

IPD GLOBAL DATA STANDARDS CONSULTATION 4

Bringing global consistency to real estate

MSCI Research

May 2015

CONTENTS

Why is consultation required? 4

Proposed changes for consultation..... 5

 Proposed changes to return calculations5

 Proposed changes to classifications and screening.....6

Consultation item 1: Interpolation 8

 Background 8

 Proposed change 8

 Benefits / impact..... 9

 Consultation question..... 10

Consultation item 2: Valuation Filtering..... 11

 Background 11

 Proposed changes..... 11

 Benefits / impact..... 11

 Consultation question..... 12

Consultation item 3: Reweighting to market sizes 13

 Background 13

 Proposed changes..... 14

 Benefits / impact..... 15

 Consultation questions 15

Consultation item 4: Capital growth analysis 16

 Background 16

 Proposed changes..... 16

 Benefits / impact..... 17

 Consultation questions 17

Consultation item 5: Geographic classification 18

 Background 18

 Proposed changes 18

 Benefits / impact 19

 Consultation questions 19

Consultation item 6: Asset strategy classification 20

 Background 20

 Proposed changes 20

 Benefits / impact 21

 Consultation questions 21

Consultation item 7: Portfolio Dominance policy 22

 Background 22

 Proposed changes 22

 Benefits / impact 23

Consultation item 8: Sample Composition 24

 background 24

 Proposed changes 24

 Benefits / impact 24

 Consultation questions 25

Conclusion 26

Appendix 27

 Exhibit 1: interpolation simulation - detailed results 27

 Exhibit 2: Geographic classification - detailed results 28

WHY IS CONSULTATION REQUIRED?

Real estate investment is increasingly recognized as a global asset class by institutional investors. Although the preference for domestic investment remains strong, more and more institutions are adopting a global approach to real estate in order to fully exploit the substantial diversification potential of the asset class.

MSCI is supporting these trends by providing its clients with objective insights - via real estate performance measurement and analytics through the investment process - to power their multi-asset and multinational portfolio construction and management. In order to be most widely used, these insights need to be comparable internationally and across asset classes, and to allow for integrated measurement and analysis at the fund, asset and tenant level.

In order to achieve this, MSCI has begun the ambitious project of enhancing the global consistency of its indexes and portfolio analytics by standardizing the collection of data, the calculation of measures and the classification of markets over the 32 countries it covers. As well as enhancing global consistency, standardization is a necessary first step towards the greater automation of data collection, which should eventually lead to a drastic reduction in the workload for data contributors.

This global standardization project is being conducted under the governance of the MSCI Technical Committee and represents a thorough process involving both research by MSCI and consultation with market participants and their representative bodies. This standardization process is not being undertaken from a purely theoretical viewpoint: it is essential that it should create greater value for market participants globally, while not losing any of the value that lies in locally-generated information.

For this reason we are launching this new consultation on several methodological changes we are intending to introduce in our systems and products. The current consultation follows a series conducted over the last 18 months, summarized below:

- In March 2014, we announced a series of changes to our standard methodologies: establishing a list of key global financial variables; developing a performance methodology excluding currency impacts (“local currency benchmarks”); standardizing the methodology for index reweighting; and standardizing fund level performance globally.
- In October 2014, we put forward our plans to introduce six new changes in the following areas: global operating cost classification and measures, global yield measures, global vacancy measures, global property classification, global fund classification and a standard fund level treatment for cross-holdings.

- In January 2015, we proposed seven additional changes to our standards in the following areas: net income formula and data collection, variable currency conversion for capital expenditures, standardization of gross capital value derivation, global monthly asset operational classification, asset exclusion rules for indexes, asset to fund performance reconciliation, and assets and liabilities classification.

Summaries of these prior consultations, detailing some of the feedback and MSCI's responses, can be found on our website via the [IPD Reporting Portal](#).

PROPOSED CHANGES FOR CONSULTATION

In this current consultation, we are considering the implementation of eight new changes. MSCI's real estate standardization work in 2015 has continued to focus primarily on enhancing the global consistency of asset level and fund level measures and classifications. The scope of the current consultation focuses on two broad areas; return calculations, and classifications and screening. The former relates to the rules and processes underlying our index calculations while the latter relates to the way our indexes are segmented and screened.

PROPOSED CHANGES TO RETURN CALCULATIONS

1. Standard interpolation methodology

All MSCI real estate performance measures are time-weighted, meaning that they are the result of compounding monthly figures. Therefore in order to compute monthly changes we need to derive a value for each asset for every month when a valuation is not available from the data provider. This is achieved by interpolating between the values supplied by clients.

Values for months when no valuation is available from the data provider have historically been derived using a range of approaches across countries. Broadly speaking, values have been interpolated linearly in most markets, except the UK, Canada, and Germany. In the UK, the interpolation of quarterly and annual indexes has been 'shaped' to reflect the seasonality captured in the UK monthly index. In Canada and Germany, the value of assets has been held down until a new valuation is available.

MSCI proposes to apply a globally consistent approach to interpolation with the aim of using the best available market evidence of capital growth throughout the year.

2. Valuation Filtering

In some markets, such as Australia, Germany, New Zealand, Canada and Japan, asynchronous valuation regimes mean that only a portion of the entire stock is valued at every index calculation date. In such markets, non-valued assets are currently included in

the return calculation by holding down their most recent valuation, adjusted for any capital expenditure. However, an alternative treatment would be to exclude them from the return calculation until a new valuation has been received. Excluding such assets would mean that results for more recent periods are based on smaller samples, but more recent valuations. Whether or not non-valued assets are excluded from the calculation, asynchronous valuations will result in the need for some historical restatement of unfrozen indexes. This is because assets will re-enter historical calculations with the receipt of new valuations, or else their held down values will be updated with interpolated values.

