

Bloomberg Equity Indices

US Domestic Equity Indices Methodology

- Aggregate
- Large Cap
- Mid Cap
- Micro Cap
- 200
- 1000
- 2000
- 2500
- 3000

CONTENT

3	INTRODUCTION
	INDEX CONSTRUCTION OVERVIEW
4	CONSTITUENT SELECTION & WEIGHTING
	Aggregate Index
8	SIZE INDICES
	US Large Cap
9	US 1000
	US 2000
	US 2500
	US 3000
10	US Micro Cap
	Sectors Indices
	Value and Growth Indices
11	Dividend Yield Index
12	CORPORATE ACTION
	INDEX CALCULATION
13	Pricing
14	Precision
	Historic Backfill
17	INDEX MAINTENANCE
18	STAKEHOLDER ENGAGEMENT
	RISKS
	LIMITATIONS OF THE INDEX
	BENCHMARK OVERSIGHT AND GOVERNANCE
20	INDEX AND DATA REVIEWS
	EXPERT JUDGMENT
	DATA PROVIDERS AND DATA EXTRAPOLATION
21	CONFLICTS OF INTEREST
	RESTATEMENT POLICY
23	APPENDIX
	Value and Growth Calculation Details
	Bloomberg Industry Classification System (BICS)
25	Glossary of Terms
26	Methodology Changes
27	ACCESSING INDEX DATA
	RELATED LINKS
28	DISCLAIMER

INTRODUCTION

The Bloomberg US Equity Index family includes all investable companies in the U.S. The Bloomberg US Aggregate Equity Index (AGGE) represents approximately 99% of the US market by capitalization. The market size indices (B500, B1000, B2000, B2500, B3000, BMIC) are free-float market-capitalization-weighted Index. The indices follow the weekday calendar.

Changes in the methodology may be necessary to help ensure representativeness, accuracy or integrity. Material changes to the methodology are reviewed and approved by the Bloomberg Product, Risk and Operations Committee (PROC). Bloomberg will provide reasonable notice to its clients of any planned changes along with the rationale for any changes.

INDEX CONSTRUCTION OVERVIEW

The Indices are constructed in a three-step process: (1) eligibility universe definition, (2) liquidity screening and (3) segmentation on the selection date. The Index is rebalanced following the selection date in March and September. Additionally, Index constituents' weights will be updated in June and December.

Name	Ticker
Bloomberg US Aggregate Equity Price Return / Total Return Index	AGGE / AGGET
Bloomberg US Large Cap Price Return / Total Return Index	B500 / B500T
Bloomberg US Large Cap Value Price Return / Total Return Index	B500V / B500VT
Bloomberg US Large Cap Growth Price Return / Total Return Index	B500G / B500GT
Bloomberg US Large Cap Dividend Yield Price Return / Total Return Index	B500D / B500DT
Bloomberg US 200 Price Return / Total Return Index	B200 / B200T
Bloomberg US 1000 Price Return / Total Return Index	B1000 / B1000T
Bloomberg US 1000 Growth Price Return / Total Return Index	B1000G / B1000GT
Bloomberg US 1000 Value Price Return / Total Return Index	B1000V / B1000VT
Bloomberg US 2000 Price Return / Total Return Index	B2000 / B2000T
Bloomberg US 2000 Value Price Return / Total Return Index	B2000V / B2000VT
Bloomberg US 2000 Growth Price Return / Total Return Index	B2000G / B2000GT
Bloomberg US 2500 Price Return / Total Return Index	B2500 / B2500T
Bloomberg US 2500 Value Price Return / Total Return Index	B2500V / B2500VT
Bloomberg US 2500 Growth Price Return / Total Return Index	B2500G / B2500GT
Bloomberg US 3000 Price Return / Total Return Index	B3000 / B3000T
Bloomberg US 3000 Value Price Return / Total Return Index	B3000V / B3000VT
Bloomberg US 3000 Growth Price Return / Total Return Index	B3000G / B3000GT
Bloomberg US Mid Cap Price Return / Total Return Index	BMID / BMIDT
Bloomberg US Micro Cap Price Return / Total Return Index	BMIC / BMICT

CONSTITUENT SELECTION & WEIGHTING

Aggregate Index

The following outlines the steps taken to determine Index membership:

Eligibility Screening

To be eligible for the Index, a security must meet all criteria below. The eligibility screening is applied on each selection date.

Criteria	Application	Bloomberg Formula
Country Definition	All securities with primary listing of United States with either: 1) Bloomberg Country of Risk of United States, or 2) Domiciled in Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Republic of Ireland, Isle of Man, Jersey, Luxembourg, Monaco, Netherlands, Panama, Puerto Rico, Singapore or Switzerland.	(EQY_PRIM_SECURITY_COMP_EXCH = US) AND ((CNTRY_OF_RISK = US) OR (CNTRY_OF_DOMICILE= BS, BM, VG, KY, IE, IM, JE, LU, MC, NL, PA, PR, SG, CH))
Primary Listing	All securities primarily listed in the following U.S. exchanges: NYSE, NYSE American, NYSE ARCA, IEX, NASDAQ CM, NASDAQ GS, NASDAQ GM and CBOE BZX.	EQY_PRIM_EXCH_SHRT = UN, UA, UP, VF, UR, UW, UQ, UF
Security Type	Includes: Common Stock, Real Estate Investment Trusts, and Tracking Stock. Excludes: Depositary Receipts, Preferred and Convertible Preferred Stock, Units, Rights, and Warrants.	SECURITY_TYP = Common Stock, REIT, or Tracking Stock Discretion will be used to exclude securities that trade as common stock but BSL deems ineligible due to their characteristics.
Organization Type	Excludes: Business Development Companies, Closed-End Investment Companies, ETFs and ETNs, LLCs, Partnerships, Royalty Trusts, Special Purpose Acquisition Companies, and Special Purpose Vehicles.	BICS_LEVEL_3_INDUSTRY_NAME <> Investment Companies, and <> Private Equity
Minimum Free-Float Shares Screening	Free-Float Share must be minimum 10.0% of the total shares outstanding.	EQY_FREE_FLOAT_PCT >= 10%

Liquidity Screening

Once the Index-eligible universe is defined, liquidity screens are applied. The liquidity screening is applied on each selection date.

