MSCI BARRA FACTOR INDEXES METHODOLOGY

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1 INTRODUCTION

Fundamental factors have become increasingly important in various areas of the investment process, including risk management and portfolio construction. Fundamental factors represent sources of systematic risk and return.

MSCI has done extensive research to identify the common factors driving equity markets and build factor models to capture these common sources of risk and return. MSCI research shows that three types of fundamental factors account for a significant part of the commonality in equity returns across different markets and time periods: country factors, industry factors, and style factors. The main style factors include size, value, momentum, volatility, and growth, to name just a few.

MSCI has developed a family of Barra Factor Indexes that aim to capture some of these important style factors in an index. The MSCI Long-Short Barra Factor Indexes are constructed by optimizing a parent MSCI Index to achieve a specified high level of exposure to a particular style factor (herein, "Target Factor"), very low exposure to all other style, industry and country factors, and low tracking error to a corresponding MSCI benchmark index[1] (herein, "Benchmark"). For institutional investors with restrictions on shorting, MSCI also calculates MSCI Long-Only Barra Factor Indexes constructed using a similar optimization process but designed to maximize exposure to the Target Factor while controlling exposure to other factors and minimizing tracking error relative to the Benchmark. MSCI currently offers Barra Factor Indexes that target the momentum, leverage, volatility, value and earnings yield factors and may expand the index family to cover a wider range of factors.

This methodology book describes a generic methodology to create MSCI Barra Factor Indexes based on the existing MSCI global or domestic equity indexes (herein, "Parent Indexes") using the Barra Optimizer and the relevant Barra Equity Model. Further information about the MSCI Barra Factor Indexes, Barra Optimizer and the various Barra Equity Models can be found at www.msci.com/products.

[1] Typically the corresponding MSCI Standard Index

2 MAIN CHARACTERISTICS OF MSCI LONG-SHORT BARRA FACTOR INDEXES

The MSCI Long-Short Barra Factor Indexes aim to have the following characteristics:

- Performance similar to that of the Benchmark plus the Target Factor
- Specified high exposure[2] to the Target Factor relative to the Benchmark
- Low exposure to other factors relative to the Benchmark
- Low tracking error relative to the Benchmark
- Controlled level of index turnover
- Monthly rebalancing

A pure factor replicating index could be composed of all securities present in the estimation universe of the relevant Barra Equity Model (typically thousands of large, mid and small capitalization securities) with long and short positions. This index would incur high turnover with most security weights changing at each monthly update of the model. A methodology to create reasonably replicable indexes needs to incorporate a number of constraints, such as constraints on the number of index constituents, monthly index turnover, trade limit and shorting costs to achieve replicability and investability.

[2] The target factor exposure may be positive or negative depending on the Target Factor. Please refer to Appendix I.

3 CONSTRUCTING THE MSCI LONG-SHORT BARRA FACTOR INDEXES[3]

The MSCI Long-Short Barra Factor Indexes are constructed by optimizing an MSCI Parent Index to achieve a specified stable level of exposure to the Target Factor and a controlled level of exposure to all other style, industry and country factors, while minimizing the tracking error relative to the Benchmark, for a given set of constraints. Constructing the MSCI Barra Factor Indexes involves the following steps:

- Specifying the Parent Index, Benchmark and the Barra Equity Model for optimization
- Specifying the Target Factor and optimization objective
- Specifying the optimization constraints
- Calculating the optimized index

The steps for constructing the MSCI Long-Short Barra Factor Indexes are described below.

3.1 SPECIFYING THE PARENT INDEX, BENCHMARK AND THE BARRA EQUITY MODEL FOR OPTIMIZATION

Constructing the MSCI Barra Factor Indexes begins with selecting the Parent Index, Benchmark and the relevant Barra Equity Model for the optimization. For the MSCI Long-Short Barra Factor Indexes:

- the Parent Index is the corresponding MSCI Investable Market Index and serves as the universe of eligible securities for the optimization;
- the Benchmark for the optimization is the corresponding MSCI Standard Index; and
- the Barra Equity Model is the corresponding global, regional or single country Barra Equity Model.

