee its recommended changes to the Indexes five business days following the Snapshot Date.

The Index Committee will approve or reject the changes and notify the calculation agent of its decisions not later than eight business days following the Snapshot Date.

Within 24 hours of notification by the Index Committee to the Calculation Agent of its approval of changes, the Calculation Agent will post a press release on the Indexes’ web site announcing the changes.

Changes to the Indexes related to the semi-annual reconstitutions are implemented in conjunction with the quarterly rebalancing as of the close of trading on the third Friday of June and December.

### ***13. Roles of the Parties in the Quarterly Rebalancings***

Two parties participate in the quarterly rebalancings: The Calculation Agent, which is responsible for applying the relevant index rules to the Indexes; and The Index Committee, which is responsible for reviewing and approving the changes to the Indexes that are recommended by the Calculation Agent.

Data used for the quarterly rebalancings is as of the close of US trading on the day before the second Friday of the last month of each calendar quarter (the “Record Date”). Share weights for the rebalanced Indexes are computed as of the Record Date.

The Calculation Agent will submit its recommended weights to the Index Committee or its designee within two business days following the Record Date.

The Index Committee will approve or reject the changes and notify the calculation agent of its decisions not later than three business days following the Record Date.

Upon notification by the Index Committee to the Calculation Agent of its approval of the weights, the Calculation Agent will issue pro forma index weights to all relevant licensees and post the pro forma files to its FTP server.

Changes to the Indexes related to the quarterly rebalancings are as of the close of trading on the third Friday of the last month of each calendar quarter.

### ***14. Ongoing Maintenance and Handling of Corporate Actions***

In addition to the scheduled quarterly reviews, the Indexes are reviewed on an ongoing basis. Changes in index composition and related weight adjustments are necessary whenever there are extraordinary events such as liquidations, conversions, delistings, bankruptcies, mergers or takeovers involving index components. In these cases, each event will be taken into account on its effective date. Whenever possible, the changes in the index’s components will be announced at least two business days prior to their implementation date.

Eligible Securities. In the event that a component no longer meets the eligibility requirements described herein, it will be removed from the index on the effective date of the next rebalancing.

Mergers. If two index constituents merge, their component positions will be replaced by the surviving stock immediately. If an index constituent merges with a non-component stock, it will be removed from the index and its weight will be redistributed to all the remaining constituents on a proportional basis.

Takeovers. If an index component is taken over by another component stock, the former will be removed from the index immediately upon completion of the takeover. If an index component is taken over by a non-component stock, it will be removed from the index and its weight will be redistributed to all the remaining constituents on a proportional basis.

Conversions. If an index component is converted to a non-eligible financial security, it will be deleted from the Indexes on the date of the next rebalancing, unless otherwise determined by the Index Committee.

Share Offerings and Share Buy-Backs. All Share Offerings and Buybacks that result in an increase or decrease of a constituent stock's shares outstanding will be implemented at the quarterly rebalancing.

Tender Offers. Tender offers will be accepted three business days prior to the expiration of the tender offer, provided management of the company for which the tender offer is being made is in favor of the tender offer.

Rights Offerings. Rights will be executed, provided the rights are "in the money." The costs associated with exercising the rights will be derived proportionately from the remaining constituents in the index.

Spin-Offs. In the event of a spin-off, both the parent company shall remain in the index, the spun-off company shall be dropped from the index and the weight of the spun-off company shall be reallocated on a proportionate basis across the remaining index constituents.

Removal of Stocks Due to Delisting, Bankruptcy or Extreme Financial Distress. If an index constituent is de-listed by its primary market, or is in bankruptcy proceedings, it will be removed from the index.

- \* If an index component is de-listed by its primary market due to failure to meet financial or regulatory requirements, it will be removed from the indexes and its weight will be reallocated to the remaining constituents in the relevant index.

- \* If an index component enters bankruptcy proceedings, it will be removed from the indexes and will remain ineligible for re-inclusion until it has emerged from bankruptcy. However, the Committee may, following a review of the bankrupt company and the issues involved in the filing, decide to keep the stock in the indexes.