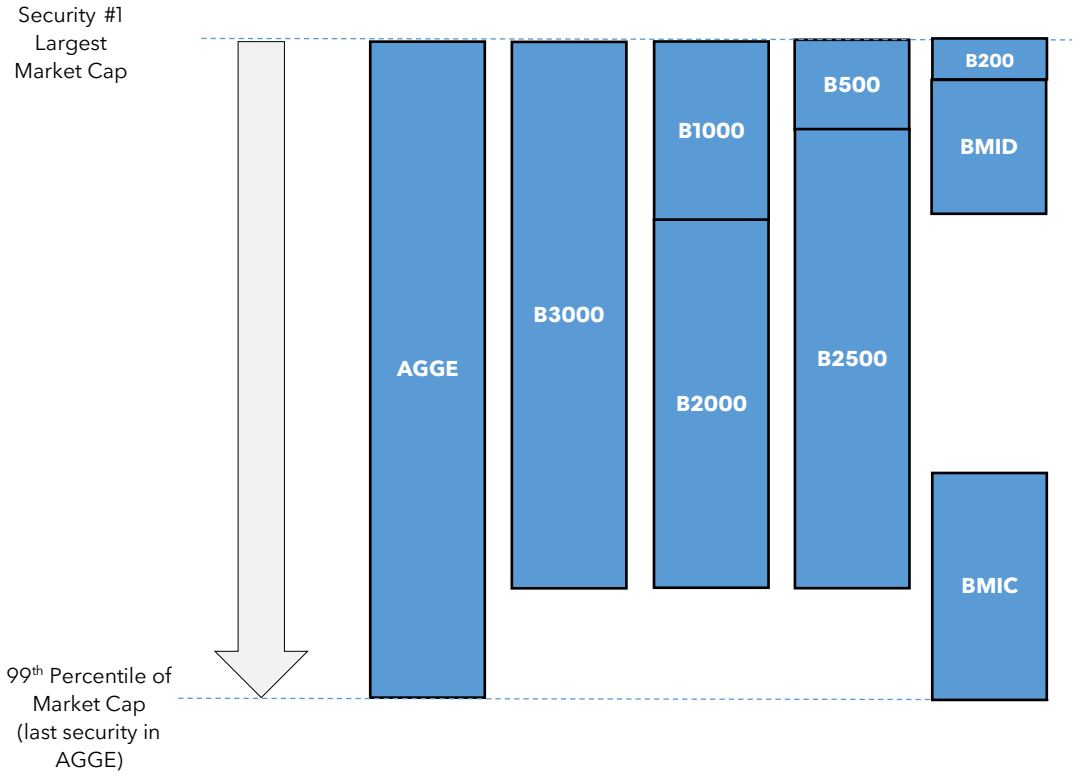
Step	Action	Criteria	Application	Formula
1	Market & Status Screening	Trading Regular Way	When-Issued securities excluded.	WHEN_ISSUED = N
		Minimum Trading Volume	Ratio of 100-day average trading volume and float shares greater than 0.001. Does not apply to index members that have been trading for less than 100-days, e.g., fast-track IPOs.	VOLUME_AVG_100D / EQY_FLOAT > 0.001
		Consecutive Trading Days Requirement	<p>If the composite price or primary exchange price is unavailable for 10 or more consecutive trading days since the security has been a part of the Eligible Universe, the security will not be included in the Index. Any trading day that the security had a TRADE_STATUS = N will be excluded from the 10 trading days.</p> <p>This rule does not apply to recent additions to the eligible universe such as Fast Track IPOs and Spun-off securities that have been trading for less than 10 days.</p>	<p>Excluding Fast Track IPOs and Spun-off securities, for all trading days since its inclusion in the eligible universe, the number of missing price days should be less than 10 days.</p> <p>Missing price day is any day that the security did not have a primary or composite price and the TRADE_STATUS = Y</p>
		Suspended Security	Generally, a Suspended security won't be considered for inclusion and a security Suspended after selection date but before Reconstitution will not be added to the Index on the Reconstitution. However, under certain circumstances, after further review, suspended securities may be included.	Exclude if TRADE_STATUS = N
		Seasoning of Securities	<p><i>Newly listed securities must have</i> have been ranked among the top 500 issuers for their first 5 consecutive days of trading. Fast Track IPOs and Spun-off securities that are already in the index are exceptions to this rule, as they may have not traded for 3 months at the time of the Reconstitution.</p> <p><i>Fast track new addition rule:</i> IPOs that rank by market capitalization in the top 500 companies during the intra-rebalance period will be added with a 3-day notice period as long as they have been trading for a minimum of 5 days and have been ranked among the top 500 securities for 5 consecutive trading days over the course of the intra-rebalance period.</p> <p>At the subsequent semi-annual Reconstitution, such Fast Track new</p>	<p>Excluding Fast Track IPOs and Spun-off securities, on Selection Date (S_{date}) only include securities for which</p> $S_{date} - \text{Date of first trade} \Rightarrow 3 \text{ Months}$ <p>For any trading date t: If, $t_{date} - \text{'Date of first trade'} \Rightarrow 5$ trading days, add security to the Index on the 6th trading day if security's float market capitalization ranks among top 500 for 5 consecutive trading days.</p>

			additions will continue to stay in the Index even if they are not among the top 500 securities by market capitalization as long as they meet all eligibility and liquidity criteria.	
		Price	A security new to the Aggregate Index must have a closing exchange price or an Index price on Selection Date and this price must be less than \$20,000.	Exchange Price < \$20000 or; Index Price < \$20000
2	Remove all equities that failed liquidity screening.			
3	Minimum Free-Float Shares Screening	Free-Float Shares	<p>Free-float shares are used in calculation of the Index. Bloomberg calculates this figure by subtracting shares held by insiders and those deemed to be stagnant shareholders from the shares outstanding. Stagnant holders include ESOPs, ESOTs, QUESTs, employee benefit trusts, corporations not actively managing money, venture capital companies and shares held by governments.</p> <p>Securities should have free-float market capitalization equal to or greater than 50% of the equity universe minimum size requirement (total market capitalization).</p>	<p>Minimum Float = EQY_FLOAT * Index Price >= 0.50 * CUR_MKT_CAP of the smallest security in the universe as of the selection date</p>
4	Remove all equities that failed Minimum Free-Float Shares Screening.			
5	Minimum Total Market Capitalization Screening	Total Market Capitalization	Use percentile method to find the minimum market capitalization value in the Index eligible universe: cut-off percentile = total market capitalization of the security at the 99th percentile.	<ol style="list-style-type: none"> 1) Sort the Index-eligible universe by total market capitalization from highest to lowest 2) Find the 99th percentile rank. Rank is the position of a security in the universe: Rank = 0.99 * (Number of securities in the Index-eligible universe - 1) + 1 3) Calculate the integer and fraction part of the rank. E.g., if the rank is 3997.63, the integer part is 3997 and the fraction part is 0.63 4) Find the market cap of the securities in the position rank-integer and rank-integer + 1. In the above example, the market cap of the securities are in the 3997th and 3998th positions. 5) Calculate the 99th percentile market cap value by interpolating between the market cap of the securities in the position rank-integer and rank-integer + 1. In our

				<p>example the 99th percentile market-cap value would be: $Market_cap_{3997} + 0.63 * (Market_cap_{3998} - Market_cap_{3997})$</p>
--	--	--	--	---

SIZE INDICES

The Bloomberg US Aggregate Equity Index (AGGE) is sub-divided based on market capitalization rank and security count.