Given the current proposal for interpolation (detailed in this document), MSCI proposes to exclude held down, non-valued assets from index calculations until a new valuation has taken place and values for the intervening months have been interpolated.

3. Reweighting by market size

Reweighting involves using weights based on estimates of underlying market size instead of the weights in the MSCI samples. MSCI currently conducts an annual survey of overall market size which serves as the basis for weighting some indexes. MSCI has identified two key issues in relation to reweighting: firstly, calculations lack consistency with equity indexes and secondly, the timing of changes in weights does not allow for index replication.

MSCI proposes to change both the process for calculating weights and the timing for implementing the estimation of new market sizes.

4. Capital growth analysis

Capital growth is a driver of total return volatility. The analysis of its components enables us to understand how much capital growth stems from changes in the market (whether the investment or occupational market) and how much is the result of active asset management (new lettings, re-negotiation of rents, etc.).

As a result of the variety of yields in use, almost every market has developed its own capital growth analysis, making the components of capital growth difficult to compare across countries.

Following the definition of a set of five global yield measures, MSCI proposes to implement a globally standardized capital growth analysis based on net reversionary yield and market rental value (MRV).

PROPOSED CHANGES TO CLASSIFICATIONS AND SCREENING

5. Geographic classification

MSCI has no standard way of recording town/city, region or economic center. These are currently recorded through multiple data points, making data collection cumbersome and

confusing for international contributors, and limiting MSCI’s ability to make international comparisons.

MSCI proposes to create a global geographic location classification in which each level is nested in the level above.

6. Asset strategy classification

In a limited number of countries, MSCI has developed a breakdown that classifies assets not only by their current status (i.e. the operational situation of the asset: standing investment, development, etc.) but by their individual “strategies” at the time of purchase.

MSCI proposes the implementation of this classification and analysis in all countries.

7. Portfolio Dominance Policy

MSCI’s current commitment to confidentiality is enforced through the ‘3/5 rule’: any statistical measure must be underpinned by at least five distinct assets, held in three different portfolios.

Based on external feedback, MSCI is now considering the establishment of a standard and automated approach to the assessment of dominance across its indexes and analytics, which will further preserve the confidentiality of client data, and will allow MSCI to deliver enhanced flexibility through new product ranges, specifically in the form of calculation on demand.

8. Sample composition

MSCI’s policy is to maximize the sample of assets underpinning return calculations. In some cases the non-submission of data, such as income, makes it impossible to calculate total returns. Consequently, an asset may be included in capital growth calculations, but be excluded from income return and total return. At the index level, sample differences for each component of the return may result in a total return that does not exactly equate to the sum of income return and capital growth in any one month.

MSCI proposes to ensure that in any month, total return and its components are calculated from the same sample of properties, so that total return equates the sum of capital growth and income return.

However, for results produced for periods longer than one month, such as quarterly or annual, income return and capital growth may not sum to total return, due to the effect of compounding monthly figures.

CONSULTATION ITEM 1: INTERPOLATION

BACKGROUND

MSCI collects capital values and rental values for each asset from clients at each valuation point. In most markets assets are valued in a synchronized manner on a quarterly or annual basis.

All MSCI real estate performance measures are time-weighted, meaning that they are the result of compounding monthly figures. Therefore, in order to compute monthly changes we need to derive a value for each asset for every month, and therefore interpolate between genuine values supplied by clients to derive the values for months when a value is not available.

Values for months when no valuation is available have historically been derived using a range of approaches across countries. Broadly speaking, values have been interpolated linearly in most markets, except in the UK where interpolation for quarterly and annual indexes has been adjusted to reflect the seasonality captured in the UK monthly index. In some markets the value of assets has been held down until a new valuation is available.

In addition, some markets have irregular valuation patterns, where there is either no set period between value assessments and/or varying valuation patterns across the constituent portfolios (not all portfolios are valued at the same time).

PROPOSED CHANGE

MSCI proposes to apply a globally consistent approach to interpolation with the aim of using the best available market evidence of capital growth throughout the year.

Between valuations, capital growth is not necessarily evenly spread over the intervening months, but may be concentrated in some periods, something that linear interpolation cannot reflect. This does not materially affect performance measurement over short periods of time like a quarter, but it can make a difference for longer periods.

All properties with a gap of less than three months between genuine valuations will be subject to linear interpolation. For any directly-held property with gap of longer than three months between valuations, intervening valuations will be determined by using 'shaped' interpolation. The process of 'shaping' apportions capital growth across intervening months by applying growth trends observed in higher valuation frequency indexes, the shaping 'driver'.

In future, shaping will be based on sector specific changes in the quarterly index sample for the market concerned, if available. Where no quarterly market evidence is available, assets

will be linearly interpolated until such time as that market has a quarterly index. Where an asset has no final valuation in the reporting period end-month due to irregular or varying valuation practices, values will be excluded from the index calculation. Such assets will return to the index as soon as the next valuation is recorded, and the relevant value can be interpolated. This means that for unfrozen indexes (where past results are restated at each release cycle as a result of method or sample changes), historical performance may change as a result of the interpolation process.

This globally consistent method will be applied at both asset and portfolio level.

BENEFITS / IMPACT

- Enhanced international consistency of performance measurement.
- Enhanced consistency of performance measurement for portfolios domiciled in the same market, but with different valuation regimes (such as quarterly and annual).