For example, to construct the MSCI Europe Long-Short Barra Factor Indexes, the MSCI Europe Investable Market Index would be used as the universe of eligible securities, MSCI Europe Index would be used as the Benchmark for the optimization, and the Barra Europe Short-Term Model would be used as the risk model for the optimization.

The optimization relies on the factor exposures for all the securities in the Parent Index and the factor co-variance matrix of the relevant Barra Equity Model. The optimization is performed from a base currency perspective (e.g., Euro for the MSCI Europe Barra Factor Indexes) and allows short selling of securities.

[3] Please refer to Appendix X for the construction of MSCI Long-Only Factor Indexes.

3.2 SPECIFYING THE TARGET FACTOR AND OPTIMIZATION OBJECTIVES

The optimization objective of the MSCI Long-Short Barra Factor Index is to have the lowest tracking error relative to the Benchmark, subject to the optimization constraints specified in Section 3.3.

Depending on the Target Factor, the MSCI Long-Short Barra Factor Index will target 1 or -1 standard deviation of exposure relative to the Benchmark. Please refer to Appendix I for the current list of MSCI Long-Short Barra Factor Indexes and their Target Factor Exposure.

3.3 SPECIFYING THE OPTIMIZATION CONSTRAINTS

At each monthly index rebalancing, a number of optimization constraints are employed in an effort to control the level of active exposure to other factors, as well as to achieve a balance between the objectives of replicability and investability, high exposure to the Target Factor, low tracking error to the Benchmark, limited stock specific risk, and low index turnover.

- At each monthly index rebalancing, the Target Factor exposure of the MSCI Long-Short Barra Factor Index will be fixed at a pre-defined level as specified in Appendix I (i.e., one standard deviation above or below the Target Factor exposure of the Benchmark, in absolute terms).
- At each monthly index rebalancing, the Barra style factor exposure of the MSCI Long-Short Barra Factor Index will not deviate more than +/- 0.1 standard deviations from the Barra style factor exposure of the Benchmark, in absolute terms, with the exception of the Target Factor.
- At each monthly index rebalancing, the Barra industry factor exposure of the MSCI Long-Short Barra Factor Index will not deviate more than +/- 0.5% from the Barra industry factor exposure of the Benchmark, in absolute terms.
- At each monthly index rebalancing, the Barra country factor exposure of the MSCI Long-Short Barra Factor Index will not deviate more than +/- 0.5% from the Barra country factor exposure of the Benchmark, in absolute terms.
- At each monthly index rebalancing, the MSCI Long-Short Barra Factor Index will only include securities that are constituents of the Parent Index.
- At each monthly index rebalancing, the MSCI Long-Short Barra Factor Index will have short positions only in securities whose Shorting Cost is below the Shorting Cost Cutoff defined in Appendix IV
- At each monthly index rebalancing, the leverage of the MSCI Long-Short Barra Factor Index will be fixed at a pre-defined level as specified in Appendix I.

- At each monthly index rebalancing, the number of index constituents is constrained to a maximum of 400.
- At each monthly index rebalancing, the one-way index turnover of the MSCI Long-Short Barra Factor Index is constrained to a maximum of 5% of the gross initial portfolio (Sum of absolute value of the long and short equity position).
- At each monthly index rebalancing, the weight of each index constituent will not change more than a predefined Trade Limit[4] linked to the stock's Average Daily Traded Value.
- At each monthly index rebalancing, the weight of an index constituent will not deviate more than +/- 2% from its weight in the Benchmark. When this constraint is in conflict with the Trade Limit constraint defined above, the Trade Limit constraint takes precedence.