The following steps are taken to determine Index memberships:

US Large Cap Index (B500)

Step	Action
1	After eligibility and liquidity screening, companies are sorted in descending order of total market capitalization and the cumulative free-float market capitalization is calculated for each company.
2	The core cut-off percentile is determined as the cumulative free-float market capitalization of the last security in the Index (The 500 th security in the case of the Bloomberg US Large Cap Index).
3	Lower threshold for the total market capitalization cut-off is determined as the total market capitalization of the company corresponding to the core cut-off percentile from step 2 + 2%.
4	All eligible securities in the current Index with a total market capitalization equal to or higher than the lower threshold for the total market capitalization from step 3 remain in the Index. Current Index members that do not meet the lower threshold for the total market capitalization are excluded from the current Index. K is the count of securities in the Index excluding the securities that do not meet the lower threshold for the total market capitalization.
5	Securities in the Bloomberg US Equity Index that are not in the current Index and that have a total market capitalization higher than the lower threshold for the total market capitalization threshold are considered as potential additions to the current Index. N-K securities from the potential additions are added to the Index in descending order of total market

	capitalization. Where N is the size of the Index (500 in the case of the Bloomberg US Large Cap Index), and K is the count of securities in the Index excluding the securities that do not meet the lower threshold for the total market capitalization.
--	--

US 200 Index (B200)

Step	Action
1	After completing the reconstitution of the Bloomberg US Large Cap Index, the top 200 securities ranked by market capitalization will constitute the US 200.

US 1000 Index (B1000)

Step	Action
1	After eligibility and liquidity screening, companies are sorted in descending order of total market capitalization and the cumulative free-float market capitalization is calculated for each company.
2	The core cut-off percentile is determined as the cumulative free-float market capitalization of the last security in the Index (The 1000 th security in the case of the Bloomberg 1000 Index).
3	Lower threshold for the total market capitalization cut-off is determined as the total market capitalization of the company corresponding to the core cut-off percentile from step 2 + 2%.
4	All eligible securities in the current Index with a total market capitalization equal to or higher than the lower threshold for the total market capitalization from step 3 remain in the Index. Current Index members that do not meet the lower threshold for the total market capitalization are excluded from the current Index. K is the count of securities in the Index excluding the securities that do not meet the lower threshold for the total market capitalization.
5	Securities in the Bloomberg US Equity Index that are not in the current Index and that have a total market capitalization higher than the lower threshold for the total market capitalization threshold are considered as potential additions to the current Index. N-K securities from the potential additions are added to the Index in descending order of total market capitalization. Where N is the size of the Index (1000 in the case of the Bloomberg 1000 Index), and K is the count of securities in the Index excluding the securities that do not meet the lower threshold for the total market capitalization.

US 2000 Index (B2000)

Step	Action
1	After completing the reconstitution of the Bloomberg 1000 Index and Bloomberg 3000 Index, all companies in the B3000 ex the B1000 will constitute the B2000.

US 2500 Index (B2500)

Step	Action
1	After completing the reconstitution of the Bloomberg 500 Index and Bloomberg 3000 Index, all companies in the B3000 ex the B500 will constitute the B2500.

US 3000 Index (B3000)

Step	Action
1	After eligibility and liquidity screening, companies are sorted in descending order of total market capitalization and the cumulative free-float market capitalization is calculated for each company.
2	The core cut-off percentile is determined as the cumulative free-float market capitalization of the last security in the Index (The 3000 th security in the case of the Bloomberg 3000 Index).
3	Lower threshold for the total market capitalization cut-off is determined as the total market capitalization of the company corresponding to the core cut-off percentile from step 2 + 0.05%.

4	All eligible securities in the current Index with a total market capitalization equal to or higher than the lower threshold for the total market capitalization from step 3 remain in the Index. Current Index members that do not meet the lower threshold for the total market capitalization are excluded from the current Index. K is the count of securities in the Index after the exclusions.
5	Securities in the Bloomberg US Equity Index that are not in the current Index and that have a total market capitalization higher than the lower threshold for the total market capitalization threshold are considered as potential additions to the current Index. N-K securities from the potential additions are added to the Index in descending order of total market capitalization. Where N is the size of the Index (3000 in the case of the Bloomberg 3000 Index), and K is the count of securities in the Index excluding the securities that do not meet the lower threshold for the total market capitalization.

US Mid Cap Index (BMID)

Step	Action
1	After completing the reconstitution of the Bloomberg US 1000 Index, the securities ranked 201 to 1000 by market capitalization will constitute the US Mid Cap.

US Micro Cap Index (BMIC)

Step	Action
1	With companies in AGGE sorted in descending order of total market capitalization, all companies ranked from 2501 up to the end are included in BMIC.

Sector Indices

All Index Members are classified into a set of industries and sub-industries based on the Bloomberg Industry Classification System (BICS). Index Member's industry classification is determined as of the Selection Date of each quarterly Index Review. The BICS hierarchy is built around 11 level 1 sectors. Each company is classified down to, at least, level 4 and up to level 7.

Value and Growth Indices

The Bloomberg US Equity Value and Growth Indices are screened from the Bloomberg US Large Cap, US 1000, US 2000, US 2500 and US 3000 Indices and are constructed based on a linear combination of risk factors. The four factors are: 1) Earnings Yield, 2) Valuation, 3) Dividend Yield and 4) Growth. The factors are equal-weighted when forming a composite signal where Growth is considered to be a negative indicator and thus flipped to be a negative. The Indices are market-capitalization-weighted. The current price is used to calculate the price based ratios.

The following table details the factor descriptors (all values are captured at the month's end prior to reconciliation):

Factor	Descriptor
Earnings Yield (E)	Earnings to Price (E/P)
	Cash Flow to Price (CF/P)
	Forward Earnings to Price (EPSFY1/P)
Valuations (V)	Book to Price (B/P)
	Sales to Price (S/P)
Dividend Yield (D)	Dividend to Price (D/P)
Growth (G)	Growth in Sales (SPSG)
	Growth in Net Income (EPSG)
	Long-term Growth (EPSTG)

Let E(n) be the exposure of stock n to Earnings Yield factor;
V(n) the stock exposure to Valuations factor;
D(n) the stock exposure to Dividend Yield;

G(n) the stock exposure to Growth.

The exposure of stock n to the composite Value factor is:

$$\text{Value}(n) = E(n) + V(n) + D(n) - G(n);$$

$$Z() = \text{Z-score}$$

$$\text{Where: } E(n) = Z(E/P) + Z(CF/P) + Z(\text{EPSFY1}/P)$$

$$V(n) = Z(B/P) + Z(S/P)$$

$$D(n) = Z(D/P)$$

$$G(n) = Z(\text{SPSG}) + Z(\text{EPSG}) + Z(\text{EPSLTG})$$

Let W(n) be the weight of stock n in the Base-Index. Next, rank stocks according to Value(n). The top 30% of stocks get full weight in the Value Index, i.e., proportional to W(n). The bottom 30% of stocks get full weight in the Growth Index. The middle 40% get split between Value and Growth Indices based on linear interpolation.

