

# S&P Dow Jones Indices

A Division of **S&P Global**

## **S&P U.S. Style Indices** *Methodology*

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# Introduction

## Index Objective

The S&P U.S. Style Indices measure the performance of U.S. equities fully or partially categorized as either growth or value stocks, as determined by Style Scores for each security. The Style series is weighted by float market capitalization, and the Pure Style index series is weighted by Style Score subject to rules described in *Index Construction*.

## Highlights

The S&P U.S. Style Indices address two distinct needs. The first is for exhaustive style indices that provide broad exposure to a certain style segment. The second need is for narrow, style-pure indices.

The **Style** index series divides the complete market capitalization of each parent index approximately equally into growth and value indices. This series covers all stocks in the parent index universe, and is float market capitalization weighted.

The **Pure Style** index series identifies a portion of the parent index's market capitalization as Pure Growth and a portion as Pure Value. There are no overlapping stocks, and stocks are weighted in proportion to their relative style propensity.

## Index Family

S&P U.S. Style Indices are applied to the family of indices below:

- S&P 500
- S&P MidCap 400
- S&P SmallCap 600
- S&P Composite 1500
- S&P 900
- S&P 1000

## 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	<a href="#">Equity Indices Policies &amp; Practices</a>
S&P Dow Jones Indices' Index Mathematics Methodology	<a href="#">Index Mathematics Methodology</a>
S&P Dow Jones Indices' Float Adjustment Methodology	<a href="#">Float Adjustment Methodology</a>
S&P Dow Jones Indices' Global Industry Classification Standard (GICS) Methodology	<a href="#">GICS Methodology</a>

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

Members of the S&P U.S. Style indices are derived from a headline (parent) index. A style index cannot have a constituent that is not also a member of the parent index.

*Refer to the S&P U.S. Indices Methodology for information on addition and deletion criteria for the S&P 500, S&P MidCap 400, S&P SmallCap 600, and all related indices.*

# Index Construction

## Evaluating Growth and Value at the Company Level

**Style Factors.** The Style indices measure growth and value along two separate dimensions, with three factors each used to measure growth and value. The list of factors used is outlined in the table below.

Growth Factors	Value Factors
Three-Year Change in Earnings per Share (Excluding Extra Items) over Price per Share	Book Value to Price Ratio
Three-Year Sales per Share Growth Rate	Earnings to Price Ratio
Momentum (12-Month % Price Change)	Sales to Price Ratio

When earnings from three years prior are not available then Two-Year Change in Earnings per Share (Excluding Extra Items) over Price per Share is used. When earnings from two years prior are not available then One-Year Change in Earnings per Share (Excluding Extra Items) over Price per Share is used. When earnings from one year prior are not available the factor is set equal to zero. If the starting values is less than zero the score is multiplied by a factor of negative 1.

When sales from three years prior are not available then Two-Year Sales per Share Growth Rate is used. When sales from two years prior are not available then One-Year Sales per Share Growth Rate is used. When sales from one year prior are not available the factor is set equal to zero. If the starting values is less than zero the score is multiplied by a factor of negative 1.

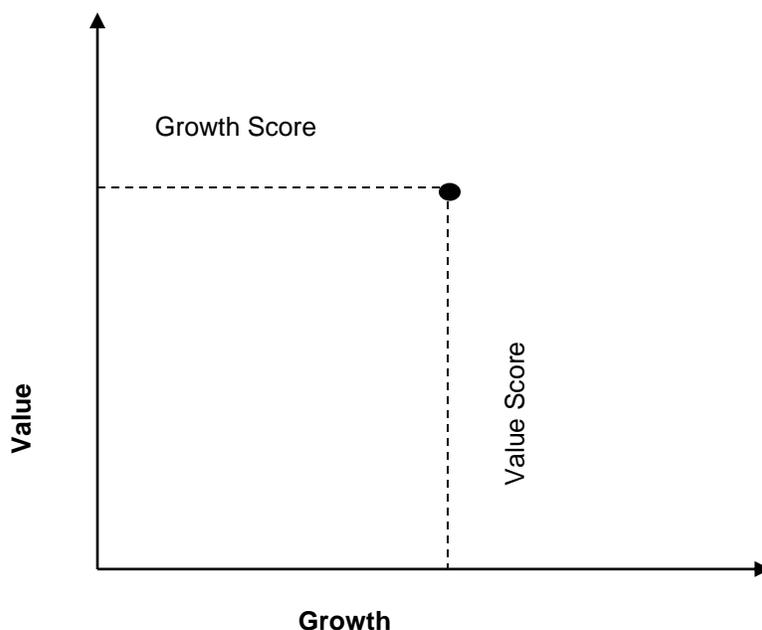
When there is not enough trading history to calculate 12-Month Momentum then Momentum is calculated from the stock's listing date.