3.4 CALCULATING THE OPTIMIZED INDEX

The MSCI Barra Factor Index is constructed using the Barra Optimizer in combination with the relevant Barra Equity Model. The optimization uses the MSCI Parent Index as the universe of eligible securities and the specified optimization objective and constraints to determine the optimal Barra Factor Index. Please refer to Appendix II for the optimization settings for constructing the MSCI Long-Short Barra Factor Indexes. In the event of an infeasible optimization, the rules outlined in Appendix VI will be followed.

[4] Please refer to Appendix V for the calculation of the Trade Limit.

4 MAINTAINING THE MSCI BARRA FACTOR INDEXES

4.1 MONTHLY INDEX REVIEWS

The index review of the MSCI Barra Factor Indexes is scheduled for the beginning of each month following the release by Barra to its clients of the monthly updates of the security exposure data and factor co-variance data of the relevant Barra Equity Model. The rebalancing date for the MSCI Barra Factor Indexes is as specified in Appendix III (the "Rebalancing Date"). The Rebalancing Date of the MSCI Barra Factor Indexes may vary depending on the release date of the monthly update of the corresponding Barra Equity Model. The release date of the monthly update of the relevant Barra Equity Model will be announced to all Barra Factor Index clients on or before the release.

The rebalancing of the MSCI Barra Factor Indexes is conducted as of the close of the Rebalancing Date. The changes resulting from the index rebalancing will be announced on the close of the Rebalancing Date and will be implemented as of the close of the second business day following the Rebalancing Date and will be effective from the third business day following the Rebalancing Date.

Please refer to Appendix III for further information about the monthly rebalancing timeline.

4.2 ONGOING EVENT RELATED CHANGES

IPOs and other newly listed securities will only be considered for inclusion at the next index rebalancing, even if they qualify for early inclusion in the MSCI Standard Indexes.

The general treatment of additions and deletions due to corporate events aims at minimizing turnover in the MSCI Barra Factor Indexes.

There will be no early inclusion of new securities to the MSCI Barra Factor Indexes, except when the new security results from an event affecting an existing constituent (e.g., spin off, merger). Otherwise, a new addition to the Parent Index outside the regular semi-annual and quarterly index reviews will be considered for addition to the MSCI Barra Factor Indexes at the next regularly scheduled monthly index review.

A constituent deleted from the Parent Index following a corporate event or during the Quarterly Index Review of the Parent Index will be simultaneously deleted from the Barra Factor Index. The deleted security's weight in the Barra Factor Index will be automatically reallocated to the remaining constituents of the Barra Factor Index in proportion to the weights of the remaining constituents in the Barra Factor Index before the deletion.

Please refer to Appendix IX for the details of corporate event treatments.

APPENDIX I: CURRENT LIST OF MSCI BARRA FACTOR INDEXES AS OF JUNE 2009

MSCI Long-Short Barra Factor Index	Target Factor	Target Factor Exposure[5]	Leverage
MSCI Europe Barra Momentum Index	Momentum	1	130/30
MSCI Europe Barra Value Index	Value	1	130/30
MSCI Europe Barra Low Volatility Index	Volatility	-1	150/50
MSCI Europe Barra Low Leverage Index	Leverage	-1	130/30
MSCI Europe Barra Earnings Yield Index	Earnings Yield	1	130/30
MSCI USA Barra Momentum Index	Momentum	1	130/30
MSCI USA Barra Earnings Yield Index	Earnings Yield	1	130/30
MSCI USA Barra Low Volatility Index	Volatility	-1	150/50
MSCI USA Barra Low Leverage Index	Leverage	-1	130/30
MSCI USA Barra Value Index	Value	1	130/30

MSCI Long-Only Barra Factor Index	Target Factor	Target Factor Exposure	Leverage
MSCI Europe Momentum Tilt Index	Momentum	Positive	Long-only
MSCI Europe Value Tilt Index	Value	Positive	Long-only

[5] Relative to the Benchmark

APPENDIX II: OPTIMIZATION SETTINGS FOR CONSTRUCTING MSCI LONG-SHORT BARRA FACTOR INDEXES

The MSCI Barra Factor Indexes are currently constructed using the latest version of the Barra Optimizer in combination with the relevant Barra Equity Model. The following optimization settings are applied to construct the MSCI Long-Short Barra Factor Indexes.