Value tilt factor calculation:

Top 30% of stocks value tilt would be 1. The bottom 30% of stocks value tilt would be 0. Middle 40% get linearly interpolated tilt from 1 (at 30th percentile) to 0 (at 70th percentile).

Growth tilt factor calculation:

$$\text{Growth tilt} = 1 - \text{Value tilt}$$

The middle 40% get split between Value and Growth Indices based on linear interpolation.

IPOs that are fast-tracked into the underlying Index are simultaneously added to the corresponding Value and Growth Indices. The position size of the IPO security in the Value and Growth Index is determined based on the composite value factor score of the security as of last business day prior to the inclusion to underlying Index. For IPOs, fiscal annual data is used to compute the composite value factor score until the quarterly and trailing 12-month data is available. The change in usage of annual to quarterly or trailing 12-month data is made on a go forward basis.

Note, the market valuation of the Value and Growth Indices is the same as the underlying index. Securities with missing descriptors receive the median value descriptor of the underlying.

See Appendix: Value and Growth Calculation Details for more information.

Dividend Yield Index

The Bloomberg US Large Cap Dividend Yield Index (B500D) represents the performance of top securities by Dividend Indicated Yield screened from the Bloomberg US Large Cap Index (B500), excluding REITs. At Reconstitution the index holds top 100 names with highest Dividend Indicated Yield. To control for turnover, existing members ranked 101 to 120 by Dividend Indicated Yield are also retained by the Index, potentially increasing the membership count beyond 100. Companies are weighted by Dividend Indicated Annualized Amount. No action is taken for announcement of suspended dividends.

The following table details the steps for membership screening (all values are captured at the month's end prior to reconciliation):

Criteria	Description
Bloomberg US Equity Large Cap Index (B500) ex REITs	Companies must be part of this Index universe excluding REITs.
Dividend Indicated Yield	The most recently announced gross dividend, annualized based on the Dividend Frequency (DV016, DVD_FREQ), then divided by the current market price.
Dividend Indicated Annualized Amount	Dividend Indicated Annualized Amount * Shares Outstanding

$$\text{Index Security Weight}_{i,t} = \frac{\text{Dividend Indicated Annualized Amount}_{i,mt}}{\sum_{i=1}^n \text{Dividend Indicated Annualized Amount}_{i,mt}}$$

$$\text{Index Shares}_{i,t} = \frac{\sum(\text{shares before rebalancing} * \text{price}) \text{ of the Dividend Yield Index}_t * \text{Security Weight after rebalance}_{i,t}}{\text{Security Price}_{i,t}}$$

$$\text{Dividend Tilt Factor}_{i,t} = \frac{\text{Index Shares}_{i,t}}{\text{Base} - \text{Index Shares}_{i,t}}$$

Where:

Security Price_{i,t} = price from applying the waterfall method on the rebalancing date

Base-Index Shares_{i,t} = Index Shares from Base-Index

Index Security Weight_{i,t} = Security Weight on the reconstitution

Dividend Indicated Annualized Amount_{i,mt} = Dividend Indicated Annualize Amount of the security on the month end prior to the reconstitution

Index Shares_{i,t} = Index Shares Dividend Yield Index

Index Tilt Factors are calculated on the reconstitution, Index Share updates follow the Base-Index schedule for float adjustments.

CORPORATE ACTIONS

The methodologies for treatment of corporate actions are provided at the following links:

- Aggregate, Large Cap, Value, Growth: [US Domestic Corporate Action Methodology Market-Capitalized Indices](#)
- Dividend Yield: [US Domestic Corporate Action Methodology Non-Market-Capitalized Indices](#)

Cut-Off time for Corporate Actions which can be moved over to the following day is 16:35 ET on the business day preceding the ex-date. On Early market close days the cut-off will be 35 minutes following the close of US Exchanges.

Action	Moved to Following Day
Spin-off	No
Exchanges and Conversions (Reclassification of Shares)	No
Rights Offering	No
Special Cash Dividends	No
Stock Split	No
Stock Dividend	No
Name and Ticker Change	No
Mergers & Acquisitions	Yes
Delisting	Yes
Regular Cash Dividends	Yes
Change in Listing	Yes

INDEX CALCULATION

The price Index is calculated daily using the below formula:

$$I_t = \frac{\sum_{i=1}^n TF_{i,t} \times CA_{i,t} \times N_{i,t} \times P_{i,t}}{D_t}$$

Where:

I_t = if $n=0$ then Index value on calculation date $t-1$; else Index value on calculation date t ;

D_t = the divisor on calculation date t ; on the Index inception date the Index divisor is denoted as D_0

$N_{i,t}$ = Index Shares of stock i used in the Index on calculation date t

n = the total number of stocks in the Index;

$P_{i,t}$ = price of stock i on calculation date t ;

$TF_{i,t}$ = Tilt Factor stock i on calculation date t ; each member in the market cap-based Base-Index will have a tilt factor of ¹

$CAC_{i,t}$ = Adjustment Factor for stock i on calculation date t ; each member in the market cap-based Base-Index will have an adjustment factor of ²

The total return Index, which reflects the returns of dividends over time, is calculated daily using the below formula:

$$TR\ Index_t = TR\ Index_{t-1} \times TR_t$$

$$TR_t = \frac{PR\ Index_t}{PR\ Index_{t-1} - D_t}$$

$$D_t = \frac{\sum_{i=1}^n rd_{i,t} \times N_{i,t} \times TF_{i,t} \times CA_{i,t} \times FX_{i,t-1}}{Divisor_t}$$

Where:

$TR\ Index_t$ The gross total return Index Value on Calculation Day t

$Divisor_t$ The divisor of the index on Calculation Day t

D_t The gross dividend index points

$rd_{i,t}$ The regular dividend per share of Index Member i in local currency on Calculation Day t

$N_{i,t}$ The Index Shares for Index Member i on Calculation Day t

$TF_{i,t}$ The Tilt Factor for Index Member i on Calculation Day t

note: Each member in the market cap weighted Base-Index will have a Tilt Factor of 1

$CA_{i,t}$ The Corporate Action Coefficient for Index Member i on Calculation Day t

¹ Tilt Factor (TF) is only applicable to Carve-out indices (e.g. Value, Growth) and Non-Market cap weighted indices (e.g. Dividend Yield, R-Factor Score Weighted, R-Factor Score Optimized). Tilt Factor "tilts" the weight of the security based on its factor score (Value score, Growth Score, R-Factor score etc.)