The countries most impacted by this change are:

- Canada and Germany, where assets were not previously interpolated, but held constant over the year.
- The Netherlands, where interpolation was linear for annually valued assets, despite the existence of a quarterly index.
- The UK, where interpolation was shaped both for annual and quarterly indexes, using monthly index performance at segment level as the driver.

MSCI has simulated the impact on total return of moving to the new interpolation method for these countries on the longest period possible (See Appendix 1 for detailed results). A summary of the results is provided in the table below, with the detailed results presented in the exhibit at the end of this document.

The table below summarizes the impact of interpolation, calculated as the arithmetic difference between annual results from applying the new and old methods.

Index	Average absolute difference	Max difference	Max Year
Canada annual index	60.81	- 141.86	2008
Netherlands annual index	0.55	- 1.53	2008
Germany annual index	30.08	- 93.83	1996
UK annual index	6.81	55.77	2013

Unit: basis points

MSCI is considering implementing this change not only prospectively, but also retrospectively to historical results.

CONSULTATION QUESTION

- Do you support this change?

CONSULTATION ITEM 2: VALUATION FILTERING

BACKGROUND

In some markets, such as Australia, Germany, New Zealand, Canada and Japan, asynchronous valuation regimes mean that only a portion of the entire stock is valued at every index calculation date. In such markets, non-valued assets are currently included in the return calculation by holding down their most recent valuation, adjusted for any capital expenditure. However, an alternative treatment would be to exclude them from the return calculation until a new valuation has been received. Excluding such assets would mean that results for more recent periods are based on smaller samples, but more recent valuations. Whether or not non-valued assets are excluded from the calculation, asynchronous valuations will result in the need for some historical restatement of unfrozen indexes. This is because assets will re-enter historical calculations with the receipt of new valuations or else their held down values will be updated with interpolated values.

PROPOSED CHANGES

Given the current proposal for interpolation (detailed in this document), MSCI proposes to exclude held down, non-valued assets from index calculation until a new valuation has taken place and valuations for the intervening months have been interpolated.

BENEFITS / IMPACT

- Excluding held down assets will mean results for more recent periods are based on smaller samples, but more recent valuations.
- Smaller samples may limit MSCI's ability to produce returns for market segments where coverage is limited.
- Whether included or excluded, there will be a need for some historical restatement in unfrozen indexes in markets where asynchronous valuations exist.

The results of a simulation based on 2013 results in Germany and Canada - the two countries where held down valuations are currently used to compute performance results – show that the impact of making this change would be relatively moderate.

	Results including held down valuations (%)	Results excluding held down valuations (%)	Difference (basis points)
Canada	4,53	4,78	25
Germany	0,04	0,08	4

CONSULTATION QUESTION

- Do you agree with MSCI’s proposal?

CONSULTATION ITEM 3: REWEIGHTING BY MARKET SIZE

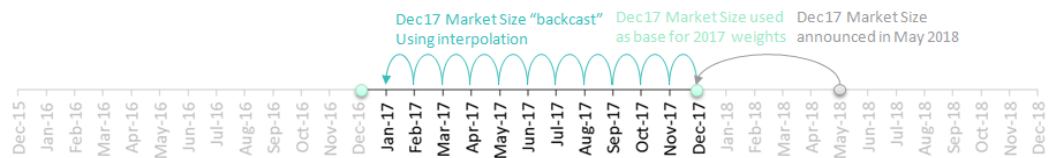
BACKGROUND

Reweighting involves the use of multinational aggregate weights for calculating international performance measures, such as those used for the IPD Global Index. These are based on estimates of underlying market size rather than the weights in the MSCI samples. The estimation process is conducted once a year.

MSCI has identified two key problems in relation to reweighting by market size:

1. **Calculation method:** Intervening-month calculations lack consistency with MSCI equity indexes:
 - a. MSCI equity indexes extrapolate the weight of a country by applying relative capital growth to period start weights, while MSCI real estate indexes interpolate between two consecutive yearly estimates. For real estate indexes, changes in weights throughout the year not only capture capital growth, but also structural changes in the underlying markets, for example assets shifting from owner occupied to investment or development status, or fluctuations in the accuracy of estimates. This is not consistent with a passive investment strategy, where portfolio composition is primarily affected by capital value growth and changes in currency rates.
 - b. Intervening month calculations for market size currently smooth the impact of foreign exchange (FX) rates: In the current interpolation process, market sizes at December-end are first converted to USD, then interpolated, resulting in a smoothed interpolation of FX changes.
2. **Timing:** the current methodology for recalculating weights may not leave enough time for index trackers to replicate an index.

As an example, , applying the current methodology, new market sizes published in May 2017 would be applied for reweighting 2016 results.



By definition, weights cannot be known to users ahead of the benchmarking period, making it impossible for those wishing to replicate an index to do so. This problem is even more substantial when there is a large year-on-year change in estimates.

PROPOSED CHANGES

1. Calculation

When determining intervening month-end market sizes estimates, MSCI proposes to change from interpolation to extrapolation, using capital growth and changes in currency rates.

