

Construction Rules for the Morningstar® US Style Index Family

Morningstar Indexes

April 2020

Contents

1 Overview

2 Index Construction

2.1 Assigning Stocks to the Index

2.2 Index Weighting

3 Index Maintenance and Calculation

3.1 Index Maintenance and Corporate Action Treatment

3.2 Index Calculation and Price Data

4 Methodology Review and Index Cessation Policy

5 Data Correction and Precision

5.1 Intraday Index Data Corrections

5.2 Index-Related Data and Divisor Corrections

5.3 Computational and Reporting Precision

6 Appendixes

6.1 Glossary

6.2 Determining the Value-Core-Growth Assignment for U.S. Common Stocks

6.3 Measuring Stock Value Orientation

6.4 Measuring Stock Growth Orientation

6.5 Modification to Rulebook

7 About Morningstar

Overview

The Morningstar® US Style Index Family is designed to provide investors with an accurate and comprehensive depiction of the performance and fundamental characteristics of U.S. equity markets. The style index family consists of a comprehensive set of 12 indexes that are a subset of the [Morningstar® US Market Index](#), a broad market index representing 97% of U.S. equity market capitalization.

The US Style Index Family consists of:

- ▶ Three composite style indexes: US Value, US Core, and US Growth
- ▶ Nine style indexes: Large Value, Large Core, Large Growth, Mid Value, Mid Core, Mid Growth, Small Value, Small Core, and Small Growth

This diagram summarizes the index family:

US Market	US Value	US Core	US Growth
Large Cap	Large Value	Large Core	Large Growth
Mid Cap	Mid Value	Mid Core	Mid Growth
Small Cap	Small Value	Small Core	Small Growth

This index does not incorporate Environmental, Social, or Governance (ESG) criteria.

Index Inception Date and Performance Inception Date

The inception date of the indexes is July 3, 2002, and the performance inception date of the index is June 30, 1997, when the first back-tested index value was calculated.

Index Construction

Assigning Stocks to the Indexes

Selection Universe

At each reconstitution, securities for the Morningstar US Style Index Family are derived from the Morningstar US Market Index (benchmark). For more details on benchmark construction, refer to the [Construction Rules for Morningstar US Market Index](#).

Three market-capped indexes are constructed using the guidelines described in the benchmark construction. Within each of these cap indexes, index constituents are assigned to one of three style indexes:

- ▶ The value-oriented index contains stocks that, within the relevant cap index, have a stronger value orientation than growth orientation. For more details, refer to Appendix 3.
- ▶ The growth-oriented index contains stocks that, within the relevant cap index, have a stronger growth orientation than value orientation. For more details, refer to Appendix 4.
- ▶ The core index contains stocks that have similar value and growth characteristics.

Assigning Large-Cap Stocks to a Style Index

Each index constituent within the Large Cap Index is assigned to the Large Value, the Large Core, or the Large Growth index. Style assignment is based on a stock's style orientation score and the threshold levels between value and core and core and growth.

Determining a Stock's Style Orientation Score

Each stock is assigned a value orientation score and a growth orientation score between zero and 100 (see the "Style Methodology" section for how stock style scores are calculated). The net style orientation score is calculated for each stock by subtracting the stock's value orientation score from its growth orientation score. The result can range from 100 (for low-yield, extremely growth-oriented stocks) to negative 100 (high-yield, low-growth stocks).

Determining the Threshold Levels

Value, core, and growth factor indexes are each targeted to account for one third of the total capitalization of each capitalization group. This is referred to as the "target weight."

Find value and growth thresholds using the following process:

- ▶ Rank stocks within the Large Cap Index by their style orientation score in ascending order.
- ▶ Calculate cumulative free-float market cap for stocks in the Large Cap Index.
- ▶ The value threshold is equal to the stock's style score where cumulative free-float market cap is equal to or just greater than the target weight for the Large Value Index $\left(\frac{1}{3}\right)$.
- ▶ The growth threshold is equal to the stock's style score where the cumulative free-float market cap is equal to or just greater than the target weight for Large Value Index + target weight for Large Core Index $\left(\frac{1}{3} + \frac{1}{3}\right)$.