The Barra Equity Model is selected so that the region of the model corresponds to the region of the index being calculated. For example, to construct the MSCI Europe Barra Factor Indexes, the Barra Equity Model used is the Barra Europe Short-Term Model (Barra EUE3S).

1.0 Specify "Benchmark", "Initial Portfolio" and "Trade Universe" settings on the Barra Optimizer

- "Benchmark" is set to be the corresponding MSCI Standard Index, using the index constituent weights as of the close of the Rebalancing Date (before the rebalancing) updated for corporate actions up to the effective date of the rebalancing.
- "Initial Portfolio" is set to be the current Barra Factor Index, using the index constituent weights as of the close of the Rebalancing Date (before the rebalancing) updated for corporate actions up to the effective date of the rebalancing. When there is no current Barra Factor Index (for example, when no optimization has been applied to the Parent Index yet), the Initial Portfolio is set to be the Parent Index.
- "Trade Universe" is set to be the index constituents of the Parent Index (i.e., the corresponding MSCI Investable Market Index).

2.0 Specify risk model

- The factor exposures of all securities in the Initial Portfolio and Benchmark are set using the most recent monthly release of factor exposure data of the relevant Barra Equity Model
- The common factor co-variances are set using the most recent monthly release of factor co-variance data of the relevant Barra Equity Model
- The specific co-variances of all securities in the Initial Portfolio and Benchmark are set using the most recent monthly release of specific co-variances data of the relevant Barra Equity Model

3.0 Setup utility function

The optimization objective is to find a pro forma Barra Factor Index that minimizes the active risk of the pro forma Barra Factor Index relative to the Benchmark, as determined by the relevant Barra Equity Model.

4.0 Setup constraints

- The Target Factor exposure of the pro forma Barra Factor Index will be fixed at a pre-defined level as specified in Appendix I (i.e., one standard deviation above or below the Target Factor exposure of the Benchmark, in absolute terms)
- The Barra style factor exposure of the pro forma Barra Factor Index will not deviate more than +/- 0.1 standard deviations from the Barra style factor exposure of the Benchmark, in absolute terms, with the exception of the Target Factor
- The Barra industry factor exposure of the pro forma Barra Factor Index will not deviate more than +/- 0.5% from the Barra industry factor exposure of the Benchmark, in absolute terms
- The Barra country factor exposure of the pro forma Barra Factor Index will not deviate more than +/- 0.5% from the Barra country factor exposure of the Benchmark, in absolute terms
- The pro forma Barra Factor Index will only include securities in the Trade Universe
- The pro forma Barra Factor Index will have short positions only in securities whose Shorting Cost is below the Shorting Cost Cutoff defined in Appendix IV
- The leverage of the pro forma Barra Factor Index will be fixed at a pre-defined level as specified in Appendix I
- The number of index constituents of the pro forma Barra Factor Index is constrained to a maximum of 400
- The one-way index turnover from the Initial Portfolio (i.e., the current Barra Factor Index) to the pro forma Barra Factor Index is constrained to a maximum of 5% of the gross initial portfolio (Sum of absolute value of the long and short equity position).
- For each Barra Factor Index constituent, its weight in the pro forma Factor Index will not change more than a predefined Trade Limit[6] from its weight in the Initial Portfolio (i.e., the current Barra Factor Index)

[6] Please refer to Appendix V for the calculation of the Trade Limit.