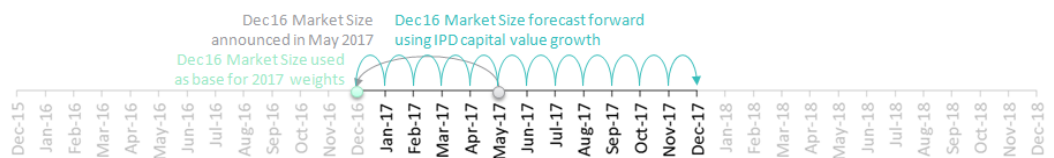
The following process is proposed:

- a) The values of the market size estimates are to be set as the period start market size. These estimates are denominated in domestic currency.
- b) Intervening month-end market sizes are to be derived by applying domestic currency capital growth (denominated in local currency) to period start estimates. In order to ensure consistent weights for both quarterly and annual indexes, capital growth is computed from quarterly indexes where such indexes are available.
- c) Estimated market capital values are to be converted into estimated capital employed by applying capital employed adjustment ratios, the ratio of capital employed to capital value in MSCI’s sample (see March 2014 Consultation, and corresponding feedback notes).
- d) Currency conversion is to be applied to the intervening month-end capital employed estimates at the month-end currency rate.

2. Timing

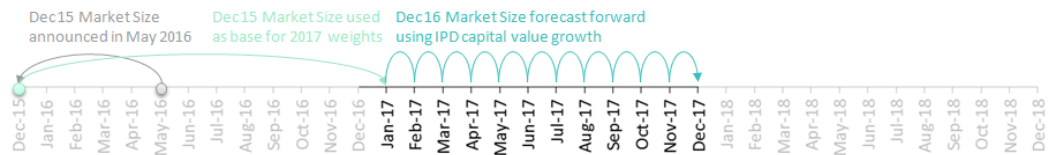
MSCI is currently considering two potential solutions:

In the first solution, new market size estimates would be announced in May 2017 and applied in the reweighting of 2017 year performance.



The second solution would provide more time for users to adjust their allocations to that of the index. In this case, the market size estimates announced in May 2016 would be used for reweighting in the 2017 performance calculation, leaving more than seven months for investors to rebalance their portfolios. However, a negative aspect of this approach is that

the weights used for 2017 performance would be 7-8 months out of date, and would not reflect the most recent changes in real estate capital values and exchange rates.



BENEFITS / IMPACT

1. Calculation

- Changes in weights will only reflect real estate performance and changes in exchange rates, not changes in the structure of the market. This is more appropriate for passive investment strategies.
- Multinational indexes will reflect actual exchange rate impacts
- Enhanced consistency with equity index methodologies

2. Timing

- Both solutions leave more time for investors to adjust the composition of their portfolios.
- Enhanced consistency with equity index methodologies

CONSULTATION QUESTIONS

- Do you want information on the market weights that will be applied to be available in advance, even if these are 7-8 months old and may not reflect intervening capital value growth and currency effects?
- Or, are you satisfied with weights that are calculated for the current period but may not leave you enough time to adjust your portfolio to fully replicate index weights?

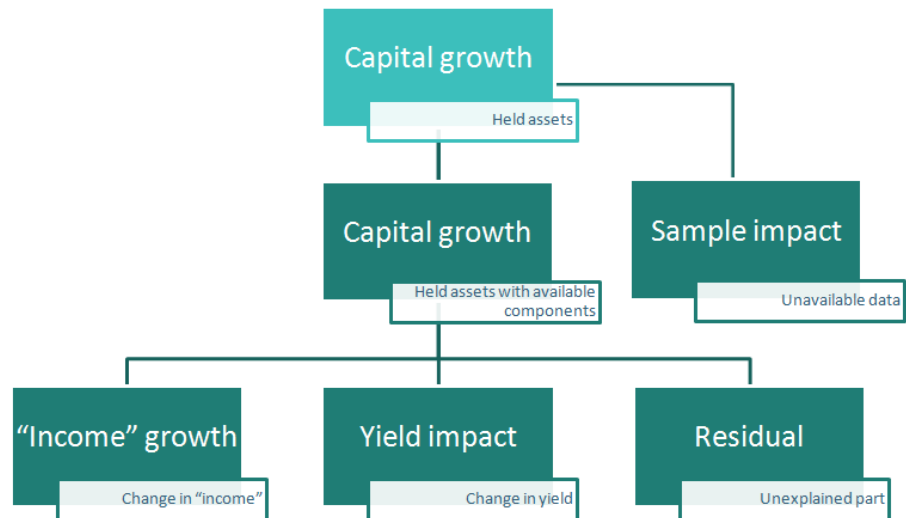
CONSULTATION ITEM 4: CAPITAL GROWTH ANALYSIS

BACKGROUND

Capital growth is a driver of total return volatility. The analysis of its components enables us to understand how much capital growth stems from changes in the market (whether the investment or occupational market) and how much is the result of active asset management (new lettings, rent re-negotiation, etc.).

As a result of the variety of yields in use, almost every market has developed its own capital growth analysis, making the components of capital growth difficult to compare across countries.

A typical example of capital growth analysis is shown below.



PROPOSED CHANGES

Following the definition of a set of five global yield measures, MSCI proposes to implement a globally standardized capital growth analysis based on net reversionary yield and market rental value (MRV).

The rationale for choosing these components over rent passing and net initial yield is that the analysis exhibits strong explanatory power (see table below), while net reversionary yields and MRV are available in most countries around the world.

While the breakdown based on net reversionary yield and MRV will apply across all markets, in the UK and Ireland MSCI is proposing to report an additional local breakdown based on equivalent yield, in addition to the global one.