When Book Value to Price Ratio, Earnings to Price Ratio, or Sales to Price Ratio is not available the factor is set equal to zero.

**Style Scores.** Raw values for each of the above factors are calculated for each company in the S&P Total Market Index (TMI) universe. These raw values are first winsorized to the 90<sup>th</sup> percentile and then standardized by dividing the difference between each company's raw score and the mean of the entire set by the standard deviation of the entire set. A Growth Score for each company is computed as the average of the standardized values of the three growth factors. Similarly, a Value Score for each company is computed as the average of the standardized values of the three value factors.

At the end of this step each company has a Growth Score and a Value Score, as shown below, with growth and value being measured along separate dimensions.

## Exhibit 1: Measuring Growth and Value Along Separate Dimensions



For Stock  $X$ ,

$G_{i,X}$  = Standardized value of Growth Factor  $i$  for stock  $X$ ,  $i=1$  to 3.

$V_{j,X}$  = Standardized value of Value Factor  $J$  for stock  $X$ ,  $J=1$  to 3.

$SG_X$  = Growth Score of  $X = 1/3 (G_{1,X} + G_{2,X} + G_{3,X})$ .

$SV_X$  = Value Score of  $X = 1/3 (V_{1,X} + V_{2,X} + V_{3,X})$ .

### Establishing Style Baskets

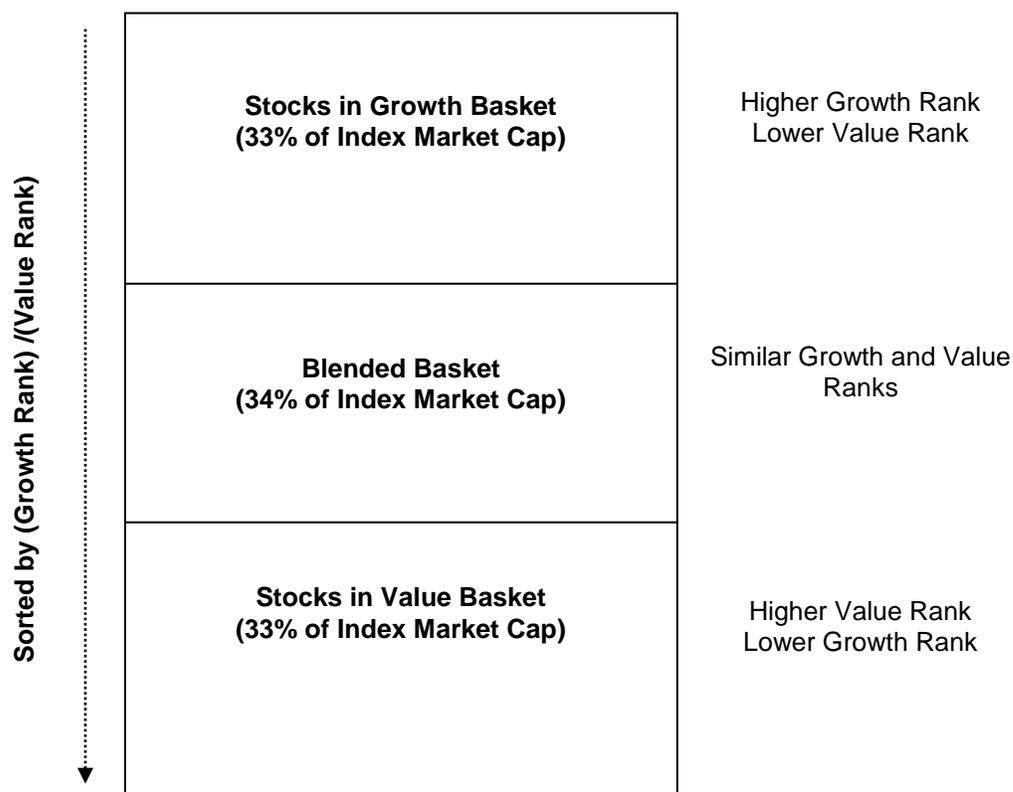
Companies within each parent index are ranked based on growth and value scores. A company with a high Growth Score would have a higher Growth Rank, while a company with a low Value Score would have a lower Value Rank. For example, the S&P MidCap 400 constituent with the highest Value Score would have a Value Rank of 1, while the constituent with the lowest would have a Value Rank of 400.