Style Assignment and Buffering

- ▶ The index constituents within the Large Cap Index are ordered by their style orientation score in ascending order.
- ▶ The percentage of total cap index free float represented by stocks with a score less than or equal to the value threshold is calculated. This percentage is the current value threshold, or CVT. The percentage of total cap index free float represented by stocks with a score less than or equal to the growth threshold is calculated. This is the current growth threshold, or CGT.
- ▶ Selecting by style score in ascending order, the stocks that, in aggregate, account for the CVT-5% of the free float of the cap index are assigned to the Large Value Index.
- ▶ Selecting by score in ascending order, the stocks that fall between CVT-5% and CVT are classified as either value or core. Among these, stocks that were classified as large core and fell between the CVT and the CGT or stocks that were classified as large growth at the previous reconstitution date are reassigned to the Large Core Index. The rest are assigned to the Large Value Index.
- ▶ Selecting by score in ascending order, the stocks that fall between CVT and CVT+5% are classified as either value or core. Among these, stocks that were classified as large value and fell below the CVT at the previous reconstitution date are reassigned to the Large Value Index. The rest are assigned to the Large Core Index.
- ▶ Selecting by score in ascending order, the stocks that fall between CVT+5% and CGT-5% are assigned to the Large Core Index.
- ▶ Selecting by score in ascending order, the stocks that fall between CGT-5% and CGT are classified as either core or growth. Among these, stocks that were classified as large growth and fell above the CGT at the previous reconstitution date are reassigned to the Large Growth Index. The rest are assigned to the Large Core Index.
- ▶ Selecting by score in ascending order, the stocks that fall between CGT and CGT+5% are classified as either core or growth. Among these, stocks that were classified as large core and fell between the CVT and the CGT or stocks that were classified as large value at the previous reconstitution date are reassigned to the Large Core Index. The rest are assigned to the Large Growth Index.
- ▶ Selecting by score in ascending order, the stocks that fall beyond the CGT+5% are assigned to the Large Growth Index.

Assigning Mid- and Small-Cap Stocks to a Style Index

The above process is also used for mid- and small-cap style indexes.

Assigning Stocks to a Composite Style Index

The US Value, US Core, and US Growth indexes are simple aggregates of the style indexes. For example, the US Value Index comprises all securities from the Large, Mid, and Small Value indexes.

Number of Stocks

The number of stocks in the indexes is subject to the selection and eligibility criteria at the time of reconstitution.

Index Weighting

The index family is float-market-capitalization weighted. We also apply 4-20-20 capping on the company level to ensure that we meet diversification requirements. Individual company weight at reconstitution time cannot exceed 20%, and constituents greater than 4% in weight cannot combine to over 20% of the portfolio.¹

For Morningstar's free-float and float-market-capitalization details, refer to Appendix 1. For more details, refer to the [Morningstar Indexes Calculation Methodology rulebook](#).

Index Maintenance and Calculation

Scheduled Maintenance

The index is reconstituted semiannually and implemented after the close of business on the third Friday of June and December and is effective the following Monday. If Monday is a holiday, reconstitution is effective on the immediate following business day. The market data used for reconstitution is as of the last trading day of May and November.

The index is rebalanced quarterly and implemented after the close of business on the third Friday of March, June, September, and December and is effective the following Monday. If Monday is a holiday, rebalance is effective on the immediate following business day. The market data used for rebalancing is as of the last trading day of February, May, August, and November.

Refer to Appendix 1 for details on reconstitution and rebalancing.

Corporate Action

The treatment of corporate actions can be found in the [Morningstar Indexes Corporate Actions Methodology rulebook](#).

Index Calculation and Price Data

Details about index calculations and price data can be found in their respective rulebooks: [Morningstar Indexes Calculation Methodology](#) and [Equity Closing Prices Used for Index Calculation](#).

¹ The capping is implemented from the March 2018 rebalance onwards.

Methodology Review and Index Cessation Policy

The index methodology is continually reviewed to ensure it achieves all stated objectives. These reviews take into account corporate action treatment, selection, and maintenance procedures. Subscribers to the index will be notified before any methodology changes are made. For more details, refer to the [Morningstar Index Methodology Change Process](#).

