

S&P Dow Jones Indices

A Division of **S&P Global**

S&P High Beta Indices *Methodology*

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Introduction

Index Objective and Highlights

The S&P High Beta Indices measure the performance of stocks that are the most sensitive to market returns. Sensitivity is measured by the beta of an individual stock. The beta used in the calculation is the slope of the regression line of the security's trailing past-year price returns versus the daily price returns of an S&P benchmark index over the same period, both measured in U.S. dollars. Constituents are assigned index weights proportional to their betas or the squares of their betas.

Index Family

The S&P High Beta Indices include:

- **S&P 500 High Beta Index.** The index measures the performance of the 100 constituents in the S&P 500 that are most sensitive to changes in market returns. For this index, the market is represented by the performance of the S&P 500.
- **S&P 500 High Beta Index (CAD Hedged).** The index measures the performance of a strategy that is long the S&P 500 High Beta Index hedged against fluctuations of the U.S. dollar (US\$) versus the Canadian dollar (C\$).
- **S&P 500 Enhanced Beta 50 Index.** The index measures the performance of the 50 constituents in the S&P 500 that are most sensitive to changes in market returns. The index weights are proportional to the squares of corresponding betas. The index rebalances monthly and employs a single constituent weight cap of 10%. For this index, the market is represented by the performance of the S&P 500.
- **S&P MidCap 400 High Beta Index.** The index measures the performance of the 80 constituents in the S&P MidCap 400 that are most sensitive to changes in market returns. For this index, the market is represented by the performance of the S&P MidCap 400.
- **S&P SmallCap 600 High Beta Index.** The index measures the performance of the 120 constituents in the S&P SmallCap 600 that are most sensitive to changes in market returns. For this index, the market is represented by the performance of the S&P SmallCap 600.
- **S&P SmallCap 600 High Beta 100 Index.** The index measures the performance of the 100 constituents in the S&P SmallCap 600 that are most sensitive to changes in market returns. The index rebalances monthly and employs a single constituent weight cap of 5%. For this index, the market is represented by the performance of the S&P SmallCap 600.
- **S&P BMI International Developed High Beta Index.** The index measures the performance of the 200 constituents in the S&P Developed Ex. U.S & Korea LargeMidCap Index that are most sensitive to changes in market returns. For this index, the market is represented by the performance of the S&P Developed Ex. U.S & Korea LargeMidCap Index.
- **S&P BMI Emerging Markets High Beta Index.** The index measures the performance of the 200 constituents in the S&P Emerging Plus LargeMidCap Index that are most sensitive to changes in market returns. For this index, the market is represented by the performance of the S&P Emerging Plus LargeMidCap Index.
- **S&P Europe 350 Enhanced Beta 50 Index.** The index measures the performance of the 50 constituents in the S&P Europe 350 that are most sensitive to changes in market returns. The index weights are proportional to the squares of corresponding betas. The index rebalances monthly and employs a single constituent weight cap of 10%. For this index, the market is represented by the performance of the S&P Europe 350.

Supporting Documents

This methodology is meant to be read in conjunction with supporting documents providing greater detail with respect to the policies, procedures and calculations described herein. References throughout the methodology direct the reader to the relevant supporting document for further information on a specific topic. The list of the main supplemental documents for this methodology and the hyperlinks to those documents is as follows:

Supporting Document	URL
S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology	Equity Indices Policies & Practices
S&P Dow Jones Indices' Index Mathematics Methodology	Index Mathematics Methodology
S&P Dow Jones Indices' Float Adjustment Methodology	Float Adjustment Methodology

This methodology was created by S&P Dow Jones Indices to achieve the aforementioned objective of measuring the underlying interest of each index governed by this methodology document. Any changes to or deviations from this methodology are made in the sole judgment and discretion of S&P Dow Jones Indices so that the index continues to achieve its objective.

Eligibility Criteria

Index Eligibility

For information on stock eligibility criteria and index management rules of the S&P 500, S&P MidCap 400, S&P SmallCap 600, S&P Developed Ex. US & South Korea LargeMidCap, S&P Emerging Plus LargeMidCap, and S&P Europe 350 indices, please refer to the *S&P U.S. Indices, S&P Europe 350 Index Family, and S&P Global BMI, S&P/IFCI Index Methodologies* at www.spglobal/spdji.com.