The index constituents are then sorted in ascending order of the ratio Growth Rank/Value Rank. The companies at the top of the list have a higher Growth Rank (or high Growth Score) and a lower Value Rank (or low Value Score) and, therefore, exhibit pure growth characteristics. The companies at the top of the list, comprising 33% of the total index market capitalization, are designated as the Growth basket.

The companies at the bottom of the list have a higher Value Rank (and Value Score) and a lower Growth Rank (and Growth Score) and, therefore, exhibit pure value characteristics. The companies at the bottom of the list, comprising 33% of the total index market capitalization, are designated the Value basket.

The companies in the middle of the list have neither pure growth nor pure value characteristics. The distribution of the index universe into style baskets is illustrated below.

## Exhibit 2: Style Baskets



### Growth and Value Indices

As described earlier, one of the design goals is to construct a Style index series that divides the complete market capitalization of each parent index approximately equally into growth and value indices, while limiting the number of stocks that overlap across both. This series is to be exhaustive (i.e., covering all stocks in the parent index universe), and is float market capitalization weighted.

The Style baskets described above are natural starting points for the Style indices' construction. 100% of the float market capitalization of a company in the Value basket is assigned to the Value index, and 100% of the float market capitalization of a company in the Growth basket is assigned to the Growth index.

The middle 34% of float market capitalization consists of companies that have similar growth and value ranks. Their market capitalization is distributed among the Style indices based on their distances from the midpoint of the Growth basket and the midpoint of the Value basket, as detailed below. The midpoint of each Style region is calculated as the average of Value Scores and Growth Scores of companies in the Style basket.

For Company  $X$ ,

$W_{V,X}$  = Percent of Float Market Capitalization of Company  $X$  in the Value Index.

$W_{G,X}$  = Percent of Float Market Capitalization of Company  $X$  in the Growth Index.

$$W_{V,X} = D_{G,X} / (D_{G,X} + D_{V,X}).$$

$$W_{G,X} = D_{V,X} / (D_{G,X} + D_{V,X}).$$

$$W_{V,X} + W_{G,X} = 1.$$

where  $D_{G,X}$  and  $D_{V,X}$  represent the distances of Company X from the midpoint of each Style basket.

*The algorithm for computation of  $D_{G,X}$  and  $D_{V,X}$  is shown in Appendix I.*

Further, from the practical point of view of constructing easily replicable baskets, it is essential to avoid very small fractions of a stock's market capitalization being in a particular Style index. Therefore, the weights are rounded as follows:

If  $W_{V,X} \geq 0.8$ ,  $W_{V,X} = 1.0$  and  $W_{G,X} = 0$ .

If  $W_{G,X} \geq 0.8$ ,  $W_{G,X} = 1.0$  and  $W_{V,X} = 0$ .

Based on backtest results, the total market capitalization is approximately equally divided among the growth and value indices. No mathematical procedure is employed to force equal market capitalization for the growth and value indices, since price movements of constituent stocks would result in inequality immediately following any reconstitution.

It is also worth noting that the assignment of the market capitalization of stocks not in Style baskets to growth and value indices allows graduated moves, and avoids churning of stocks between indices at each reconstitution. Further, this procedure results in only 34% of the market capitalization of the parent index distributed across both indices, thus limiting the overlap area and keeping the Style indices manageably narrow.

The index is calculated following S&P Dow Jones Indices' modified market capitalization-weighted, divisor-based index methodology. Corporate actions and index changes are implemented in the same manner as for other market capitalization-weighted indices.

*Please refer to the section on Index Maintenance for information on the treatment of corporate actions.*

*Please refer to the S&P U.S. Indices Methodology for information on the Investable Weight Factors (IWF).*

*Please refer to S&P Dow Jones Indices' Index Mathematics Methodology for further information on the calculation of market capitalization indices.*

### **Pure Growth and Pure Value Indices**

There are no overlapping stocks between these indices and index constituents are weighted by their Style Scores. The Style baskets are the only regions used to construct the Pure Style indices.