Morningstar also notifies all subscribers and stakeholders of the index that circumstances might arise that require a material change to the index, or a possible cessation of the index. Circumstances that could lead to an index cessation include, but are not limited to, market structure change, product definition change, inadequate supply of data, insufficient revenue associated with the index, insufficient number of clients using the index, and/or other external factors beyond the control of the Morningstar Index Committee.

Because the cessation of the index or benchmark index could disrupt subscriber products that reference this index, all subscribers are encouraged to have robust fallback procedures if an index is terminated. For more details, refer to the [Morningstar Index Cessation Process](#).

Data Correction and Precision

Intraday Index Data Corrections

Commercially reasonable efforts are made to ensure the accuracy of data used in real-time index calculations. If incorrect price or corporate action data affect index daily highs or lows, they are corrected retroactively as soon as is feasible.

Index-Related Data and Divisor Corrections

Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of an index, if discovered within five days of its occurrence, will always be fixed retroactively on the day it is discovered to prevent an error from being carried forward. Commercially reasonable efforts are made to correct an older error subject to its significance and feasibility.

For more details, refer to the [Recalculation Guidelines](#).

Computational and Reporting Precision

For reporting purposes, index values are rounded to two decimal places and divisors are rounded to appropriate decimal places.

Appendixes

Appendix 1: Glossary

Terms	Description
Reconstitution	Each reconstitution involves the following: • Updating the global market investable equity universe. • Reviewing the economic segment- and country-level size segment breakpoints. • Assigning companies to capitalization bands taking into account the buffer zones. • Changes in index shares (free float, total shares outstanding, index-specific adjustment factor) of each constituent.
Rebalance	During each rebalancing, the following activities are undertaken: • Changes in index shares (free float, total shares outstanding, index-specific adjustment factor) of each Constituent. • Addition of U.S. spin-offs/IPOs to the global markets index.
Free Float	The free float is defined as a security's outstanding shares adjusted by block ownership to reflect only truly tradable and investable shares. A security's outstanding shares are adjusted if an entity owns 5% or more of the security through one of the following types of block ownership: • Cross ownership — shares that are owned by other companies (including banks and life insurance companies) • Government ownership — shares that are owned by governments (central or municipal) or their agencies • Private ownership — shares that are owned by individuals or families • Restricted shares — shares that cannot be traded during a certain time period. However, a security's outstanding shares are not adjusted for institutional investors' holdings, which include, but are not limited to, the following categories: • Custodian nominees • Trustee companies • Mutual funds • Investment companies • Pension fund holdings

Appendix 2: Determining the Value-Core-Growth Assignment for U.S. Common Stocks

Basic Concepts

A stock's value orientation and growth orientation are separate measures, each of interest to investors. As such, they are estimated using related but separate variables. Once estimated, depending on the purpose, they may be used individually or combined into a single value-core-growth, or VCG, orientation measure. For instance, style-based index construction requires the use of a single VCG measure for each stock.

VCG orientation is calculated within capitalization classes, or cap bands. That is, a stock is assigned to a cap band before its VCG orientation is determined. Two stocks that have similar financial ratios and growth prospects but are in different cap bands may be given different VCG assignments.

A high value orientation score (as defined below) indicates that a stock's price is relatively low, given the anticipated per-share earnings, book value, revenues and so forth that the stock provides to investors. A

high price relative to these measures indicates that a stock's value orientation is weak, but does not necessarily mean that the stock is growth-oriented.

A high growth orientation score (as defined below) indicates that a stock's per-share earnings, book value, revenue, etc., are expected to grow faster than those of other stocks in the same cap band. A weak growth orientation does not necessarily mean that a stock has a strong value orientation.

It follows that an individual stock may have any combination of strong or weak growth and value characteristics. Where one set of characteristics is dominant, the stock can be classified accordingly. Where the stock's growth and value characteristics are similar in strength, the stock will be assigned a core VCG orientation.