- The weight of an index constituent of the pro forma Barra Factor Index will not deviate more than +/- 2% from its weight in the Benchmark. When this constraint is in conflict with the Trade Limit constraint defined above, the Trade Limit constraint takes precedence

APPENDIX III: MONTHLY REBALANCING TIMELINE

The Rebalancing of the MSCI Barra Factor Indexes occurs after the monthly update of the corresponding Barra Equity Model.

The target release date of the Barra European Equity Model and the Barra US Equity Model monthly update is the first calendar day after the last business day of the previous month. The Rebalancing Date for the MSCI Barra Factor Indexes is the close of the second business day of the rebalancing month. The changes resulting from the index rebalancing will be announced as of the close of the second business day, implemented as of the close of the fourth business day, and effective from the fifth business day of the rebalancing month.

APPENDIX IV: DEFINING SHORTING COST CUTOFF

This MSCI Long-Short Barra Factor Indexes are screened using certain short interest data sourced from Data Explorers. See www.dataexplorers.com for further information regarding short interest data.

The Shorting Cost for each security is the Value Weighted Average Fee 7 Day sourced from Data Explorers, which reflects the average cost of borrowing for all trades in the last 7 calendar days. If the Value Weighted Average Fee 7 Day is not available, the Value Weighted Average Fee for a longer period will be used.

For a currently shorted constituent, if a security's Shorting Cost at the monthly index review exceeds a Shorting Cost Cutoff of 133 basis points, the security will be excluded from the short position of the MSCI Barra Factor Index. For a new security, the Shorting Cost cut off is 100 basis points. If a security is not covered by the shorting cost data sourced from Data Explorers, it will also be excluded from the short position of the MSCI Barra Factor Index.

All securities in Greece will be excluded from the short side of the MSCI Barra Factor Index, as a result of short selling restrictions in Greece.

The Shorting Cost Cutoff is subject to quarterly reviews.

APPENDIX V: DEFINING TRADE LIMITS

In the monthly index review, the Trade Limit for each security (i.e., the maximum security weight change) is calculated as 10% of its Average Daily Traded Value, assuming a portfolio value of 1 billion USD:

Trade Limit = (10% * Average Daily Traded Value) / 1 billion

The Average Daily Traded Value of a security is calculated as the average of the daily traded values in the one month prior to the Rebalancing Date. The daily traded value of a security is equal to the number of shares traded during the day, multiplied by the closing price of that security.

APPENDIX VI: HANDLING INFEASIBLE OPTIMIZATIONS

During the monthly index review, in the event that there is no optimal solution that satisfies all the optimization constraints defined in Section 3.3, the constraints will be relaxed sequentially as follows, until an optimal solution is found:

1. Relax the turnover constraint and factor exposure constraints on style, industry and country factors, with violation of the constraints discouraged by penalties. This is achieved automatically using the Soft Constraint feature of the Barra Optimizer, by setting both turnover constraint and factor exposure constraints as Soft Constraint.
2. Relax the trade limit constraint by allowing two times the original Trade Limit for each security.
3. Relax the constraint on index constituent weight by constraining the weight of an index constituent to deviate no more than +/- 2.5% from its weight in the Benchmark, instead of no more than +/- 2.0%
4. Relax the maximum number of index constituents to 1.25 times the original maximum number of stocks.

The above constraint relaxation sequence is followed mechanically. In the event that no optimal solution is found after all the above constraints have been relaxed, the relevant Barra Factor Index will not be rebalanced for that month.

APPENDIX VII: NEW RELEASE OF BARRA EQUITY MODEL OR BARRA OPTIMIZER

Any major new release of the relevant Barra Equity Model or Barra Optimizer will replace the former version within a 6 month time frame of such a new release.

If there are structural changes in the new release of the relevant Barra Equity Model (for example, the new model has different factors or a particular factor has different underlying descriptors), the relevant MSCI Barra Factor Index will be linked to the factor that is most closely linked to the existing Target Factor, based on the underlying descriptors and the historical risk and return profile of the factors. The relevant MSCI Barra Factor Index will be renamed if appropriate to reflect the name of the new underlying Barra Equity Model factor.