The constituents of the Pure Value index are all stocks for which  $W_V = 1$  and  $SV > (\text{the mean of all parent index value scores} + 0.25)$ . Similarly, the constituents of the Pure Growth index are all stocks for which  $W_G = 1$  and  $SG > (\text{the mean of all parent index growth scores} + 0.25)$ . In other words, all constituents of the Value basket except those with the lowest value scores are members of the Pure Value index. Similarly, all constituents of the Growth basket except those with the lowest growth scores are members of the Pure Growth index.

Further, to avoid stocks with outlying high Style Scores having a very large weight in the index, all Style Scores are capped at 2.0 in the Pure Style indices. In other words, for the Pure Style indices,  $SV = 2.0$  if  $SV > 2.0$ , and  $SG = 2.0$  if  $SG > 2.0$ .

The index is calculated following the divisor-based methodology of S&P Dow Jones Indices' Equal Weight indices. For example, for the S&P SmallCap 600 Pure Value index,

$$\text{Index Value}_t = \frac{\text{Index Market Value}_t}{\text{Index Divisor}_t}$$

$$\text{Index Market Value}_t = \sum_{X \rightarrow I}^n IWF_{X,t} * \text{Modified Index Shares}_{X,t} * \text{Price}_{X,t}$$

where:

$IWF_{X,t}$  = Investable Weight Factor of Stock X on date t.

$Price_{X,t}$  = Price used for Stock X in the S&P SmallCap 600 index computation on date t.

$n$  = Number of Stocks in S&P SmallCap 600 Pure Value index on date t (note that  $n \leq N$ , the count from the previous page).

$\text{Modified Index Shares}_{X,t} =$  Shares used for Stock X on date t.

This term is calculated in the following manner:

$$\text{Modified Index Shares}_{X,t} = \text{Index Shares}_{X,t} * PWF_{X,t}$$

The Pure Weight Factor (*PWF*) term ensures the index weights each stock with its Style Score. This is accomplished by setting the *PWF* at the rebalancing date, *d*, as follows:

$$PWF_{X,d} = k * SV_X / (IWF_{X,d} * \text{Index Shares}_{X,d} * \text{Price}_{X,d})$$

The constant *k* is used as a multiplier since  $SV_X / (IWF_{X,d} * \text{Index Shares}_{X,d} * \text{Price}_{X,d})$  results in a very small value.

The *PWF* is set only once a year at the index rebalancing. Therefore, only at the rebalancing will the stocks be weighted in exact proportion to their Style Scores. The weights of stocks in a Pure Style index between rebalancings will depend on their relative price performances.

### Multiple Share Classes

All publicly listed multiple share class lines are eligible for index inclusion, subject to meeting the eligibility criteria. For more information regarding the treatment of multiple share classes, please refer to Approach A within the Multiple Share Classes section of the S&P Dow Jones Indices' Equity Indices Policies & Practices document. In the S&P Pure Style Indices the weight determined at the rebalance is distributed proportionally to the market capitalization ratio of the share class lines.

*Please refer to the section on Index Maintenance for information on the treatment of corporate actions.*

*Please refer to S&P Dow Jones Indices' Index Mathematics Methodology for further information on the calculation of market capitalization and non-market capitalization weighted indices.*

# Style Indices Versus Pure Style Indices

Style indices and Pure Style indices have different characteristics addressing distinct needs. These differences are summarized below.

**Exhibit 3: Differences Between Style Index Series and Pure Style Index Series**

<b>Characteristic</b>	<b>Style Index Series</b>	<b>Pure Style Index Series</b>
Universe coverage	Exhaustive, all parent index stocks are covered	Only Pure Style stocks are covered
Overlapping stocks	Stocks that do not have Pure Growth or Pure Value characteristics have their market capitalization divided between Growth and Value indices in proportion to their distance from the pure regions	None
Weighting scheme	Market capitalization-weighted	Style attractiveness-weighted
Breadth	Broader	Narrower
Usage	Exposure to the broad style market (For example, relative value exposure)	Pure style exposure (For example, deep value exposure) or “style spread” strategies, quantitative analysis

# Index Maintenance

## Rebalancing

The S&P U.S. Style Indices are rebalanced once a year in December.<sup>1</sup> The rebalancings occur after the close on the third Friday of December. The reference date for growth and value expressions is after the close of the last trading date of the previous month. Closing prices as of the second Friday of December are used for setting index weights for the Pure Style indices.

Style Scores, float market-capitalization weights, growth and value midpoint averages and the Pure Weight Factors (PWFs), where applicable across the various Style indices, are reset only once a year at the December rebalancing.