Terminology and Notation

The following short forms relate to the 10 factors used to determine a stock's VCG score:

e1/p	=	prospective earnings yield (forecast earnings per share for the current fiscal year, divided by current price per share)
r1/p	=	prospective revenue yield
c1/p	=	prospective cash flow yield
d1/p	=	prospective dividend yield
b1/p	=	prospective book value yield
g'(e)	=	forecast growth rate of earnings per share
g'(c)	=	forecast growth rate of cash flow per share
g'(r)	=	forecast growth rate of revenue per share
g'(b)	=	forecast growth rate of book value per share
g'(e5)	=	IBES median long-term earnings growth forecast

The following short forms relate to a company's fundamental data (earnings per share, for example):

e1	=	forecast earnings per share for the current fiscal year (the basis for the yield variable defined above). When available, value is provided by IBES.
e0	=	EPS for most recent fiscal year
e-1	=	EPS for the fiscal year prior to e0
e-2	=	EPS for the fiscal year prior to e-1
e-3	=	EPS for the fiscal year prior to e-2
e-4	=	EPS for the fiscal year prior to e-3

As needed to determine the stock's VCG score, the same notations are used for cash flow per share, revenue per share, book value per share, and dividends per share except that "c," "r," "b," or "d," respectively, are substituted for "e" in the example above.

Appendix 3: Measuring Stock Value Orientation

Basic Process

A stock's value orientation reflects the price investors are willing to pay for a share of some combination of the stock's prospective earnings, dividends, sales, cash flow, and book value.

Value orientation is determined using the following three steps:

- ▶ Calculate up to five prospective yields (e_1/p , d_1/p , c_1/p , r_1/p , and b_1/p) for each stock. Where possible, third-party forecasts for e_1 , d_1 , c_1 , r_1 and b_1 are used; otherwise they are determined using the process described in the next section.
- ▶ Calculate a float-weighted percentile score for each available yield factor, for each stock, within each cap band (large, mid, and small).
- ▶ Calculate a weighted average of the individual percentile scores for each stock, using the weighting scheme detailed in "Calculating Overall Value Orientation Scores" below. The weighted average score represents the strength of the stock's value orientation.

Details of each of these steps are provided below.

Calculating Prospective Yields

As many as possible of e_1/p , d_1/p , c_1/p , r_1/p , and b_1/p are calculated for each stock. Because p is known, the method used to forecast e_1 , d_1 , etc., is key.

If a positive third-party forecast of e_1 , c_1 , r_1 , or b_1 is available, it is used to calculate the prospective yield. If e_1 , c_1 , r_1 , or b_1 is forecast to be negative by a third party, or if e_0 , c_0 , r_0 , or b_0 is negative and no third party forecast is available, prospective yield on that factor is excluded for that stock. If no third-party forecast is available and e_0 , c_0 , r_0 , or b_0 is positive, then forecast values are calculated as described below (using EPS as an example).

The relationship between prospective and current EPS is straightforward:

$$[1] \quad e_1 = e_0 * (1 + g(e_1))$$

Because e_0 is known, only $g(e_1)$ must be calculated to provide a forecast of e_1 . Also, $g(e_1)$ is calculated from historical earnings information.

First calculate as many as possible of four periodic growth rates:

$$[2] \quad g(e)_{-4} = \left(\frac{e_0}{e_{-4}} \right)^{\frac{1}{4}} - 1$$

$$[3] \quad g(e)_{-3} = \left(\frac{e_0}{e_{-3}} \right)^{\frac{1}{3}} - 1$$

$$[4] \quad g(e)_{-2} = \left(\frac{e_0}{e_{-2}} \right)^{\frac{1}{2}} - 1$$

$$[5] \quad g(e)_{-1} = \left(\frac{e_0}{e_{-1}} \right)^1 - 1$$

Where e-1, e-2, e-3, or e-4 is negative, no growth rate is calculated using that data point. Availability for restated cash flow is limited to three years.

When as many as possible of the growth rates defined above have been calculated, average the results:

$$[6] \quad g(e)_1 = \text{Average}[g(e)_{-4}, g(e)_{-3}, g(e)_{-2}, g(e)_{-1}]$$

Thus:

- ▶ Estimated earnings growth $g(e)_1$ and forecast earnings (e_1) are calculated only for stocks where e_0 is a positive number.
- ▶ In calculating $g(e)_1$, recent growth rates are include in more of the averaged terms than are older growth rates; recent growth rates are therefore weighted more heavily than are older growth rates.
- ▶ If third-party forecasts are unavailable, e_1/p , c_1/p , r_1/p , and b_1/p are calculated in the same way.