- \* The Committee may, at its discretion, remove a stock it has determined to be in extreme financial distress from the Indexes, if the Committee deems the removal necessary to protect the integrity of the Indexes and the interests of investors in products linked to the Indexes.

Pricing of Stocks in Extreme Financial Distress for Index Maintenance.

\* When a stock is suspended from trading due to financial distress and subsequently de-listed by its primary market prior to resumption of trading, the Calculation Agent will use the best-available alternate pricing source to determine the value at which the stock should be removed from the index.

\* If the stock's primary market price is no longer available due to its suspension or de-listing, a current price from another exchange, such as a regional or electronic marketplace, may be used. In the absence of those prices in the case of U.S. securities, OTC Bulletin Board, OTC Equity (non-OTCBB stocks), and Pink Sheet traded prices could be applied in that order.

\* If neither a traded price nor a bid/asked range is available, the Committee will evaluate the status of the suspended stock. The Committee may consult with managers of portfolios linked to indexes in which the stock is a constituent in determining the value of the stock. If the Committee concludes that the security has become worthless or is likely to remain too illiquid to be traded, it will be removed from the Indexes at .01 local currency of the stock.

## 15. Calculation and Dissemination of Index Values

The Calculation Agent will calculate closing values for both the price and total return Indexes based on closing prices as reported by the relevant exchanges.

The Calculation Agent will post the following files to its FTP server prior to 7:00PM EST each trading day:

Closing Index File (CLS.SNC) — Index constituents, closing prices, weights, share weights and related data as of the day's close.

Adjusted Closing Index File (ADJ.SNC) — Index constituents, closing prices, weights, share weights and related data as of the next trading day's open.

Corporate Action File (SNA) — Data related to upcoming corporate actions for the Indexes' constituent stocks.

Index Values File (SNL) — Closing values for the index return and currency variants, including divisors.

Closing values for the Indexes will be transmitted to the NYSE prior to 7:00PM EST for redistribution to various vendors and providers of financial data via the NYSE Global Index Feed.

The Indexes will be calculated and disseminated in USD on an end-of-day basis.

Index values will be distributed using the following tickers:

<u>Index Name</u>	<u>Ticker</u>
S-Network US Equity Mid/Small-Cap 2500 Index	SN2500
S-Network US Equity Mid/Small-Cap 2500 Total Return Index	SN2500T
S-Network US Equity 3000 Index	SN3000
S-Network US Equity 3000 Total Return Index	SN3000T
S-Network US Equity Large/Mid-Cap 1000 Index	SN1000
S-Network US Equity Large/Mid-Cap 1000 Total Return Index	SN1000T
S-Network US Equity Large/Mid-Cap Growth Index	SN1000G

S-Network US Equity Large/Mid-Cap Growth Total Return Index	SN1000GT
S-Network US Equity Large/Mid-Cap Value Index	SN1000V
S-Network US Equity Large/Mid-Cap Value Total Return Index	SN1000VT
S-Network US Equity Large/Mid-Cap Deep Value Index	SN100DV
S-Network US Equity Large/Mid-Cap Deep Value Total Return Index	SN100DVT
S-Network US Equity Large/Mid-Cap Aggressive Growth Index	SN100AG
S-Network US Equity Large/Mid-Cap Aggressive Growth Total Return Index	SN100AGT
S-Network US Equity Large-Cap 200 Index	SNL200
S-Network US Equity Large-Cap 200 Total Return Index	SNL200T
S-Network US Equity Large-Cap 500 Index	SN500
S-Network US Equity Large-Cap 500 Total Return Index	SN500T
S-Network US Equity Micro-Cap Index	SNMCRO
S-Network US Equity Micro-Cap Total Return Index	SNMCROT
S-Network US Equity Mid-Cap 500 Index	SNM500
S-Network US Equity Mid-Cap 500 Total Return Index	SNM500T
S-Network US Equity Mid-Cap 800 Index	SNM800
S-Network US Equity Mid-Cap 800 Total Return Index	SNM800T
S-Network US Equity Small/Micro-Cap Index	SNSMCR
S-Network US Equity Small/Micro-Cap Total Return Index	SNSMCR T
S-Network US Equity Small-Cap 2000 Index	SN2000
S-Network US Equity Small-Cap 2000 Total Return Index	SN2000T

## 16. Calculation and Adjustments

### 1. Input Data Sources

\* Stock prices are provided by Thomson Reuters. The most recent closing prices of constituent stocks are used for index calculation.