COMPARISON OF CAPITAL GROWTH ANALYSES - MRV AND NET REVERSIONARY YIELD (GREEN) VS. RENT PASSING AND NET INITIAL YIELD (PINK)

	Capital growth	OMRV growth	Net net reversionary yield impact	Residual	Rent passing growth	Net Initial yield impact	Residual
Austria	0.8	2.3	-1.0	-0.5	1.4	-0.1	-0.5
Belgium	-1.1	0.1	-0.9	-0.3	-0.1	-0.5	-0.4
Czech Republic	-2.3	-1.6	-0.4	-0.3	1.1	-1.5	-1.9
France	-0.3	0.0	0.3	-0.6	-0.3	0.7	-0.6
Germany	-0.2	0.2	0.0	-0.4	-0.2	-0.2	0.2
Hungary	-2.3	-3.2	1.5	-0.5	-0.4	-1.4	-0.5
Ireland	3.2	2.4	0.6	0.2	-8.0	12.3	-0.1
Italy	-3.0	2.4	-0.4	-0.2	-1.0	-2.1	0.1
Netherlands	-4.9	-0.8	-3.9	-0.2	0.8	-5.8	0.2
Norway	-0.1	1.8	-1.2	-0.7	3.2	-2.5	-0.7
Poland	-1.7	-1.0	-0.2	-0.6	-6.8	4.3	1.0
Portugal	-4.1	-2.7	-1.2	-0.3	-2.9	-1.1	-0.3
Spain	-5.0	-6.2	1.7	-0.4	-6.5	2.0	-0.4
Switzerland	1.9	0.8	1.6	-0.6	0.3	2.2	-0.6
UK	4.7	1.0	4.2	-0.6	0.6	4.8	-0.6

BENEFITS / IMPACT

- Enhanced global comparability of capital growth analysis.

CONSULTATION QUESTIONS

- Do you consider analysis of the sources of capital growth to be important?
- Do you agree with the proposed analysis?

CONSULTATION ITEM 5: GEOGRAPHIC CLASSIFICATION

BACKGROUND

MSCI records 48 data points for identifying the geographic location of a property in terms of:

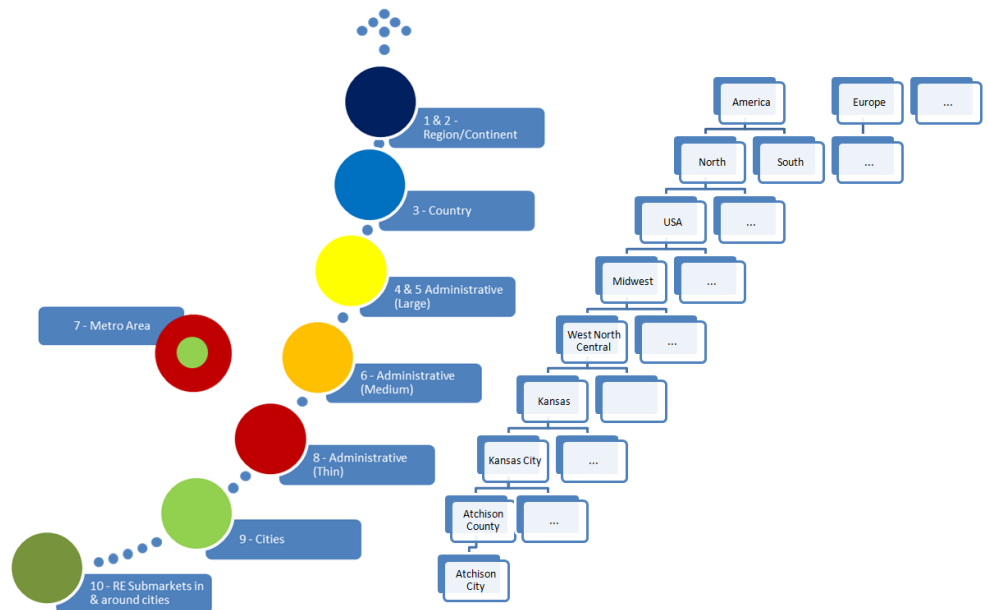
- the site of asset, namely its address (15 data points).
- its situation, meaning its location, in terms of larger administrative boundaries and narrower specific property type locations (30 data points).

MSCI has also developed its own internally-defined region, town and country codes (3 data points). These have evolved with the organic growth of the real estate database to cater for client expectations and as a result of the independent development of individual databases that prevailed prior to 2005.

As a result, MSCI has no standard way of recording town/city, region and economic center, these being currently recorded through multiple data points. This makes data collection cumbersome and confusing for international contributors, and limits MSCI’s ability to make international comparisons.

PROPOSED CHANGES

In addition to simplifying the way addresses are recorded, MSCI proposes to create a global geographic location classification in which each level is nested within the level above. The proposed classification contains 10 levels.



MSCI geographic global hierarchy

Definitions have now been completed for all levels up to Level 9 (see Exhibit 2) and the relevant data fields populated using published sources. Level 10 is currently under development and will be covered in a later round of consultation.

Levels 4, 6, and 8 use the NUTS classifications for Europe while referring to domestic regions, provinces, or territories for other countries. Level 5 exists for the USA alone and denotes divisions.

Level 7 (Metro areas) uses the OECD classification for most countries, except for the USA, Canada, Australia, New Zealand and Singapore, where the divisions are defined by national statistical offices. Exceptions were made for these countries as the definitions of metro areas here are deeply entrenched in market practice, while they do not deviate significantly from the OECD classifications.

Level 9 uses the NUTS classification for European countries and national statistical office classifications for the rest of the world; this is the only part of the hierarchy that will be collected directly from clients. The remaining levels will be populated automatically.

BENEFITS / IMPACT

- Enhanced global comparability of geographic segmentations.
- Reduced complexity of data collection.