² CA is only applicable to Non-Market cap weighted indices (e.g. Dividend Yield, R-Factor Score Weighted, R-Factor Score Optimized). Adjustment Factor role is to maintain the security's weight exposure through corporate actions and other index changes.

note: Each member in the market cap weighted Base-Index will have an adjustment factor of 1

$FX_{i,t-1}$ The FX Fixing Rate with respect to Index Member i on Calculation Day $t - 1$
 n denotes the total number of Index Members

Note: In the above formula for D_t , $CA_{i,t}$ and $N_{i,t}$ are values of the Corporate Action Coefficient of stock i and the Number of Shares of stock i in the index, respectively, prior to the dividend payment. On days when there are multiple corporate actions, one of which is Dividend, the sequence number associated with the corporate action determines the values of $CA_{i,t}$ and $N_{i,t}$. For example if on the Ex-dividend day for a stock i , the company also acquires another company for stock and the order of events is Dividend followed by Acquisition, then the $CA_{i,t}$ and $N_{i,t}$ used for Index Dividend $_t$ will be the pre-acquisition values $CA_{i,t}$ and $N_{i,t}$. On the other hand, if the order of events is Acquisition followed by Dividend, then the values of $CA_{i,t}$ and $N_{i,t}$ used for Index Dividend $_t$ will be the post-acquisition values of $CA_{i,t}$ and $N_{i,t}$.

Pricing

The Index securities are priced by applying a waterfall based on availability. Cut-Off time for US Equity Prices is 16:35 ET, the final calculations will be done using the last available price at that time or using the waterfall logic if there is no price for current day. On Early market close days, the cutoff will be 35 minutes following the close of US Exchanges.

Price availability is subject to change due to unexpected market or security events. In the event of missing or delayed security prices, Bloomberg will determine the most appropriate price based on the circumstances and provide a notification to clients with the relevant information. All such determinations are made by the Bloomberg Product, Risk & Operations Committee (PROC) and the Bloomberg Benchmark Oversight Committee (BOC).

Price	Description	Bloomberg Mnemonic / Identifier
1) Official Closing	An exchange-calculated and published closing price. Depending on the methodology used by the exchange, the closing price may differ from the last traded price.	PX_OFFICIAL_CLOSE / "TICKER EQY_PRIM_SECURITY_PRIM_EXCH Equity" Ex: AAPL UW Equity
2) Composite Official Closing	The composite closing price based on the last eligible sale received from market participants prior to the closing.	PX_OFFICIAL_CLOSE / "TICKER EQY_PRIM_SECURITY_COMP_EXCH Equity" Ex: AAPL US Equity
3) Bloomberg Calculated Price	Bloomberg will calculate the end-of-day adjusted price as per the terms of the corporate action and previous business day's Index price.	

Precision

The Index is calculated using the following precision:

Field	Precision
Index Level	10 decimal places
Market Capitalization	unrounded
Index Divisor	6 decimal places (rounded up)
Prices	Exchange prices 4 decimal places for corporate action adjustments
Shares	3 decimal places

Dividends	6 decimal places
Adjustment Factors	6 decimal places

Historic Backfill

The securities in the historical backfill are priced by applying a waterfall based on availability, the result is the "Index Price":

Price	Description	Bloomberg Mnemonic
1) Official Closing	An exchange-calculated and published closing price. Depending on the methodology used by the exchange, the closing price may differ from the last traded price. Available starting January 4, 2016.	PX_OFFICIAL_CLOSE
2) Last	Last trade from the primary exchange.	PX_LAST
3) Composite Official Closing	The composite closing price based on the last eligible sale received from market participants prior to the closing. Available starting November 7, 2014.	PX_OFFICIAL_CLOSE
4) Composite Last	The composite last closing price based on the last eligible sale received from market participants prior to the closing. Not in waterfall starting January 4, 2016.	PX_LAST
5) Bloomberg Calculated Price	Bloomberg will calculate the end-of-day adjusted price as per the terms of the corporate action and previous business day's Index price.	

To account for availability of some price sources the below periodic waterfalls were used in the historic backfill:

Periodic Pricing Waterfall		
March 9, 2007 - November 6, 2014	November 7, 2014 - January 3, 2016	January 4, 2016 - Present
1) Last	1) Last	1) Official Closing
2) Composite Last	2) Composite Official Closing	2) Composite Official Closing
3) Bloomberg Calculated Price	3) Composite Last	3) Bloomberg Calculated Price
	4) Bloomberg Calculated Price	

The Index history was generated employing the Index methodology with the exception of the following qualifications:

Dates	Methodology Exception
Inception - 1/18/2019	The free-float shares used for calculation of the Index are referenced on the selection date and will not change, in the event of adjustments, until after the rebalance date. All Index calculations prior to 1/18/2019 used the potentially adjusted free-float share on settle date as of record on 1/18/2019.
Inception - 1/1/2014	Most eligibility screens are valid as of Reconstitution only. Intra-quarter validation was not implemented.
Inception - 9/16/2019	Prior to 9/17/2019 IPOs Fast Tracked to the Large Cap Index were allocated 50% to the US Large Cap Value Index and 50% to the US Large Cap Growth Index.

INDEX MAINTENANCE

An index must be rebalanced periodically and maintained on a daily basis for corporate actions to accurately reflect the aggregate performance of its members.

1.1. Quarterly Index Review

Index Shares and Industry Classifications are updated on a quarterly basis on the 2nd Wednesday of March, June, September and December, using data as of one day in the last week of January, April, July and October. Changes are announced with 10 full business day advance notification.

Updates in Index Shares are determined using publicly available information such as float shares outstanding and foreign investment limits.

Updates in Industry Classifications are determined using a mix of publicly available quantitative measures such as revenue, operating income and assets and qualitative measures such as market perception.

1.2. Semi-Annual Index Review

Index Membership is reviewed on a semi-annual basis on the 2nd Wednesday of March and September, using data as of one day in the last week of January and July. The changes are announced with 10 full business day advance notification.

The announcement and the implementation of the semi-annual Index Reviews coincide with the quarterly Index Review dates.

Each Rebalance follows the exchange calendar for NYSE trading days. Should a Rebalance fall on a NYSE exchange holiday, it will be postponed to the next business day.

	Semi-Annual Index Review			Quarterly Index Review			Semi-Annual Index Review			Quarterly Index Review		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Selection Date	Last Week			Last Week			Last Week			Last Week		
Announcement Date		Last Wed			Last Wed			Last Wed			Last Wed	
Effective Date			2 nd Wed			2 nd Wed			2 nd Wed			2 nd Wed

STAKEHOLDER ENGAGEMENT

BISL is in constant and ongoing engagement with its users through various channels, including via help desks, sales personnel and direct communication with product personnel. To help ensure that the Bloomberg US Index remains an accurate representation of US equities defined in the methodology, it endeavors to meaningfully incorporate these engagements into improvements in processes and service. Prior to any material change that might meaningfully impact users, Bloomberg consults more broadly with stakeholders, where appropriate, before a recommendation is presented to the PROC for approval. This concept of shared ownership enables BISL to produce the most relevant Indices and helps ensure responsiveness to user needs.