The prospective dividend is determined based on the stock's most recent dividend and published frequency:

$$d_1 = d_0 * f_0$$

If d_1/p is the only available forecast yield figure, the stock is not given a VCG assignment.

Calculating Percentile Scores for Each Value Factor

When one or more of e_1/p , d_1/p , c_1/p , r_1/p , and b_1/p values have been calculated, with or without d_1/p , each stock is assigned a float-weighted percentile score for each relevant factor. The percentile scores are calculated within the stock's cap.

Prospective earnings yield scores for large-capitalization stocks are used in the following example.

To calculate an earnings yield score for each stock in the large cap:

- ▶ Order all stocks in the large cap by their e_1/p scores.
- ▶ Calculate the float-weighted trimmed mean e_1/p for all stocks in the large cap band — where the upper and lower 5% of the float is trimmed before the average is calculated. When a stock “straddles” the 5th percentile point or 95th percentile point, remove it from the investable universe.
- ▶ Calculate the ratio of each stock's e_1/p to the trimmed mean e_1/p for the large cap.
- ▶ Assign each stock to an e/p “bucket” as follows:
 - ▶ If the stock's e_1/p is equal to or less than 0.75 times the trimmed mean e_1/p (“the lower value cutoff”), the stock is assigned to the low e/p bucket; or

- ▶ if the stock's e1/p is equal to or less than the trimmed mean e1/p, the stock is assigned to the mid-minus e/p bucket; or
- ▶ if the stock's e1/p is equal to or less than 1.25 ("the upper value cutoff") times the trimmed mean e1/p, the stock is assigned to the mid-plus e1/p bucket; or
- ▶ the stock is assigned to the high e/p bucket.

When each stock has been assigned to an e/p bucket, it is then scaled relative to other stocks in the same bucket. The low e/p bucket is used as an example here:

- ▶ Order the stocks within the low e/p bucket by their raw e1/p scores, from lowest to highest.
- ▶ Within the low e/p bucket, assign each stock a value equal to the cumulative float represented by that stock and all stocks with a lower e1/p. Thus, the stocks in the low e/p bucket have values ranging from 0.00+ (the stock with the lowest e1/p in the low e/p bucket) to 100 (the stock with the highest e1/p in the low e/p bucket).
- ▶ Where two or more stocks have the same e1/p, they are assigned a value that represents the cumulative float of all stocks with a lower e1/p plus one half of the total float of the stocks that share the same e1/p.
- ▶ Rescale the scores in the low e/p bucket to final values between 0.00+ and 33.33. Note: In the case of dividends, zero is considered a valid data point. If d0 is zero, then d1 is set to zero.

Repeat the above four steps for each of the mid-minus, mid-plus, and high e/p buckets; rescale the values as follows:

Bucket	Minimum Score	Maximum Score
Low e/p	0.00+	33.33
Mid-minus e/p	33.34	50.00
Mid-plus e/p	50.01	66.66
High e/p	66.67	100.00

All of the steps in this section are then repeated for each of c1/p, r1/p, and b1/p, and d1/p.

Calculating Overall Value Orientation Scores

When the steps above are complete for each of the five value factors, a weighted average is calculated for each stock. In calculating the weighted average, e/p scores, if available, are assigned a weight of 50%; each of the other value factors is assigned an equal share of the remaining weight (either 50% or, if e/p is unavailable, 100%). The weighted-average result is the stock's overall value orientation score.

Appendix 4: Measuring Stock Growth Orientation

Basic Process

A stock's growth orientation reflects the rates at which its earnings, sales, cash flow, and book value are expected to grow. Forecast dividend growth rates are not used to determine stock growth orientation.