Liquidity. As of the rebalancing reference date, stocks must have a minimum three-month average daily value traded (ADVT) for the following indices:

- S&P BMI International Developed High Beta Index US\$ 3 million
- S&P BMI Emerging High Beta Index US\$ 3 million

For current index constituents, the minimum three-month ADVT is US\$ 2.5 million.

Trading History. As of the rebalancing reference date, stocks must have been issued and trading for at least one calendar year. Generally, a stock must have traded on all trading days (252 days for U.S. based indices and 12 months for non-U.S. indices) prior to the rebalancing reference date. However, the Index Committee may exercise discretion in situations where a stock was subject to a temporary trading halt during that period.

Securities Domiciled in Russia and India

Locally listed shares of companies domiciled in either Russia or India are ineligible for inclusion in the S&P BMI Emerging Markets High Beta Index. However, their developed market listings, which include ADRs (levels II and III only) and GDRs, are eligible for inclusion. If the Russian and Indian companies do not have any developed-market listings, then they are excluded from the S&P BMI Emerging Markets High Beta Index eligible universe. The developed-market listings are first screened to ensure that they meet the S&P BMI Emerging Markets High Beta Index liquidity criteria before being considered eligible for the High Beta universe.

Mainland Chinese-Traded Stocks

All mainland Chinese-traded stocks in the S&P Emerging Plus LargeMidCap Index are ineligible for inclusion in the S&P BMI Emerging Markets High Beta Index. However, any Hong Kong listed shares in the S&P Emerging Plus LargeMidCap Index are eligible for inclusion.

For more information on the Investable Weight Factor (IWF), please refer to S&P Dow Jones Indices' Float Adjustment Methodology.

Multiple Share Classes and Dual Listed Companies

Each company is represented once by the Designated Listing. For more information regarding the treatment of multiple share classes, please refer to Approach B within the Multiple Share Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Index Construction

Constituent Selection

The selection of index constituents is done as follows:

Constituent's betas are calculated using trailing daily price changes over the prior 252 days for U.S. based indices and 12 months for non-U.S. indices. Constituents are then ranked in descending order by beta.

Index	Index Universe	Target Count
S&P 500 High Beta Index	S&P 500	100
S&P 500 Enhanced Beta 50 Index	S&P 500	50
S&P MidCap 400 High Beta Index	S&P MidCap 400	80
S&P SmallCap 600 High Beta Index	S&P SmallCap 600	120
S&P BMI International Developed High Beta Index	S&P Developed Ex. US & South Korea LargeMidCap	200
S&P BMI Emerging Markets High Beta Index	S&P Emerging Plus LargeMidCap	200
S&P Europe 350 Enhanced Beta 50 Index	S&P Europe 350 Index	50
S&P SmallCap 600 High Beta 100 Index	S&P SmallCap 600	100

Constituent Weightings

High Beta Indices. At each rebalancing, the weight, w_i , for each index constituent i is set proportional to its beta:

$$w_i = \frac{Beta_i}{\sum_{j=1}^N Beta_j}$$

where:

- S&P 500 High Beta Index: N = 100
- S&P MidCap 400 High Beta Index: N = 80
- S&P SmallCap 600 High Beta Index: N = 120
- S&P SmallCap 600 High Beta 100 Index: N=100, subject to a single constituent weight cap of 5%¹
- S&P BMI International Developed High Beta Index: N = 200
- S&P BMI Emerging Markets High Beta Index: N = 200

High Beta Squared Indices. At each rebalancing, the weight, w_i , for each index constituent i is set proportional to the square of its beta:

$$w_i = \frac{Beta_i^2}{\sum_{j=1}^N Beta_j^2}$$

where:

- S&P 500 Enhanced Beta 50 Index: N = 50, subject to a single constituent weight cap of 10%²
- S&P Europe 350 Enhanced Beta 50 Index: N=50, subject to a weight cap of 10%²

¹ Any excess weight is redistributed proportionally to remaining constituents. This process is repeated iteratively until no weight breaches the 5% limit.

² Any excess weight is redistributed proportionally to remaining constituents. This process is repeated iteratively until no weight breaches the 10% limit.

Index Calculations

The indices are calculated by means of the divisor methodology used in all S&P Dow Jones Indices' equity indices.

For more information on index calculations, please refer to the Non-Market Capitalization Weighted Indices section of S&P Dow Jones Indices' Index Mathematics Methodology.