RISKS

The following is a summary of certain risks associated with the Bloomberg US Index but is not meant to be an exhaustive list of all risks associated with the Index. Although the Indices are designed to be representative of the markets they are measuring, they may not be representative of every use case. There is also inherent, though transparent, judgment in their construction, as outlined in this methodology. The Index is designed for general applicability and not to address the individual circumstances and needs of users. BISL does not advise about the usefulness of the Bloomberg US Equity Index to a particular circumstance; users are therefore encouraged to seek their own counsel for such matters. This methodology is subject to change, which may impact its usefulness to users. Although efforts will be made to alert users of any change, every individual user may not be aware of them. Such changes may also significantly impact the usefulness of the Bloomberg US Equity Index. BISL may also decide to cease publication of an

Index. BISL maintains internal policies regarding user transitions but no guarantee is given that an adequate alternative is available generally or for a particular use case. Markets for stocks, as with all markets, can be volatile. As the Bloomberg US Equity Index is designed to measure this market, its Indices could be materially impacted by market movements, thus significantly affecting the use or usefulness of the Index for some or all users. Also, certain equity markets are less liquid than others – even the most liquid markets may suffer periods of illiquidity. Illiquidity can have an impact on the quality or amount of data available to BISL for calculation and may cause the Bloomberg US Equity Index to produce unpredictable results.

LIMITATIONS OF THE INDEX

Although each Index is designed to be representative of the market it measures or otherwise align with its stated objective, it may not be representative in every case or achieve its stated objective in all instances. The Index is designed and calculated strictly to follow the rules of this methodology, and any Index level or other output is limited in its usefulness to such design and calculation.

Markets can be volatile, including those market interests that the Index measures or upon which the Index is dependent to achieve its stated objective. For example, illiquidity can have an impact on the quality or amount of data available to the administrator for calculation and may cause the Index to produce unpredictable or unanticipated results.

In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors.

In particular, the indices measure US equity markets. As with all equity investing, the indices are exposed to market risk. The value of equities fluctuate with the changes in economic forecasts, interest rate policies established by central banks and perceived geopolitical risk. The indices do not take into account the cost of replication and as a result a tracking portfolio's returns will underperform the Index with all else equal. As the indices are designed to measure those markets, they could be materially impacted by market movements, thus significantly impacting the use or usefulness of the fixings for some or all users.

In addition, certain Sub-Indices may be designed to measure smaller subsets of the indices (e.g. such as specific styles, size, and sector). Some of these Sub-Indices have very few qualifying constituents and may have none for a period of time. During such period, the Sub-Index will continue to be published at its last value, effectively reporting a 0% return, until new constituents qualify. If no constituents are expected to qualify (due to changes in market structure and other factors), the Sub-Index may be discontinued. In such an event, this discontinuation will be announced to Index users.

BENCHMARK OVERSIGHT AND GOVERNANCE

Benchmark Governance, Audit and Review Structure

BISL uses two primary committees to provide overall governance and effective oversight of its benchmark administration activities:

- The Product, Risk & Operations Committee ("PROC") provides direct governance and is responsible for the first line of controls over the creation, design, production and dissemination of benchmark Indices, strategy Indices and fixings administered by BISL, including the Index. The PROC is composed of Bloomberg personnel with significant experience or relevant expertise in relation to financial benchmarks. Meetings are attended by Bloomberg Legal & Compliance personnel. Nominations and removals are subject to review by the BOC, discussed below.
- The oversight function is provided by Bloomberg's Benchmark Oversight Committee ("BOC"). The BOC is independent of the PROC and is responsible for reviewing and challenging the activities carried out by the PROC. In carrying out its oversight duties, the BOC receives reports of management information both from the PROC as well as Bloomberg Legal & Compliance members engaged in second level controls.

The PROC reports quarterly to the BOC on governance matters, including but not limited to client complaints, the launch of new benchmarks, operational incidents (including errors & restatements), major announcements and material changes concerning the benchmarks, the results of any reviews of the benchmarks (internal or external) and material stakeholder engagements.

Internal and External Reviews

BISL's Index administration is also subject to Bloomberg's Compliance function, which periodically reviews various aspects of its businesses to determine whether it is adhering to applicable policies and procedures, and to assess whether applicable controls

are functioning properly. In addition, Bloomberg may from time to time appoint an independent external auditor with appropriate experience and capability to review adherence to benchmark regulation. The frequency of such external reviews will depend on the size and complexity of the operations and the breadth and depth of Index use by stakeholders.

INDEX AND DATA REVIEWS

The Index Administrator will periodically review the Indices (both the rules of construction and data inputs) periodically, not less frequently than annually, to determine whether they continue to reasonably measure the intended underlying market interest, the economic reality or otherwise align with their stated objective. More frequent reviews may be done in response to extreme market events and/or material changes to the applicable underlying market interests.

Criteria for data inputs include reliable delivery and active underlying markets. Whether an applicable market is active depends on whether there are sufficient numbers of transactions (or other indications of price, such as indicative quotes) in the applicable constituents (or similar underlying constituent elements) that a price (or other value, as applicable) may be supplied for such constituent(s). [Where the constituents of the Indices are themselves other Index levels or values, as in this Methodology, whether or not the underlying market is active is determined solely by reference to whether an official level or value is published in accordance with such underlying Index's methodology.]

Other than as set forth in this Methodology, there are no minimum liquidity requirement for Index constituents and/or minimum requirements or standards for the quantity or quality of the input data.

The review will be conducted by product managers of the Indices in connection with the periodic rebalancing of the Indices or as otherwise appropriate.

Any resulting change to the Methodology deemed to be material (discussed below) will be subject to the review of the PROC under the oversight of the BOC; each of which committee shall be provided all relevant information and materials it requests relating to the change. Details regarding the PROC and BOC are described above. Material changes will be reflected and tracked in updated versions of this Methodology.

BISL's Index administration is also subject to Bloomberg's Compliance function, which periodically reviews various aspects of its businesses to determine whether it is adhering to applicable policies and procedures and assess whether applicable controls are functioning properly.

Material changes related to the Indices will be made available in advance to affected stakeholders whose input will be solicited. The stakeholder engagement will set forth the rationale for any proposed changes as well as the timeframe and process for responses. The Index Administrator will endeavor to provide at least two weeks for review prior to any material change going into effect. In the event of exigent market circumstances, this period may be shorter. Subject to requests for confidentiality, stakeholder feedback and the Index Administrator's responses will be made accessible upon request.

In determining whether a change to an Index is material, the following factors shall be taken into account:

- The economic and financial impact of the change;
- Whether the change affects the original purpose of the Index; and/or
- Whether the change is consistent with the overall objective of the Index and the underlying market interest it seeks to measure.