Determining a stock's growth orientation consists of three steps:

- ▶ For each stock, calculate as many as possible of the four average growth rates $g'(e)$, $g'(c)$, $g'(r)$, and $g'(b)$ using the process described in the next section.
- ▶ Calculate a float-weighted percentile score for each calculated growth rate, for each stock, within each band (large, mid, and small), and a float-weighted percentile score for $g(e5)$, if this is available from a third party.
- ▶ Calculate a weighted average of the individual growth rate percentile scores for each stock, using the weighting scheme detailed in the "Calculating Overall Growth Orientation Scores" section below.

The weighted-average score calculated in Step 3 above represents the strength of the stock's growth orientation.

Calculating Stock Growth Scores

As many as possible of $g'(e)$, $g'(c)$, $g'(r)$, and $g'(b)$ are calculated for each stock. In addition, if $g(e5)$ is available from a third party, it is used as a fifth growth rate indicator. The example growth rate calculation below uses $g'(e)$, but the process is identical for $g'(c)$, $g'(r)$, and $g'(b)$.

If e_0 and e_{-1} are negative, then $g'(e)$ is not calculated. If e_0 or e_{-1} is positive, then $g'(e)$ is calculated as follows:

First calculate as many as possible of five periodic growth rates:

$$[1] \quad g'(e)_{-4} = \left(\frac{e_n}{e_{-4}} \right)^{\frac{1}{n+4}} - 1$$

$$[2] \quad g'(e)_{-3} = \left(\frac{e_n}{e_{-3}} \right)^{\frac{1}{n+3}} - 1$$

$$[3] \quad g'(e)_{-2} = \left(\frac{e_n}{e_{-2}} \right)^{\frac{1}{n+2}} - 1$$

$$[4] \quad g'(e)_{-1} = \left(\frac{e_n}{e_{-1}} \right)^{\frac{1}{n+1}} - 1$$

$$[5] \quad g'(e)_0 = \left(\frac{e_n}{e_0} \right)^{\frac{1}{n}} - 1$$

Where:

n = Latest period (0 or -1) in which EPS is positive

If e_0 , e_{-1} , e_{-2} , e_{-3} , or e_{-4} is negative, no growth rate is calculated using that data point. If $n=0$, up to four rates are calculated and if $n=-1$, up to three growth rates are calculated.

When all available growth rates defined above have been calculated, average the results:

$$[6] \quad g'(e) = \text{Average}[g'(e)_{-4}, g'(e)_{-3}, g'(e)_{-2}, g'(e)_{-1}]$$

Revenue, cash flow, and book value growth rates are calculated in the same way.

If growth information for at least one factor, spanning at least two separate growth periods, is unavailable for a given stock, the stock is not given a VCG assignment.

Calculating Percentile Scores for Each Growth Factor

As with value orientation factors, the growth orientation factor scores for each stock are next translated into rescaled percentile scores. The percentile scores are calculated within the stock's cap band.

Prospective earnings growth rate scores for large cap stocks are used in the following example.

To calculate a prospective earnings growth rate score for each stock in the large-cap band:

- ▶ Order all stocks in the large-cap band by their growth rate $g'(e)$ scores.
- ▶ Calculate the float-weighted trimmed mean growth rate $g'(e)$ for all stocks in the large-cap band—where the upper and lower 5% of float is trimmed, before the average is calculated.
- ▶ Calculate the ratio of each stock's $g'(e)$ to the trimmed mean $g'(e)$ for the large-cap band.
- ▶ Assign each stock to a $g'(e)$ "bucket" as follows:
 - ▶ If the stock's $g'(e)$ is equal to or less than 0.75 times the trimmed mean $g'(e)$ ("the lower growth cutoff"), the stock is assigned to the low $g'(e)$ bucket; or
 - ▶ If the stock's $g'(e)$ is equal to or less than the trimmed mean $g'(e)$, the stock is assigned to the mid-minus $g'(e)$ bucket; or
 - ▶ If the stock's $g'(e)$ is equal to or less than 1.25 times the trimmed mean $g'(e)$ ("the upper growth cutoff"), the stock is assigned to the mid-plus bucket; or
 - ▶ The stock is assigned to the high $g'(e)$ bucket.