Index Maintenance

Rebalancing

Index	Effective Date (after the close of)	Reference Date (after the close of)	Index Weights and Constituent Index Shares
S&P 500 High Beta Index	Third Friday of February, May, August, and November	Last trading day of January, April, July, and October	Index weights are assigned based on betas as of the rebalancing reference date. Constituents' index shares are calculated using the closing prices on the Wednesday prior to the second Friday of the rebalancing month as the reference price.
S&P MidCap 400 High Beta Index			
S&P SmallCap 600 High Beta Index			
S&P BMI International Developed High Beta Index	Third Friday of March, June, September and December	Last trading day of February, May, August, and November	
S&P BMI Emerging Markets High Beta Index			
S&P 500 Enhanced Beta 50 Index	Last business day of each month	Seven business days prior to the rebalancing effective date	Index weights are assigned based on betas as of the rebalancing reference date. Constituents' index shares are calculated using the closing prices four business days prior to the rebalance effective date.
S&P SmallCap 600 High Beta 100 Index			
S&P Europe 350 Enhanced Beta 50 Index			

Index shares are calculated and assigned to each stock to arrive at the weights determined on the reference date. Since index shares are assigned in advance, the actual weight of each stock at the rebalancing differs from these weights due to market movements.

Corporate Actions

Corporate Action	Adjustment Made to the Index	Divisor Adjustment?
Spin-off	The spun-off company is added, at a zero price, at the market close of the day before the ex-date (with no divisor adjustment). The spun-off company is then removed after at least one day of regular way trading (with a divisor adjustment).	
Rights Offering	The price is adjusted to the Price of the Parent Company minus (the Price of the Rights Offering/Rights Ratio). Index shares change so that the company's weight remains the same as its weight before the rights offering.	No
Stock Split	Index shares are multiplied by and the price is divided by the split factor.	No
Share Issuance or Share Repurchase	None. Actual shares outstanding of the company play no role in the daily index calculation.	No
Special Dividends	The price of the stock making the special dividend payment is reduced by the per share special dividend amount after the close of trading on the day before the dividend date.	Yes
Delisting, acquisition or any other corporate action resulting in the deletion of the stock from the underlying index.	The stock is dropped from the index. This will cause the weights of the rest of the stocks in the index to change proportionately. Additions are made to the index only at the time of the quarterly rebalancing.	Yes
Constituent Change	Except for spin-offs, there are no intra-rebalancing additions.	-
	Deletions due to delistings, acquisition or any other corporate event resulting in the deletion of the stock from the index causes the weights of the rest of the stocks in the index to change. Relative weights stay the same. Constituents removed from their respective benchmark index are also removed from their High Beta Index simultaneously.	Yes

For more information on Corporate Actions, including Spin-Offs, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Other Adjustments

In cases where there is no achievable market price for a stock being deleted, it can be removed at a zero or minimal price at the Index Committee's discretion, in recognition of the constraints faced by investors in trading bankrupt or suspended stocks.

Currency of Calculation and Additional Index Return Series

The indices are calculated in U.S. dollars, Canadian dollars, and euros.

Real-time spot Forex rates, as supplied by Refinitiv, are used for ongoing index calculation of real-time indices.

WM/Refinitiv foreign exchange rates are taken daily at 4:00 PM London time and used in the calculation of the indices. These mid-market fixings are calculated by the WM Company based on Refinitiv data and appear on Refinitiv pages WMRA.

In addition to the indices detailed in this methodology, additional return series versions of the indices may be available, including, but not limited to: currency, currency hedged, decrement, fair value, inverse, leveraged, and risk control versions. For a list of available indices, please refer to the [S&P DJI Methodology & Regulatory Status Database](#).

For information on various index calculations, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.

For the inputs necessary to calculate certain types of indices, including decrement, dynamic hedged, fair value, and risk control indices, please refer to the Parameters documents available at www.spglobal/spdji.com.

Base Dates and History Availability

Index history availability, base dates, and base values are shown in the table below.