Other changes to the U.S. Style Indices are made on an as-needed basis, following the guidelines of the parent index. Changes in response to corporate actions and market developments can be made at any time. Constituent changes are typically announced for the parent index two-to-five days before they are scheduled to be implemented.

*Please refer to the S&P U.S. Indices Methodology for information on standard index maintenance for the S&P 500, the S&P MidCap 400, the S&P SmallCap 600, and all related indices.*

## Index Changes for Style Indices

Parent Index Action	Adjustment Made to the Style Index	Divisor Adjustment Required?
Constituent Change	<p>If the constituent being dropped is a member of the Style index, it is removed from the index.</p> <p>S&amp;P Dow Jones Indices will announce the <math>W_V</math> and <math>W_G</math> for the replacement stock via the Index Corporate Events report (.SDE). If <math>W_V</math> is non-zero the stock is added to the Value index. If <math>W_G</math> is non-zero the stock is added to the Growth index. The replacement stock can therefore be added to both Growth and Value indices, or to only one of them.</p> <p><math>W_V</math> and <math>W_G</math> for the new stock are calculated using GICS industry-level averages for stocks outside the S&amp;P Composite 1500 index other than spin-offs, and retain their old values for inter-index moves.</p>	Yes
Share Changes Between Quarterly Share Adjustments	Share count follows parent index share count.	Yes
Quarterly Share Changes	Share count follows parent index share count. In addition, new $W_V$ and $W_G$ for all constituent stocks change at the December rebalancing. These will be pre-announced in a manner similar to quarterly share changes.	Yes
Spin-Off	Index Membership follows the parent index. The child stock is assigned the same $W_V$ and $W_G$ as the parent stock. For more information, please refer to the Treatment of Spin-offs in <i>S&amp;P Dow Jones Indices' Equity Indices Policies &amp; Practices</i> document.	No

<sup>1</sup> For purposes of index history, the rebalancings from 1995 to 2004 were in July, while the 2005 rebalancing was in September.

Please refer to the S&P U.S. Indices Methodology for the treatment of other corporate actions in the S&P U.S. Index family.

For general information on corporate actions, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.

### Index Changes for Pure Style Indices

Parent Index Action	Adjustment made to Pure Style Index	Divisor Adjustment Required?
Constituent Change	If the constituent being dropped is a member of the Pure Style index, it is removed from the Pure Style index. The replacement stock can be added to either the Pure Growth or the Pure Value index, or to neither. S&P Dow Jones Indices will include the index shares at which the stock will enter a Pure Style index. The index shares are determined using the weight and the closing constituent prices on the announcement date of the addition. The weight is simply the ratio of the capped Style Score of the added stock divided by the sum of Style Scores of all index constituents. For index computation purposes $PWF_G$ or $PWF_V$ for the new stock are calculated accordingly using the formula in Appendix II.	Yes
Share Changes Between Quarterly Share Adjustments	The weight of stocks is unchanged.	No
Quarterly Share Changes	The weight of stocks is unchanged during March, June and September quarterly share changes. For the annual rebalancing, new constituents and their weights are announced two-to-five days before the December quarterly date. At the rebalancing, the weight of each stock is simply proportional to its capped Style Score.	Only on the December quarterly adjustment date, since it coincides with the annual rebalancing of the Pure Style indices.
Spin-Off	Index Membership follows the parent index. The child stock is assigned the same $PWF$ and Style score as the parent stock on the effective date of the spin-off. If the parent index migrates the child stock to a new index (i.e. S&P 500 to S&P 400), the $PWF$ for the spin-off is calculated according to the details in Appendix II. For more information, please refer to the Treatment of Spin-offs in S&P Dow Jones Indices' Equity Indices Policies & Practices document.	No
Rights Offering	The weight of stocks is unchanged. Price follows parent index price change. To keep weights of stocks unchanged following price change, Modified Index Shares are adjusted for the stock whose shares are being changed.	No

Please refer to the S&P U.S. Indices Methodology for the treatment of other corporate actions in the S&P U.S. Index family.

For general information on corporate actions, please refer to S&P Dow Jones Indices' Equity Indices Policies & Practices document.

## Currency, Currency Hedged, and Risk Control Indices

The indices are calculated in U.S. dollars (USD).

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

Additional currency, currency hedged, and risk control versions of the indices may be available. For a list of available currency, currency hedged, and risk control indices, please contact Client Services at [index\\_services@spglobal.com](mailto:index_services@spglobal.com).