EXPERT JUDGMENT

The Indices are rules-based, and their construction is designed to consistently produce values without the exercise of expert judgment or discretion. Nevertheless, BISL may use expert judgment or discretion with regards to the following:

Index restatements
Extraordinary circumstances during a market emergency
Data interruptions, issues, and closures

When expert judgment or discretion is required, BISL undertakes to be consistent in its application, with recourse to written procedures outlined in the methodology of the Indices and internal procedures manuals. In certain circumstances exercises of expert judgment or discretion are reviewed by senior members of BISL management and Bloomberg Compliance teams, and are reported to the Product, Risk & Operations Committee (PROC), BISL's governance committee, which operates under the supervision of BISL's oversight function, the Benchmark Oversight Committee (BOC). BISL also maintains and enforces a code of ethics to prevent conflicts of interest from inappropriately influencing index construction, production, and distribution, including the use of expert judgment or discretion.

DATA PROVIDERS AND DATA EXTRAPOLATION

The Indices are rules-based, and their construction is designed to consistently produce Index Levels without the exercise of discretion. The Indices are produced without the interpolation or extrapolation of input data.

In addition, the Index Administrator seeks to avoid contributions of input data that may be subject to the discretion of the source of such data and instead seeks to use input data that is readily available and/or distributed for a number of non-index or benchmark creation purposes. Accordingly, the Indices require no 'contributors' to produce and no codes of conduct with any such sources are required.

CONFLICTS OF INTEREST

The Index confers on BISL discretion in making certain determinations, calculations and corrections from time to time. In making those determinations, calculations and corrections, the Index Administrator has no obligation to take the needs of any Product Investor or any other party into consideration. BISL is committed to avoiding and, where necessary, managing actual or potential conflicts of interest in the BISL decision-making process and has established a Conflicts of Interest Policy to minimize or resolve actual or potential conflicts of interest. BISL does not create, trade or market products.

RESTATEMENT POLICY

BISL strives to provide accurate calculation of its indices. However, to the extent a material error in Index values is uncovered following publication and dissemination, a public notification will be made alerting of such error and the expected date of a revised publication, if warranted.

BISL will review all indices for restatement if the discrepancy is in excess of 3 bps. Subsequent course of action is dictated by whether the Index is Primary or Non-Primary and when the discrepancy occurred (see list of Primary Indices below).

A Primary Index will be restated as long as the discrepancy occurred in the last 2 business days. A discrepancy occurring earlier than the last 2 business days will be reviewed on a case-by-case basis. A discrepancy of less than 3 bps of total return will not be subject to review. A decision to restate any Index results in the restatement of all Indices.

Real-time indices are not considered for restatement, all real-time dissemination is considered indicative.

Primary Indices

- Bloomberg US Aggregate Equity Index (AGGE)
- Bloomberg US Large Cap Index (B500)

If the error affects a Non-Primary Index the following factors will be reviewed to determine whether to restate. Not all conditions need to be present to warrant a restatement, and certain factors may be more determinative than others depending on the circumstances of the error.

- The relative importance of the data field impacted by the error
- When the error occurred and when it was discovered
- The number of indices and sub-indices affected
- Whether the impacted indices are linked to tradable products
- The magnitude of the error
- The burden of restatement on client re-processing relative to the impact of the error
- The impact of the restatement on analytical tools

BISL will plausibly follow, but will not commit to, actions in accordance to the following guidelines.

Non-Primary Index Restatement Guidelines

Event	Action (If discovered within 2 business days)
Corporate Action	
Spin-off	

Regular Cash Dividend	Restate indices and reissue files.
Special Cash Dividend	
Stock Split	
Stock Dividend, Bonus	
Mergers & Acquisition	Update made the next business day; no restatement and no reissuance of files.
Delisting	
Reclassification	
Change in Listing	
IPO incorrectly added	Update made at next rebalance.
Rebalance	
Incorrect Add	Unless the error is discovered during pro-forma period, update will be made at next rebalance.
Incorrect Removal	
Share changes	
Pricing	
Revision	Restate indices and reissue file.

APPENDIX

Value and Growth Calculation Details

Calculation	Details
ZScore	$(\text{value} - \text{mean}) / \text{std}(\text{ddof}=0)$
Growth - Linear interpolation (applies to revenue and EPS)	<p>Steps:</p> <ul style="list-style-type: none"> Define x for months: [0],[12],[24],[36],[48] Define y for corresponding annual values (revenue and EPS). All 5 values must be present. Note: Where all 5 values are 0, they are treated as not present. Perform Linear regression of y on x. Take slope and divide it by average of (absolute values of each y) to calculate unit-less growth <p>Reference: https://scikit-learn.org/stable/modules/generated/sklearn.linear_model.LinearRegression.html</p> <p>No defaults overridden</p>
Winsorize and ZScore for Value factor	All descriptors are first filled for blank values with median of the universe, then winsorized before computation of z-score. However, filling and winsorization not needed
Winsorize	<p>Returns a Winsorized version of the input array. The lowest values are set to 0.5 percentile, and the highest values are set to 99.5 percentile.</p> <p>Example 1: for B500, treat 0.5% of the names (use floor of 2, when 0.5% is fractional 2.5) as outlier. So take 3rd highest value and use it to replace 1st and 2nd value. Similarly, So take 498th lowest value and use it to replace last 2 values.</p> <p>Example 2: for B1000, treat 0.5% of the names (=5) as outlier. So, take 6th highest value and use it to replace top five values. Similarly, so take 995th lowest value and use it to replace last 5 values.</p> <p>Reference: https://docs.scipy.org/doc/scipy-0.13.0/reference/generated/scipy.stats.mstats.winsorize.html</p> <p>No defaults overridden.</p>
Forward Earnings to Price	Uses previous day's price which tilt uses today's price

Bloomberg Industry Classification System (BICS)

Methodology

Bloomberg classifies companies by tracking their primary business activities as measured by their primary source of revenue; it then groups them together according to market based industries. Members of groupings should exhibit similar behavior in market cycles and should be correlated. Each company is reviewed at least once a year and following significant changes such as an M&A.

Data Driven

Bloomberg's experienced analyst teams utilize the full power of the Bloomberg terminal to classify companies based on various qualitative and quantitative measures. The lead quantitative measure for determining primary business activity is revenue. Secondary quantitative considerations include operating income and assets. Qualitative measures such as market perceptions are also considered if a strong consensus exists within the market or when quantitative measures are insufficient to determine the company's primary classification.

Hierarchy structure and features

Bloomberg classifies every company to Level 4, Sub Industry and, where appropriate, classifies companies at more granular levels such as Segment Levels (Levels 5-7). This allows BICS to capture all levels of specialization within an industry and provides flexibility for users.

Structure (applicable to equities)

- Level 1 – 11 Sectors
- Level 2 – 20 Industry Groups
- Level 3 – 59 Industries
- Level 4 – 214 Sub-Industries
- Level 5 – 693 Segments
- Level 6 – 576 Segments
- Level 7 – 174 Segments

Level 1 Sectors

Communications	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care
Industrials	Materials	Real Estate	Technology	Utilities	

The complete BICS Hierarchy and more information on BICS can be found by searching "BICS" using the DOCS function.