Index	Launch Date	First Value Date	Base Date ³	Base Value
S&P 500 High Beta Index	04/04/2011	11/16/1990	11/16/1990	1000
S&P 500 High Beta Index (CAD Hedged)	04/02/2012	11/29/2002	11/29/2002	1000
S&P 500 Enhanced Beta 50 Index	12/03/2021	01/31/2007	01/31/2007	1000
S&P MidCap 400 High Beta Index	01/30/2016	08/16/1991	08/16/1991	1000
S&P SmallCap 600 High Beta Index	01/30/2016	02/17/1995	02/17/1995	1000
S&P SmallCap 600 High Beta 100 Index	12/20/2021	01/31/2007	01/31/2007	1000
S&P BMI International Developed High Beta Index	02/06/2012	9/19/1997	9/19/1997	1000
S&P BMI Emerging Markets High Beta Index	02/23/2012	9/19/1997	9/19/1997	1000
S&P Europe 350 Enhanced Beta 50 Index	12/03/2021	01/31/2007	01/31/2007	1000

³ Net total return versions of the S&P MidCap 400 High Beta Index and S&P SmallCap 600 High Beta Index have base dates of 12/31/1997. Net total return versions of the S&P BMI International Developed High Beta Index and S&P BMI Emerging Markets High Beta Index have base dates of 12/29/2000.

Index Data

Calculation Return Types

S&P Dow Jones Indices calculates multiple return types which vary based on the treatment of regular cash dividends. The classification of regular cash dividends is determined by S&P Dow Jones Indices.

- Price Return (PR) versions are calculated without adjustments for regular cash dividends.
- Gross Total Return (TR) versions reinvest regular cash dividends at the close on the ex-date without consideration for withholding taxes.
- Net Total Return (NTR) versions, if available, reinvest regular cash dividends at the close on the ex-date after the deduction of applicable withholding taxes.

In the event there are no regular cash dividends on the ex-date, the daily performance of all three indices will be identical.

For a complete list of indices available, please refer to the daily index levels file (".SDL").

For more information on the classification of regular versus special cash dividends as well as the tax rates used in the calculation of net return, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

For more information on the calculation of return types, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.

Index Governance

Index Committee

An S&P Dow Jones Indices Index Committee maintains the indices. The Committee meets regularly. At each meeting, the Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, companies that are being considered as candidates for addition to an index, and any significant market events. In addition, the Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

S&P Dow Jones Indices considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Committee discussions are confidential.

S&P Dow Jones Indices' Index Committees reserve the right to make exceptions when applying the methodology if the need arises. In any scenario where the treatment differs from the general rules stated in this document or supplemental documents, clients will receive sufficient notice, whenever possible.

In addition to the daily governance of indices and maintenance of index methodologies, at least once within any 12-month period, the Index Committee reviews the methodology to ensure the indices continue to achieve the stated objectives, and that the data and methodology remain effective. In certain instances, S&P Dow Jones Indices may publish a consultation inviting comments from external parties.

For information on Quality Assurance and Internal Reviews of Methodology, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Index Policy

Announcements

All index constituents are evaluated daily for data needed to calculate index levels and returns. All events affecting the daily index calculation are typically announced in advance via the Index Corporate Events report (.SDE), delivered daily to all clients. Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

For more information, please refer to the Announcements section of S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Pro-forma Files

In addition to the corporate events file (.SDE), S&P Dow Jones Indices provides constituent pro-forma files each time the indices rebalance. The pro-forma file is typically provided daily in advance of the rebalancing date and contains all constituents and their corresponding weights and index shares effective for the upcoming rebalancing.

Please visit www.spglobal/spdji.com for a complete schedule of rebalancing timelines and pro-forma delivery times.

Holiday Schedule

The indices are calculated daily, throughout the calendar year. The only days an index is not calculated are on days when all exchanges where an index's constituents are listed are officially closed.

A complete holiday schedule for the year is available at www.spglobal/spdji.com.

Rebalancing

The Index Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

Unexpected Exchange Closures

For information on Unexpected Exchange Closures, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Recalculation Policy

For information on the recalculation policy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Real-Time Calculation

Real-time, intra-day, index calculations are executed for certain indices whenever any of their primary exchanges are open. Real-time indices are not restated.

For information on Calculations and Pricing Disruptions, Expert Judgment and Data Hierarchy, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices Methodology.

Contact Information

For questions regarding an index, please contact: index_services@spglobal.com.

Index Dissemination

Index levels are available through S&P Dow Jones Indices' Web site at www.spglobal/spdji.com, major quote vendors (see codes below), numerous investment-oriented Web sites, and various print and electronic media.

Tickers

The table below lists headline indices covered by this document. All versions of the below indices that may exist are also covered by this document. Please refer to the [S&P DJI Methodology & Regulatory Status Database](#) for a complete list of indices covered by this document.