*For more information on currency, currency hedged, and risk control indices, please refer to S&P Dow Jones Indices' Index Mathematics Methodology.*

## Base Dates

All series have a base date of June 30, 1995. The base values for the indices are:

Index	Base Value	
	Price Return	Total Return
S&P 500 Growth	271.61	496.67
S&P 500 Pure Growth	1004.08	1004.09
S&P 500 Pure Value	1020.02	1020.10
S&P 500 Value	291.12	799.70
S&P MidCap 400 Growth	60.40	121.23
S&P MidCap 400 Pure Growth	1016.60	1016.60
S&P MidCap 400 Pure Value	997.45	997.51
S&P MidCap 400 Value	100.73	223.02
S&P SmallCap 600 Growth	76.27	96.28
S&P SmallCap 600 Pure Growth	1005.01	1005.01
S&P SmallCap 600 Pure Value	1004.47	1004.46
S&P SmallCap 600 Value	76.22	115.10
S&P Composite 1500 Growth	1000.04	1000.04
S&P Composite 1500 Pure Growth	1007.25	1007.25
S&P Composite 1500 Pure Value	1007.75	1007.80
S&P Composite 1500 Value	1000.00	1000.00
S&P 900 Growth	999.93	999.93
S&P 900 Pure Growth	1008.41	1008.41
S&P 900 Pure Value	1010.07	1010.14
S&P 900 Value	999.96	999.96
S&P 1000 Growth	1000.24	1000.24
S&P 1000 Pure Growth	1009.50	1009.50
S&P 1000 Pure Value	1001.57	1001.59
S&P 1000 Value	999.88	999.88

# Index Data

Construction of Style and Pure Style indices across the size spectrum allows for a complete suite of benchmarking and style investing indices catering to distinct market needs. This is shown below.

## Suite of Indices Across the Asset Allocation Spectrum

	Value	Blend	Growth
<b>Large-Cap</b>	S&P 500 Value S&P 500 Pure Value	S&P 500	S&P 500 Growth S&P 500 Pure Growth
<b>Mid-Cap</b>	S&P MidCap 400 Value S&P MidCap 400 Pure Value	S&P MidCap 400	S&P MidCap 400 Growth S&P MidCap 400 Pure Growth
<b>Small-Cap</b>	S&P SmallCap 600 Value S&P SmallCap 600 Pure Value	S&P SmallCap 600	S&P SmallCap 600 Growth S&P SmallCap 600 Pure Growth
<b>All-Cap</b>	S&P Composite 1500 Value S&P Composite 1500 Pure Value	S&P Composite 1500	S&P Composite 1500 Growth S&P Composite 1500 Pure Growth
<b>Large-Mid</b>	S&P 900 Value S&P 900 Pure Value	S&P 900	S&P 900 Growth S&P 900 Pure Growth
<b>Mid-Small</b>	S&P 1000 Value S&P 1000 Pure Value	S&P 1000	S&P 1000 Growth S&P 1000 Pure Growth

Style and Pure Style indices derived for the S&P Composite 1500, the S&P 900, and the S&P 1000 are simply combinations of the Style and Pure Style indices of their subset indices.

For example, the S&P Composite 1500 Pure Value Index is comprised of the Pure Value index constituents of the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600. Construction of Style baskets and assignment of style weight factors, as in Exhibit 2, are only done at the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600 index levels. Scores are reviewed and indices rebalanced every December to coincide with the real world portfolio review process, which typically relies on year-end evaluations.

## 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 document.*

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

# Index Governance

## Index Committee

The Americas Thematic and Strategy Index Committee maintains the S&P U.S. Style Indices. All committee members are full-time professional members of S&P Dow Jones Indices' staff. The committee meets regularly. At each meeting, the Index Committee may review 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 Index 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 Index 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 document.*

# 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.<sup>2</sup> Any unusual treatment of a corporate action or short notice of an event may be communicated via email to clients.

All methodology changes are posted to S&P Dow Jones Indices' Web site and announced via email to all clients. The latest available version is posted on the Web site at [www.spdji.com](http://www.spdji.com).

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

## 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.<sup>3</sup> 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. Since index shares are assigned based on prices five business days prior to the rebalancing, the actual weight of each stock at the rebalancing differs from these weights due to market movements.