When each stock has been assigned to a $g'(e)$ bucket, it is then scaled relative to other stocks in the same bucket. The low $g'(e)$ bucket is used as an example here:

- ▶ Order the stocks within each bucket by raw $g'(e)$ score, from lowest to highest.
- ▶ Within the low $g'(e)$ bucket, assign each stock a value equal to the cumulative float represented by that stock and all stocks with a lower $g'(e)$. Thus, the stocks in the low $g'(e)$ bucket have values ranging from 0.00+ (the stock with the lowest $g'(e)$ in the low $g'(e)$ bucket) to 100 (the stock with the highest $g'(e)$ in the low $g'(e)$ bucket).
- ▶ Where two or more stocks have the same $g'(e)$, they are assigned a value that represents the cumulative float of all stocks with a lower $g'(e)$, plus one half of the total float of the stocks that share the same $g'(e)$.
- ▶ Rescale the scores in the low $g'(e)$ bucket to final values between 0.00+ and 33.33.

Repeat the four steps immediately above for each of the mid-minus, mid-plus, and high $g'(e)$ buckets, but rescale the values as follows:

Bucket	Minimum Score	Maximum Score
Low g'(e)	0.00+	33.33
Mid-minus g'(e)	33.34	50.00
Mid-plus g'(e)	50.01	66.66
High g'(e)	66.67	100.00

All of the steps in this section are then repeated for each of the other four growth orientation factors, including g(e5).

Calculating Overall Growth Orientation Scores

When the above steps are completed for each of the five growth orientation factors, a weighted average is calculated for each stock. In calculating the weighted average, g(e5) scores, if available, are assigned a weight of 50%; each of the other growth factors is assigned an equal share of the remaining weight (either 50% or, if g(e5) is unavailable, 100%). The weighted average result is the stock's overall growth orientation score.

Appendix 5: Modification to Rule book

Section	Description	Update Date
Multiple Share Classes	All eligible trading share classes are considered for the index from the December 2015 reconstitution.	Jan 2016
Index Weighting	We implemented 4-20-20 capping on the company level from the March 2018 rebalance.	March 2018

About Morningstar, Inc.

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. Morningstar offers an extensive line of products and services for individual investors, financial advisors, asset managers, and retirement plan providers and sponsors. Morningstar provides data on approximately 510,000 investment offerings, including stocks, mutual funds, and similar vehicles, along with real-time global market data on more than 17 million equities, indexes, futures, options, commodities, and precious metals, in addition to foreign exchange and Treasury markets. Morningstar also offers investment management services through its investment advisory subsidiaries.

About Morningstar Indexes

Morningstar® Indexes combine the science and art of indexing to give investors a clearer view into the world's financial markets. Our indexes are based on transparent, rules-based methodologies that are thoroughly back-tested and supported by original research. Covering all major asset classes, our indexes originate from the Morningstar Investment Research Ecosystem — our network of accomplished analysts and researchers working to interpret and improve the investment landscape. Clients such as exchange-traded fund providers and other asset management firms work with our team of experts to create distinct, investor-focused products based on our indexes. Morningstar Indexes also serve as a precise benchmarking resource.

Morningstar Index Product Committee

The Morningstar Index Product Committee is comprised of members who possess a wide array of knowledge in relation to Indexes. The Product Committee is responsible for the governance over the creation and maintenance of all Morningstar branded Indexes, ensuring the highest standards are continuously met. Any matters arising from exceptional or undocumented events will be resolved at the discretion of the Morningstar Index Product Committee.

Morningstar Index Oversight Committee

The Morningstar Index Oversight Committee is comprised of informed and qualified professionals who are responsible for the process governance of Morningstar branded Indexes. The Oversight Committee assesses and where appropriate challenges the decisions of Morningstar Indexes with regards to benchmark decisions.

For More Information

For any queries, reach out to us via our [communication page](#).



22 West Washington Street
Chicago, IL 60602 USA

©2020 Morningstar. All Rights Reserved.

The information in this document is the property of Morningstar, Inc. Reproduction or transcription by any means, in whole or part, without the prior written consent of Morningstar, Inc., is prohibited. While data contained in this report are gathered from reliable sources, accuracy and completeness cannot be guaranteed. All data, information, and opinions are subject to change without notice. This document may contain back-tested or simulated performances and the subsequent results achieved by the investment strategy may be materially different.