Index	Return Type	Bloomberg	Refinitiv
S&P 500 High Beta Index	Price Return Total Return	SP5HBI SP5HBIT	.SP5HBI .SP5HBIT
S&P 500 High Beta Index (CAD Hedged)	Price Return Total Return Net Total Return	SPXHBCH SPXHBCHT SPXHBCHN	.SPXHBCH .SPXHBCHT .SPXHBCHN
S&P 500 Enhanced Beta 50 Index	Price Return Total Return	SP5EB5UP SP5EB5UT	.SP5EB5UP .SP5EB5UT
S&P MidCap 400 High Beta Index	Price Return Total Return Net Total Return	SP4HBI SP4HBIT SP4HBIN	-- -- --
S&P SmallCap 600 High Beta Index	Price Return Total Return Net Total Return	SP6HBI SP6HBIT SP6HBIN	-- -- --
S&P BMI International Developed High Beta Index	Price Return Total Return Net Total Return	SPIDHBI SPIDHBIT SPIDHBIN	.SPIDHBI .SPIDHBIT .SPIDHBIN
S&P BMI Emerging Markets High Beta Index	Price Return Total Return Net Total Return	SPEMHBI SPEMHBIT SPEMHBIN	.SPEMHBI .SPEMHBIT .SPEMHBIN
S&P Europe 350 Enhanced Beta 50 Index	Price Return Total Return	SPE3E5EP SPE3E5ET	.SPE3E5EP .SPE3E5ET
S&P SmallCap 600 High Beta 100 Index	Price Return Total return		

Index Data

Daily index level data is available via subscription.

For product information, please contact S&P Dow Jones Indices, www.spglobal/spdji.com/contact-us.

Web site

For further information, please refer to S&P Dow Jones Indices' Web site at www.spglobal/spdji.com.

Appendix I

Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Rebalancing – Calculation of Index Shares	04/29/2020	<p>Constituents' shares for the S&P 500 High Beta Index, S&P MidCap 400 High Beta Index, and S&P SmallCap 600 High Beta Index are calculated using the closing prices on the second Friday of the rebalancing month as the reference price.</p> <p>Constituents' shares for all other High Beta Indices are calculated using the closing prices on the Wednesday prior to the second Friday of the rebalancing month as the reference price.</p>	Constituents' index shares are calculated using the closing prices on the Wednesday prior to the second Friday of the rebalancing month as the reference price.
Dual Listed Companies	06/19/2017	--	Some companies may have more than one listing in the respective benchmark index. In the S&P High Beta Indices, each company is represented once by the primary listing, which is generally the most liquid listing.
Treatment of Spin-offs	09/30/2015	<p>Spin offs are generally not added to the indices and there is no weight change to the parent stock. The price of the parent company is adjusted to the Price of the Parent Company minus (the Price of the Spun-off Company/Share Exchange Ratio). Index shares change so that the company's weight remains the same as its weight before the spin off. There is no index divisor change.</p> <p>When the price of the spin-off is not known, the spun-off company is added to the index at a zero price. Once the spun-off company trades, the company is dropped from the index and the parent's index shares are adjusted so that the company's weight remains the same as the combined weight of parent and spin-off, determined on the first day of trading.</p>	The spun-off company is added to all the indices of which the parent is a constituent, at a zero price at the market close of the day before the ex-date (with no divisor adjustment). The spun-off company is removed after at least one day of regular way trading (with a divisor adjustment).

Appendix II

EU Required ESG Disclosures

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY⁴		
1.	Name of the benchmark administrator.	S&P Dow Jones Indices LLC.
2.	Underlying asset class of the ESG benchmark.⁵	N/A
3.	Name of the S&P Dow Jones Indices benchmark or family of benchmarks.	S&P DJI Equity Indices Benchmark Statement
4.	Do any of the indices maintained by this methodology take into account ESG factors?	No
Appendix latest update:		January 2021
Appendix first publication:		January 2021

⁴ The information contained in this Appendix is intended to meet the requirements of the European Union Commission Delegated Regulation (EU) 2020/1817 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the minimum content of the explanation of how environmental, social and governance factors are reflected in the benchmark methodology.

⁵ The 'underlying assets' are defined in European Union Commission Delegated Regulation (EU) 2020/1816 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards the explanation in the benchmark statement of how environmental, social and governance factors are reflected in each benchmark provided and published.

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