APPENDIX VIII: BARRA MODEL DATA DELAYS OR CORRECTIONS

If there is a delay in the monthly release of security exposure data and factor co-variance data of the relevant Barra Equity Model, all MSCI Barra Factor Index clients will be notified, and the monthly index review of the relevant MSCI Barra Factor Indexes will be delayed until the relevant Barra model data is available. In the event that the relevant Barra model data is delayed for more than 5 business days after the target release date, the index review of the relevant MSCI Barra Factor Indexes will not be conducted for that month.

If there is a correction of the relevant Barra model data within 5 business days following the Rebalancing Date, and the impact of the correction is determined to be significant, a new index review will be conducted for the relevant MSCI Barra Factor Indexes. The impact of the correction will be considered significant when either the impact on the Target Barra Factor exposure of the relevant MSCI Barra Factor Indexes is above a threshold of 0.1, or the impact on the Active Risk of the relevant MSCI Barra Factor Indexes is above a threshold of 0.5% in absolute terms.

All MSCI Barra Factor Index clients will be notified at the time of a relevant Barra model data correction. The new index review will be conducted and announced on the close of the second business day following the Barra data correction. The changes resulting from the new index review will be implemented as of the close of the fourth business day following the Barra data correction (effective on the fifth business day following the Barra data correction). The index levels of the relevant MSCI Barra Factor Indexes prior to the new index review will not be restated.

APPENDIX IX: CORPORATE EVENT TREATMENT

This appendix describes the treatment of the most common corporate events in the MSCI Barra Factor Indexes. Details regarding the treatment of all other corporate events not covered in this appendix can be found in the MSCI Corporate Events Methodology book, available at http://www.msci.com/products/indexes/size/standard/methodology.html

Event Type	Event details	Action
Acquisition	Factor index constituent acquires another factor index constituent	Maintain acquiring company and remove acquired company
	Factor index constituent acquires non factor index constituent	Maintain acquiring company
	Non factor index constituent acquires factor index constituent	Remove acquired company without adding acquiring company
Merger	Factor index constituent merges with factor index constituent	Add new company
	Factor index constituent merges with non factor index constituent	Add new company if MSCI links its price history to the Factor index constituent. New company not added if price history is linked to the non factor index constituent
IPO	IPO added to parent Index	IPO not added to factor index (reviewed at next monthly index rebalancing)
Spin-off	Factor index constituent spins off security	Add spun-off security if it is in parent index
	Non factor index constituent spins off security	No change (spun off security not added to factor index)
Conversion	Security A converted to B, A deleted from parent index, B added	B inherits constraint factors from A
Country Reclassification	Domicile of company reviewed: Security A deleted from country A, security B added to country B	B inherits constraint factors from A if it is added to the parent index
Stock exchange reclassification	Stock exchange (price source) of company reviewed: Security A deleted, security B added	B inherits constraint factors from A if it is added to the parent index

APPENDIX X: CONSTRUCTING THE MSCI LONG-ONLY BARRA FACTOR INDEXES

The MSCI Long-Only Barra Factor Indexes aim to have the following characteristics:

- Performance similar to that of the Benchmark with a tilt towards the Target Factor
- High exposure to the Target Factor relative to the Benchmark
- Low exposure to other factors relative to the Benchmark
- Low tracking error relative to the Benchmark
- Controlled level of index turnover
- Monthly rebalancing

The MSCI Long-Only Barra Factor Indexes are constructed by optimizing an MSCI Parent Index to maximize exposure to the Target Barra Factor while controlling exposure to other factors and minimizing tracking error relative to the Benchmark, for a given set of constraints. Constructing the MSCI Barra Factor Indexes involves the following steps:

- Specifying the Parent Index, Benchmark and the Barra Equity Model for optimization
- Specifying the Target Factor and optimization objective
- Specifying the optimization constraints
- Calculating the optimized index

The steps for constructing MSCI Long-Only Barra Factor Indexes are described below.