\* The number of shares is determined separately for each class of stock. This information is obtained from regulatory filings and a variety of data vendors. The data also may be sourced from the constituent stocks themselves.

\* Corporate actions are sourced from public news services, regulatory filings and data vendors. The constituent stocks themselves may be used as an additional source.

2. Index Formula. The index is calculated using a Laspeyres formula. This formula is used for the calculation of the return index and the price index. The only difference is that the divisor  $D_t$  is different for the two indexes (return index and price index).

The index is computed as follows:

$$\text{Index}_t = \frac{\sum_{i=1}^n (p_{it} \times q_{it} \times r_{it} \times f_{it})}{C_t \times \sum_{i=1}^n (p_{i0} \times q_{i0} \times r_{i0} \times f_{i0})} \times \text{Base Index Value} = \frac{M_t}{B_t} \times \text{Base Index Value}$$

The above-mentioned formula can be simplified as:  $\text{Index}_t = \frac{M_t}{D_t}$

Where:

$$D_t = \frac{B_t}{\text{base index value}} = \text{divisor at time (t)}$$

- n = the number of stocks in the index
- $p_{i0}$  = the closing price of stock i at the base date
- $q_{i0}$  = the number of shares of stock i at the base date
- $r_{i0}$  = the exchange rate from local currency to USD at the base date
- $f_{i0}$  = the float factor of company i at the base date
- $p_{it}$  = the price of stock i at time (t)
- $q_{it}$  = the number of shares of stock i at time (t)
- $r_{it}$  = the exchange rate from local currency to USD at time (t)
- $f_{it}$  = the float factor of company i at time (t)
- $C_t$  = the adjustment factor for the base date market capitalization
- t = the time the index is computed
- $M_t$  = market capitalization of the index at time (t)
- $B_t$  = adjusted base date market capitalization of the index at time (t)

Dividend payments are not taken into account in the price indexes, whereas dividend payments are reinvested in the index constituents of the total return index on a proportional basis. The adjustment protects the indexes from the effects of changes in index composition and the impact of corporate actions.

3. Divisor Adjustments. Corporate actions affect the share capital of component stocks and therefore trigger increases or decreases in the index. To avoid distortion, the divisor of the index is adjusted accordingly.
4. Changes in the index's market capitalization due to changes in the composition (additions, deletions or replacements), weighting (following quarterly reviews, corporate actions (mergers, or special cash or stock distributions of other stocks) result in a divisor change to maintain the index's continuity. By adjusting the divisor, the index value retains its continuity before and after the event. For rights offerings, the Calculation Agent will price the rights during the subscription period, not before or after. Alternatively, the Calculation Agent may start pricing the rights after the ex-date and before the subscription period, under the condition that the rights are priced daily.

\* Formulae for Divisor Adjustment. The following formulae will be used for divisor adjustments. (Note: No divisor adjustments are necessary for stock splits, since market capitalization does not change and the share number and share price are adjusted prior to the opening of trading on the split's ex-date.)

$$D_{t+1} = D_t \times \frac{\sum (p_{it} \times q_{it} \times r_{it} \times f_{it}) \pm \Delta MC_{t+1}}{\sum (p_{it} \times q_{it} \times r_{it} \times f_{it})}$$

Where:

$$D_t = \text{divisor at time (t)}$$

$D_{t+1}$	= divisor at time (t+1)
$p_{it}$	= stock price of stock i at time (t)
$q_{it}$	= number of shares of stock i at time (t)
$r_{it}$	= the exchange rate from local currency to USD at time (t)
$f_{it}$	= the float factor of company i at time (t)
$\Delta MC_{t+1}$	= add new components' market capitalization and adjusted market capitalization (calculated with adjusted closing prices and shares effective at time t+1 and/or minus market capitalization of stocks to be deleted (calculated with closing prices and shares at time t)

Note: If the current trading price of an issue is unavailable, the previous trading session's closing price is used. However, if the issue is affected by any corporate action that requires an adjustment, then the adjusted price is used.