GLOSSARY OF TERMS

Term	Definition
Acquirer	A merger or an acquisition (M&A) is when one party (or multiple parties known as the Acquirer) acquires ownership in an existing company (referred to as Target).
Base-Index	The underlying benchmark Index from which another index is derived. The Base-Index is typically a market cap weighted index. For example, the Bloomberg SASB Large Cap Index is based on the Bloomberg US Large Cap Index (B500). The derived index is termed Sub-Index as defined below.
Child	In a Spin-off, the Parent company creates an independent company typically a subsidiary referred to as the Child.
Corporate Action Coefficient (CA)	The calculation of adjusted shares for the Sub-Index post the corporate action event. Adjustment factor applied to a security's closing market price to neutralize an anticipated price movement related to a specific corporate action effective at the open of the next business day.
Fast Track	The Index methodology that allows of an initial public offering to be added to an Index in advance of the next Rebalancing Date.
Index Shares	Shares of an Index Member within an Index. The number of Index Shares are updated at each quarterly Rebalance and adjusted intra-quarter for corporate actions.
Parent	In a Spin-off, the Parent company creates an independent company typically a subsidiary referred to as the Child.
Rebalance	The selection and weighting of securities in an index based upon its methodology. The process of applying a selection and re-weighting of securities to an Index
Rebalance Date	The date upon which a Rebalance is made effective. For the avoidance of doubt the Rebalance becomes effective on the close of the Rebalance Date.
Reconstitution	The process of determining the Index Members for an Index.
Sub-Index	An index that "carved-out" from the Base-Index. Sub-Indices in each segment should add up to the Parent Base-Index. Examples of segments are Size (Large, Mid, Small), Style (Value, Growth) and Sector (Industrial, Technology, Utilities etc.).
Tilt Factor	Tilt Factor (TF) is only applicable to carve out Indices (e.g. Value, Growth). A Tilt Factor "tilts" the weight of the security based on its factor score (e.g., Value Score, Growth Score). Factor applied to a security's float adjusted market capitalization to reflect its exposure to a specific investment objective.

METHODOLOGY CHANGES

Date	Update
Sept 2019	Methodology creation
Nov 2019	Methodology updated for addition of B1000, B2000, B2500, B3000 & BMIC
Jan 2020	Methodology updated for addition of B1000V, B1000G, B2000V, B2000G, B2500V, B2500G, B3000V & B3000G
April 2020	Added language regarding security type eligibility
Nov 2020	Amendment to the Total Return Index calculation formula
Feb 2021	Added Mid Cap and US 200 indices
June 2021	Change in the rebalancing schedule
July 2021	Change in calculation calendar from NYSE to weekday
October 2021	Addition of the US Domestic Sector Indices
	Amendment to the Newly listings and IPO section

ACCESSING INDEX DATA

Bloomberg Terminal®	<p>Bloomberg indices are the benchmarks of choice for capital markets investors.</p> <ul style="list-style-type: none">• IN <GO> - The Bloomberg Index Browser displays the latest performance results and statistics for the indices as well as history. IN presents the indices that make up Bloomberg's global, multi-asset class Index families into a hierarchical view, facilitating navigation and comparisons. The "My Indices" tab allows a user to focus on a set of favorite indices.• PORT <GO> - Bloomberg's Portfolio & Risk Analytics solution includes tools to analyze the risk, return, and current structure of indices. PORT includes tools to analyze performance of a portfolio versus a benchmark as well as models for performance attribution, tracking error analysis, value-at-risk, scenario analysis, and optimization.• DES <GO> - The Index description page provides transparency into the current and projected Index universe including membership information, aggregated characteristics and returns, and historical data.
Bloomberg Indices Website bloomberg.com/bloombergindices	<p>The index website makes available limited Index information including:</p> <ul style="list-style-type: none">• Index methodology and factsheets• Current performance numbers for select indices
Index Licensing	<p>Bloomberg requires an index data license for services and products linked to the indices. Examples include:</p> <ul style="list-style-type: none">• Exchange-traded index products• OTC products• Index or constituent-level redistribution• Custom index solutions

Take the next step.

For additional information, press the <HELP> key twice on the Bloomberg Terminal™.

bloomberg.com/professional/product/indices/

New York

+1-212-318-2000

London

+44-20-7330-7500

Singapore

+65-6212-1000

Hong Kong

+852-2977-6000

Tokyo

+81-3-3201-8900

Sydney

+61-2-9777-8600

indexhelp@bloomberg.net

Disclaimer

BLOOMBERG, BLOOMBERG INDICES and Bloomberg US Equity Indices (the "Indices") are trademarks or service marks of Bloomberg Finance L.P. Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited, the administrator of the Indices (collectively, "Bloomberg") or Bloomberg's licensors own all proprietary rights in the Indices. Bloomberg does not guarantee the timeliness, accuracy or completeness of any data or information relating to the Indices. Bloomberg makes no warranty, express or implied, as to the Indices or any data or values relating thereto or results to be obtained therefrom, and expressly disclaims all warranties of merchantability and fitness for a particular purpose with respect thereto. It is not possible to invest directly in an Index. Back-tested performance is not actual performance. Past performance is not an indication of future results. To the maximum extent allowed by law, Bloomberg, its licensors, and its and their respective employees, contractors, agents, suppliers and vendors shall have no liability or responsibility whatsoever for any injury or damages - whether direct, indirect, consequential, incidental, punitive or otherwise - arising in connection with the Indices or any data or values relating thereto - whether arising from their negligence or otherwise. This document constitutes the provision of factual information, rather than financial product advice. Nothing in the Indices shall constitute or be construed as an offering of financial instruments or as investment advice or investment recommendations (i.e., recommendations as to whether or not to "buy", "sell", "hold", or to enter or not to enter into any other transaction involving any specific interest or interests) by Bloomberg or a recommendation as to an investment or other strategy by Bloomberg. Data and other information available via the Indices should not be considered as information sufficient upon which to base an investment decision. All information provided by the Indices is impersonal and not tailored to the needs of any person, entity or group of persons. Bloomberg does not express an opinion on the future or expected value of any security or other interest and do not explicitly or implicitly recommend or suggest an investment strategy of any kind. Customers should consider obtaining independent advice before making any financial decisions. © 2021 Bloomberg. All rights reserved. This document and its contents may not be forwarded or redistributed without the prior consent of Bloomberg.

The BLOOMBERG TERMINAL service and Bloomberg data products (the "Services") are owned and distributed by Bloomberg Finance L.P. ("BFLP") except (i) in Argentina, Australia and certain jurisdictions in the Pacific islands, Bermuda, China, India, Japan, Korea and New Zealand, where Bloomberg L.P. and its subsidiaries distribute these products, and (ii) in Singapore and the jurisdictions serviced by Bloomberg's Singapore office, where a subsidiary of BFLP distributes these products.