1. Specifying the Parent Index, Benchmark and the Barra Equity Model for optimization

Constructing the MSCI Barra Factor Indexes begins with selecting the Parent Index, Benchmark and the relevant Barra Equity Model for the optimization. For the MSCI Long-Only Barra Factor Indexes:

- the Parent Index is the corresponding MSCI Standard Index and serves as the universe of eligible securities for the optimization;
- the Benchmark for the optimization is also the corresponding MSCI Standard Index; and
- the Barra Equity Model is the corresponding global, regional or single country Barra Equity Model.

For example, to construct the MSCI Europe Long-Only Barra Factor Indexes, the MSCI Europe Index would be used as the universe of eligible securities as well as the Benchmark for the

optimization, and the Barra Europe Short-Term Model would be used as the risk model for the optimization.

The optimization relies on the factor exposures for all the securities in the Parent Index and the factor co-variance matrix of the relevant Barra Equity Model. The optimization is performed from a base currency perspective (e.g., Euro for the MSCI Europe Barra Factor Indexes) and does not allow short selling of securities.

2. Specifying the Target Factor and optimization objectives

The optimization objective of the MSCI Long-Only Barra Factor Index is to have high factor exposure to the Target Factor and low tracking error relative to the Benchmark, which is achieved through maximizing the following utility function:

Maximize: Target Factor Exposure * 0.01 – Risk Aversion Parameter * Active Risk

A risk aversion parameter of 0.015 is used to balance the objective of maximizing exposure to the Target Factor and the objective of minimizing tracking error relative to the Benchmark.

3. Specifying the optimization constraints

At each monthly index rebalancing, a number of optimization constraints are employed in an effort to control the level of active exposure to other factors, as well as to achieve a balance between the objectives of replicability and investability, high exposure to the Target Factor, low tracking error to the Benchmark, limited stock specific risk, and low index turnover.

- At each monthly index rebalancing, the Barra style factor exposure of the MSCI Long-Only Barra Factor Index will not deviate more than +/- 0.25 standard deviations from the Barra style factor exposure of the Benchmark, in absolute terms, with the exception of the Target Factor.
- At each monthly index rebalancing, the Barra industry factor exposure of the MSCI Long-Only Barra Factor Index will not deviate more than +/- 5% from the Barra industry factor exposure of the Benchmark, in absolute terms.
- At each monthly index rebalancing, the Barra country factor exposure of the MSCI Long-Only Barra Factor Index will not deviate more than +/- 5% from the Barra country factor exposure of the Benchmark, in absolute terms.
- At each monthly index rebalancing, the MSCI Long-Only Barra Factor Index will only include securities that are constituents of the Parent Index.
- At each monthly index rebalancing, the number of index constituents is constrained to a maximum of 200.

- At each monthly index rebalancing, the one-way index turnover of the MSCI Long-Only Barra Factor Index is constrained to a maximum of 5%.
- At each monthly index rebalancing, the weight of each index constituent will not change more than a predefined Trade Limit[7] linked to the stock's Average Daily Traded Value.
- At each monthly index rebalancing, the weight of an index constituent will not deviate more than +/- 2% from its weight in the Benchmark. When this constraint is in conflict with the Trade Limit constraint defined above, the Trade Limit constraint takes precedence.

4. Calculating the optimized index

The MSCI Barra Factor Index is constructed using the Barra Optimizer in combination with the relevant Barra Equity Model. The optimization uses the MSCI Parent Index as the universe of eligible securities and the specified optimization objective and constraints to determine the optimal Barra Factor Index. In the event of infeasible optimization, the rules outlined in Appendix VI will be followed.

[7] Please refer to Appendix V for the calculation of the Trade Limit.

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