CONSULTATION QUESTIONS

- Do you agree with this classification?

CONSULTATION ITEM 6: ASSET STRATEGY CLASSIFICATION

BACKGROUND

In all markets, MSCI currently analyzes the contribution to overall portfolio performance of individual assets according to their operational status (pre-construction, construction, leasing, stabilized, part transaction, sold – [see Consultation 3](#)). Furthermore, in a limited number of countries, MSCI has developed a complementary breakdown that classifies assets not only by their current status, but by the specific strategies (see below: stabilized, redevelopment, leasing, etc.) to which they were intended to contribute at the time of purchase.

PROPOSED CHANGES

MSCI proposes to implement this asset strategy classification and analysis in all countries. The details of the classification are provided in the table below.

PROPOSED ASSET STRATEGY CLASSIFICATION

Strategy	Definition
Stabilized	Purchase of an occupied building or tenanted/income producing farm.
Redevelopment	Purchase of a currently occupied building with the intention only to renovate to the building's original state (complete overhaul excluding change of use or Greening strategies).
Rehabilitation/ Repositioning	Purchase of a currently occupied building with intent to refurbish the building to an improved specification without change of use. Projected costs not high enough to constitute a redevelopment (projected costs/start value <25%) Excludes Greening strategies.
Conversion	Purchase of an occupied building with the intention to change its use. Excludes Greening strategies.
Leasing	Purchase of buildings in the pre-leasing (vacant)/leasing phase (partly vacant) with intention to re-lease and improve lease profile of the asset.
Greening	Purchase of buildings with the primary intention to improve sustainability, addressing the asset's vulnerability to natural occurrences including, but not limited to flooding, earthquakes and Tsunami.
Development	Purchase of a site with planning permission granted and intention to proceed with development, or of a development under construction.

Forward commitment	Contract between two parties that represents an obligation to buy an asset at a future date at a specific price. For example (but not limited to) a commitment to purchase a development upon completion, at which point funds would be exchanged to secure possession of the asset.
Land	Vacant land or sites to be held with no immediate intention to develop.

BENEFITS / IMPACT

- Additional insights into the contribution of assets to portfolio performance

CONSULTATION QUESTIONS

- Do you see this addition as adding value to your analysis?
- Do you agree with the proposed classification?

CONSULTATION ITEM 7: PORTFOLIO DOMINANCE POLICY

BACKGROUND

MSCI aims to improve real estate market transparency, but is also committed to protecting the confidentiality of its contributors' information.

MSCI's current commitment to confidentiality is enforced through the '3/5 rule': any statistical measure must be underpinned by at least five distinct assets, held in three different portfolios.

In addition, concerns about excessive portfolio concentration ('dominance') have been addressed in some markets by setting objective portfolio maximum weights and by not publishing performance figures where a portfolio is considered to be dominant, unless MSCI has obtained the agreement of the dominant contributor. In other markets, no explicit rules have been applied, and dominance is dealt with on a purely discretionary basis.

Based on external feedback, MSCI is now considering the establishment of a standard and automated approach to the assessment of dominance across its indexes and analytics, which will further preserve the confidentiality of client data, and will allow MSCI to deliver enhanced flexibility through new product ranges, specifically in the form of calculation on demand.

The introduction of standardized and automated screening for dominance in MSCI real estate products will also speed up production, eliminate any subjective judgment in the data cleaning and sign-off process for indexes (in line with IOSCO guidelines) and reduce the risk of production errors.

PROPOSED CHANGES

MSCI proposes to standardize and enforce systematic dominance rules across all markets:

- A portfolio will be considered as dominant when the weight of its capital employed exceeds 80% of the index aggregate capital employed.
- Dominance tests will be conducted in the same way for all portfolio measures, including those that do not involve capital employed, such as market rental value growth.
- When such a portfolio is identified, the publication of index results will be automatically suppressed.
- In addition to the implementation of this systematic rule, the highest single portfolio weighting within each index will continue to be disclosed.

The rationale behind this threshold is based on two countervailing considerations: the need for confidentiality protection and the need to avoid severely hindering MSCI's current and future capacity for producing granular results.

1. Confidentiality protection

Confidentiality is at risk when a third party is in a position to infer the performance of an identified contributor from the results published by MSCI. In order to make such an inference, the following conditions need to be met:

- As a result of the dominant portfolio weight, the index total return reveals the performance of that portfolio, due to the fact that the difference between the dominant total return and the index total return is not substantial.
- It is public knowledge that the underlying market is highly concentrated, and the dominant portfolio is identified.

2. Loss of information

There is a risk that if a dominance threshold is set too high, it prevents the publication of a large number of indexes/benchmarks. For example, a dominance threshold of 50% would result in the loss of over 270 current indexes or benchmarks. It is important to note that in addition to stopping the publication of the indexes and benchmarks themselves, the publication of all dependent measures and their history would also be restricted, severely curtailing market transparency.

BENEFITS / IMPACT

- Greater more systematic confidentiality protection.
- Removal of manual process and subjective judgment in the definition of dominance thresholds.
- Consistency across the product range in the treatment of indexes and benchmarks.
- Enhancing the speed of index delivery by streamlining production through a reduction in the labor-intensive management of dominance questions, where MSCI currently seeks contributors' sign-off before publishing indexes.
- The possibility of calculation on demand: MSCI is planning the development of an online query tool that will enable contributors to specify and generate benchmarks or market information on demand. The implementation of this service would rule out any manual intervention.