*Please visit [www.spdji.com](http://www.spdji.com) for a complete schedule of rebalancing timelines and pro-forma delivery times.*

## Holiday Schedule

The indices are calculated when the U.S. equity markets are open.

*A complete holiday schedule for the year is available on the Web site at [www.spdji.com](http://www.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 document.

## Recalculation Policy

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<sup>2</sup> For Style Indices, please refer to the parent index's .SDE file for index corporate event information.

<sup>3</sup> For Style Indices, please refer to the parent index's pro-forma file (PRO.SDC) for rebalancing information.

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Index	Return Type	Bloomberg	Reuters
S&P 500 Growth	Price Return Total Return	SGX SPTRSGX	.SGX .SPXGTR
S&P 500 Value	Price Return Total Return	SVX SPTRSVX	.SVX .SPXVTR
S&P 500 Pure Growth	Price Return Total Return	SPXPG SPTRXPG	.SPXPG .SPXPGTR
S&P 500 Pure Value	Price Return Total Return	SPXPV SPTRXPV	.SPXPV .SPXPVTR
S&P MidCap 400 Growth	Price Return Total Return	MIDG SPTRMG	.MGD .SPMGTR
S&P MidCap 400 Value	Price Return Total Return	MIDV SPTRMV	.MUV .SPMVTR
S&P MidCap 400 Pure Growth	Price Return Total Return	SPMPG SPTRMPG	.SPMPG .SPMPGTR
S&P MidCap 400 Pure Value	Price Return Total Return	SPMPV SPTRMPV	.SPMPV .SPMPVTR
S&P SmallCap 600 Growth	Price Return Total Return	SMLG SPTRSG	.CKG .SPSGTR
S&P SmallCap 600 Value	Price Return Total Return	SMLV SPTRSV	.CVK .SPSVTR
S&P SmallCap 600 Pure Growth	Price Return Total Return	SPSPG SPTRSPG	.SPSPG .SPSPGTR
S&P SmallCap 600 Pure Value	Price Return Total Return	SPSPV SPTRSPV	.SPSPV .SPSPVTR
S&P Composite 1500 Growth	Price Return Total Return	SPUSCG SPTRCG	.SPCG .SPCGTR
S&P Composite 1500 Value	Price Return Total Return	SPUSCV SPTRCV	.SPCV .SPCVTR
S&P Composite 1500 Pure Growth	Price Return Total Return	SPUSCPG SPTRCPG	.SPCPG .SPCPGTR
S&P Composite 1500 Pure Value	Price Return Total Return	SPUSCPV SPTRCPV	.SPCPV .SPCPVTR
S&P 900 Growth	Price Return Total Return	SPUSNG SPTRNG	.SPNG .SPNGTR
S&P 900 Value	Price Return Total Return	SPUSNV SPTRNV	.SPNV .SPNVTR

Index	Return Type	Bloomberg	Reuters
S&P 900 Pure Growth	Price Return	SPUSNPG	.SPNPG
	Total Return	SPTRNPG	.SPNPGTR
S&P 900 Pure Value	Price Return	SPUSNPV	.SPNPV
	Total Return	SPTRNPV	.SPNPVTR
S&P 1000 Growth	Price Return	SPUSTG	.SPTG
	Total Return	SPTRTG	.SPTGTR
S&P 1000 Value	Price Return	SPUSTVA	.SPTVA
	Total Return	SPTRTVA	.SPTVATR
S&P 1000 Pure Growth	Price Return	SPUSTPG	.SPTPG
	Total Return	SPTRTPG	.SPTPGTR
S&P 1000 Pure Value	Price Return	SPUSTPV	.SPTPV
	Total Return	SPTRTPV	.SPTPVTR

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# Appendix I

## Calculating Distances from Pure Growth Regions

First, the midpoints of the Growth and Value baskets are determined.

$AV_G$	=	Average of Growth scores of Value basket members
$AV_V$	=	Average of Value scores of Value basket members
$AG_G$	=	Average of Growth scores of Growth basket members
$AG_V$	=	Average of Value scores of Growth basket members

These four variables are calculated once a year at the annual rebalancing.

For each Stock,  $X$ , that does not belong to either style basket,  $D_{G, X}$  and  $D_{V, X}$  are the distances from the Growth basket and the Value basket. As detailed in the chapter *Index Construction*, the stock's Growth and Value scores are  $SG_X$  and  $SV_X$ .