\* Adjustments for Corporate Actions. An index divisor may decrease (▼) or increase (▲) or keep constant (■) when corporate actions occur for a component stock. Assuming shareholders receive "B" new shares for every "A" share held for the following corporate actions:

- ▼ A) CASH DIVIDEND (applied for return index only)  
adjusted price = closing price - dividend announced by the stock
- ▼ B) SPECIAL CASH DIVIDEND (applied for price and return index)  
adjusted price = closing price - dividend announced by the stock
- ▼ C) SPIN-OFF  
adjusted price per share = closing price per share – spinoff value
- D) SPLIT AND REVERSE SPLIT  
adjusted price = closing price \* A / B new number of shares = old number of shares \* B / A
- E) RIGHTS OFFERING  
adjusted price = (closing price \* A + subscription price \* B) / (A + B) new number of shares = old number of shares \* (A + B) / A
- F) STOCK DIVIDEND  
adjusted price = closing price \* A / (A + B) new number of shares = old number of shares \* (A + B) / A
- ▼ G) STOCK DIVIDEND OF A DIFFERENT STOCK SECURITY  
adjusted price =(closing price \* A - price of the different stock security \* B)/A
- ▲ H) COMBINATION STOCK DISTRIBUTION (DIVIDEND OR SPLIT) AND RIGHTS OFFERING  
Shareholders receive B new shares from the distribution and C new shares from the rights offering for every A shares held:

\* If rights are applicable after stock distribution (one action applicable to other).  
adjusted price = [closing price \* A + subscription price \* C \* (1 + B / A)] / [(A + B) \* (1 + C / A)]  
new number of shares = old number of shares \* [(A + B) \* (1 + C / A)] / A

\* If stock distribution is applicable after rights (one action applicable to other). adjusted price =  $[\text{closing price} * A + \text{subscription price} * C] / [(A + C) * (1 + B / A)]$  new number of shares = old number of shares \*  $[(A + C) * (1 + B / A)]$

▲ I) STOCK DISTRIBUTION AND RIGHTS (NEITHER ACTION IS APPLICABLE TO THE OTHER) adjusted price =  $[\text{closing price} * A + \text{subscription price} * C] / [A + B + C]$  new number of shares = old number of shares \*  $[A + B + C]$

5. Computational Precision. Index values are rounded to two decimal places and divisors are rounded to integers. Any values derived by the index calculation engine from a corporate action used for the divisor adjustments and index computations are rounded to seven decimal places.

## 17. Data Correction Policy

To maintain a high standard of data integrity, a series of procedures have been implemented to ensure accuracy, timeliness and consistency. Input prices are monitored using a variety of computerized range-check warning systems. Fault tolerant methods are employed in the collection of market and corporate action data. Various verification and audit tasks are performed to ensure the quality of the data feeds and related market data. While every effort is taken to ensure the accuracy of the information used for the index calculation, an index error may occur due to incorrect or missing data, including trading prices, exchange rates, shares outstanding and corporate actions, due to operational errors or other reasons.

1. Intraday Corrections. Reasonable efforts are employed to prevent erroneous data from affecting the indexes. Corrections will be made for bad prices and incorrect or missing corporate actions as soon as possible after detection.
2. Index-Related Data and Divisor Corrections. Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of an index, if discovered within five days of its occurrence, will always be fixed on the day it is discovered to prevent an error from being carried forward.

If a divisor error is discovered more than five days after occurrence, the adjustment will depend upon how significant the error is, how far back the error occurred and the feasibility of performing the adjustment.

## 18. Review Schedule

Reconstitutions

Frequency: Semi-annual

Effective date(s): Close of trading on the third Fridays of June and December

Advance notice: Approximately 8 business days

Rebalancings

Frequency: Quarterly

Effective date(s): Close of trading on the third Friday of the last month of each calendar quarter  
Advance notice: At least 3 business days