CONSULTATION ITEM 8: SAMPLE COMPOSITION

BACKGROUND

MSCI's policy is to maximize the sample of assets underpinning return calculations. In some cases the non-submission of data, such as income, makes it impossible to calculate total returns. Consequently, an asset may be included in capital growth calculations, but be excluded from income return and total return. At the index level, sample differences for each component of the return may result in a total return that does not exactly equate to the sum of income return and capital growth in any one month.

PROPOSED CHANGES

MSCI proposes to ensure that in any month, total return and its components are calculated from the same sample of properties, so that return equates the sum of capital growth and income return.

However, for results produced for periods longer than one month, such as quarterly or annual, income return and capital growth may not sum to total return, due to the effect of compounding monthly figures.

BENEFITS / IMPACT

- Enhanced global comparability of the components of total return.
- Based on 2013 total returns figures, the impact of this method change is seen to be non-significant, except in the case of New Zealand (see table on next page).

COMPARISON OF TOTAL RETURN BEFORE AND AFTER THE PROPOSED METHODOLOGY CHANGE, BASED ON 2013 RESULTS

Country	Total return difference	Country	Total return difference
Australia	- 2.00	South Korea	- 9.37
Austria	0.15	Netherlands	0.11
Belgium	0.24	New Zealand	81.57
Canada	- 1.14	Norway	- 0.49
Czech Republic	0.20	Poland	0.39
Denmark	0.30	Portugal	0.10
Finland	0.50	South Africa	- 3.05
France	0.40	Spain	0.24
Germany	0.19	Sweden	0.13
Hungary	0.21	Switzerland	0.18
Republic of Ireland	0.13	UK	0.12
Italy	0.09	USA	-
Japan	- 0.48		- 9.37

Unit: basis points

CONSULTATION QUESTION

- Do you agree that consistency between total return and its components is more important than maximizing the sample underpinning each component?

CONCLUSION

The proposals outlined in this document will be open for consultation until Friday 5 June. To discuss any of these items, please contact your local client consultant or researcher or alternatively email your feedback to us at realestate@msci.com.

MSCI will evaluate any comments received and, as with prior consultations, will publish a summary document outlining the feedback as well as our responses where appropriate.

APPENDIX

EXHIBIT 1: INTERPOLATION SIMULATION - DETAILED RESULT

Title	Canada annual index	Netherland Annual Index	Germany Annual Index	UK annual index
1996			-93.83	
1997			-22.50	
1998			16.75	
1999			-9.15	
2000	-126.55		-13.99	
2001	6.46		-28.69	-3.27
2002	79.99		-25.25	1.13
2003	19.97		-45.31	-3.25
2004	107.32		-77.56	10.72
2005	80.62		13.29	-9.74
2006	59.29		44.10	1.61
2007	16.46		13.29	-0.46
2008	-141.86	-1.53	-16.13	-0.86
2009	16.74	0.20	1.33	-0.99
2010	130.55	-1.12	-11.34	-0.37
2011	-44.91	-0.19	-11.67	-0.02
2012	-10.69	0.27	9.53	0.35
2013	-9.95	-0.01	16.09	55.77