### Calculation of $D_{G, X}$

If ( $SG_X \geq AG_G$ ),

$$D_{G, X} = |SV_X - AG_V|$$

Else if ( $SV_X \leq AG_V$ ),

$$D_{G, X} = |AG_G - SG_X|$$

Else,

$$D_{G, X} = \sqrt{(SV_X - AG_V)^2 + (AG_G - SG_X)^2}$$

### Calculation of $D_{V, X}$

If ( $SV_X \geq AV_V$ ),

$$D_{V, X} = |SG_X - AV_G|$$

Else if ( $SG_X \leq AV_G$ ),

$$D_{V, X} = |AV_V - SV_X|$$

Else,

$$D_{V, X} = \sqrt{(SV_X - AV_V)^2 + (AV_G - SG_X)^2}$$

# Appendix II

## Calculating PWFs for Additions Between Rebalancings

To follow are the equations used to calculate the PWFs for additions between rebalancings. Index users need not calculate PWFs. S&P Dow Jones Indices announces the index shares at which stocks will be added to an index for all additions that are made between rebalancings. The PWFs are simply used in index computation to assign stocks their appropriate weights. The reference date used in the calculation of the PWFs is the announcement date of the addition.

### Case 1: One stock is being added to a Pure Style index

The following are known variables:

$$F = \text{Float-adjusted market capitalization of the added stock} \\ = P * IWF * \text{Index Shares}$$

$$s = \text{Capped Style Score of Stock X being added}$$

$$S = \text{Sum of the capped Style Scores of all constituents of the Pure Style index (including the stock that is being added)}$$

$$I = \text{Index Market Value before the addition (but after deletions, if applicable)}$$

$$= \sum_{X=1}^N IWF_{X,t} * \text{Index Shares}_{X,t} * PWF_X * \text{Price}_{X,t}$$

The following is the unknown variable:

$$PWF = \text{Weighting factor to ensure the stock goes in at a weight proportional to its Style Score}$$

Because of score weighting, the weight of a stock should be equal to the ratio of its capped Style Score to that of the sum of the capped Style Scores of all constituents as determined on the reference date. The index weight for the addition will change based on price movements between the reference date and the effective date.

$$(F * PWF) / (I + F * PWF) = s/S$$

Solving for  $PWF$ :

$$PWF = (I * s) / [F * (S - s)]$$

### Case 2: Two stocks are being added to a Pure Style index

Let the variable definitions be the same as above and be denoted by subscripts 1 and 2 for each of the added stocks.

Since stock weights are proportional to their capped Style Scores, it follows that:

$$(F_1 * PWF_1) / (F_2 * PWF_2) = s_1/s_2$$

As before, the weight of an added stock is in proportion to its score. Therefore:

$$(F_1 * PWF_1) / (I + F_1 * PWF_1 + F_2 * PWF_2) = s_1/S$$

Substituting ( $F_2 * PWF_2$ ) from the first equation into the second, and solving for  $PWF_1$ :

$$PWF_1 = (I * s_1) / [F_1 * \{S - (s_1 + s_2)\}]$$

Similarly,

$$PWF_2 = (I * s_2) / [F_2 * \{S - (s_1 + s_2)\}]$$

For cases with more than two stocks, the above equation can be extended.

# Appendix III

## Methodology Changes

Methodology changes since January 1, 2015 are as follows:

Change	Effective Date (After Close)	Methodology	
		Previous	Updated
Corporate Action Treatment:  Additions Between Rebalancings	12/09/18	S&P Dow Jones Indices will calculate the weight which the stock will enter a Pure Style index.	S&P Dow Jones Indices will include the index shares at which the stock will enter a Pure Style index. The index shares are determined using the weight and the closing constituent prices on the announcement date of the addition.
Spin-Off Treatment	09/30/15	In Style indices, spun-off child stocks were assigned $W_V$ and $W_G$ using the GICS industry-level averages for stocks outside the S&P Composite 1500 index. In Pure Style indices, the weight of a parent stock remained unchanged by having an Index Shares increase to offset the price adjustment.	In Style indices, spun-off child stocks are assigned the same $W_V$ and $W_G$ as the parent stock. In Pure Style indices, spun-off child stocks are assigned the same $PWF$ and Style score as the parent stock on the effective date of the spin-off. If the parent index migrates the child stock to a new index (i.e. S&P 500 to S&P 400), the $PWF$ for the spin-off is calculated according to the details in Appendix II. The Index Shares of the parent stock will no longer be adjusted.

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