Unit: basis points

EXHIBIT 2: GEOGRAPHIC CLASSIFICATION - DETAILED RESULTS

	L1	L2	L3	L4 & L5	L6	L7	L7	L8	L9
ISO 3166-1-Alpha-3	Macro Regions (definitive)	Sub Regions	COUNTRY (definitive)	Administrative Large	Administrative Mid	City Metro Areas	Name of Metro Areas considered	Administrative Detailed	Cities (number)
US	AMERICA	NORTH	USA	Regions & Divisions (sublevel for USA) (4 > 8)	States (50+1)	CSA prior to CBSA built on Counties (59)	New York-Newark, NY-NJ-CT-PA, Los Angeles-Long Beach, CA, Chicago-Naperville, IL-IN-WI, Washington-Baltimore-Arlington, DC-MD-VA-WV-PA, San Jose-San Francisco-Oakland, CA, Boston-Worcester-Providence, MA-RI-NH-CT, Dallas-Fort Worth, TX-OK, Philadelphia-Reading-Camden, PA-NJ-DE-MD, Houston-The Woodlands, TX, Miami-Fort Lauderdale-Port St. Lucie, FL and 49 others	Counties (3235)	30341
CA	AMERICA	NORTH	Canada	Regions (6)	Provinces (13)	CMA/ CA built on Census SubDivisions (10)	Toronto, Montreal, Vancouver, Ottawa-Gatineau, Calgary, Edmonton, Winnipeg, Québec, Hamilton, London	Census Divisions (293)	5222
BR	AMERICA	SOUTH	Brazil	Regions (5)	States (27)	use MicroRegions around cities (15)	-	Microrregiões (557)	-
BE	EUROPE	BENELUX	Belgium	Gewesten / Régions (3)	Provincies / Provinces (11)	from OECD, built on City Names (4)	Bruxelles / Brussel, Antwerpen, Liège, Gent	Arrondissements / Arrondissements (44)	589
NL	EUROPE	BENELUX	Netherlands	Landsdelen (4)	Provincies (12)	from OECD, built on City Names (5)	Amsterdam, Rotterdam, 's-Gravenhage, Utrecht, Eindhoven	COROP regio's (40)	441
PL	EUROPE	CEE	Poland	Regiony (6)	Województwa (16)	from OECD, built on City Names (8)	Warszawa, Katowice, Kraków, Gdańsk, Łódź, Poznań, Wrocław, Lublin	Podregiony (66)	2478
CZ	EUROPE	CEE	Czech Republic	none	Oblasti (8)	from OECD, built on City Names (3)	Praha, Brno, Ostrava	Kraje (14)	6249
HU	EUROPE	CEE	Hungary	Statistikai nagyrégiók (3)	Tervezési-statisztikai régiók (7)	from OECD, built on City Names (1)	Budapest	Megyék + Budapest (20)	3152
SK	EUROPE	CEE	Slovakia	none	Oblasti (4)	from OECD, built on City Names (1)	Bratislava	Kraje (8)	2928
DE	EUROPE	CONTINENTAL	Germany	Länder (16)	Regierungs-bezirke (38)	from OECD, built on City Names (24)	Berlin, Hamburg, München, Frankfurt am Main, Stuttgart, Köln, Düsseldorf, Mannheim, Hannover, Nürnberg and 14 others	Kreise (412)	12229
AT	EUROPE	CONTINENTAL	Austria	Gruppen von Bundesländern (3)	Bundesländer (9)	from OECD, built on City Names (3)	Wien, Graz, Linz	Gruppen von politischen Bezirken (35)	2357
CH	EUROPE	CONTINENTAL	Switzerland	none	Grossregionen Grandes regions Grandi regioni (7)	from OECD, built on City Names (5)	Zürich, Basel, Genève, Bern, Lausanne	Kantone Cantons Cantoni (26)	2352
NO	EUROPE	NORDICS	Norway	none	Landsdeler (7)	from OECD, built on City Names (4)	Oslo, Bergen, Stavanger, Trondheim	Fylker (19)	428
DK	EUROPE	NORDICS	Denmark	none	Regioner (5)	from OECD, built on City Names (4)	København, Århus, Odense, Aalborg	Landsdeler (11)	2244
SE	EUROPE	NORDICS	Sweden	Grupper av riksområden (3)	Riksområden (8)	from OECD, built on City Names (4)	Stockholm, Göteborg, Malmö, Uppsala	Län (21)	290
IT	EUROPE	SOUTHERN	Italy	Gruppi di regioni (5)	Regioni (21)	from OECD, built on City Names (11)	Roma, Milano, Napoli, Torino, Palermo, Bologna, Genova, Firenze, Catania, Bari and 1 others	Province (110)	8057
ES	EUROPE	SOUTHERN	Spain	Agrupacion de comunidades Autonomas (7)	Comunidades y ciudades Autonomas (19)	from OECD, built on City Names (8)	Madrid, Barcelona, Valencia, Sevilla, Bilbao, Málaga, Zaragoza, Las Palmas	Provincias + Islas + Ceuta, Melilla (59)	8112

	L1	L2	L3	L4 & L5	L6	L7	L7	L8	L9
ISO 3166-1	Macro Regions (definitive)	Sub Regions	COUNTRY (definitive)	Administrative Large	Administrative Mid	City Metro Areas	Name of Metro Areas considered	Administrative Detailed	Cities (number)
PT	EUROPE	SOUTHERN	Portugal	Continente + Regioes autonomas (3)	Comissoaes de Coordenaço regional + Regioes autonomas (7)	from OECD, built on City Names (2)	Lisboa, Porto	Grupos de Con-celhos (30)	308
FR	EUROPE	SOUTHERN	France	Z.E.A.T + DOM (9)	Régions + DOM (26)	from OECD, built on City Names (15)	Paris, Lyon, Marseille, Lille, Toulouse, Bordeaux, Nice, Nantes, Strasbourg, Rouen and 5 others	Départements + DOM (100)	36682
IE	EUROPE	UKIRE	Ireland	none	Regions (2)	from OECD, built on City Names (1)	Dublin	Regional Authority Regions (8)	168
GB	EUROPE	UKIRE	United Kingdom	9 Government Office Regions in England + 3 Country (Wales/Scot/Northire)	Counties (some grouped); Inner and Outer London; Groups of unitary authorities (37)	from OECD, built on City Names (19)	London, Birmingham, Manchester, Leeds, Newcastle, Glasgow, Liverpool, Sheffield, Nottingham, Bristol and 9 others	Upper tier authorities or groups of lower tier authorities (unitary authorities or districts) (139)	1
KR	APAC	ASIA	South Korea	Regions (7) - oecd	Province/Metro Area/Special City (16) - oecd	from OECD, built on City Names (10)	Seoul Incheon, Busan, Daegu, Daejeon, Gwangju, Ulsan, Changwon, Cheongju, Jeonju, Pohang	Si + Gun (cities + counties) 94+155=249	3466
JP	APAC	ASIA	Japan	Regions (9)	Prefectures (47)	from OECD, built on City Names (14)	Kantō MMA, Kōhanshin MMA, Chūkyū MMA, Kinki MMA, Fukuoka MMA, Sapporo MMA, Sendai MMA, Hiroshima MMA, Okayama MMA, Kumamoto MA, Niigata MMA and 4 others	SHI vs GUN in each Prefectures (47*2 = 94)	4027
CN	APAC	ASIA	China	Municipalities/Provinces/Autonomous regions/Special regions (34)	Prefectures/Prefecture-level cities/Autonomous prefectures/Leagues (333)	use Province for Shanghai & Beijing + HK (3)	Shanghai, Beijing, Hong Kong (to subdivide)	Districts/Counties/County-level cities/Autonomous counties/Banners/Autonomous banners/Ethnic districts/Special districts/Forestry area (2 863)	-
AU	APAC	OZ/NZ	Australia	State/territories (9)	GCCSA again (34) 9 cities + 9 rest of state + 16 out of territory	GCCSA (9 of interest), built on SA4 (ASGS) (6)	Sydney, Melbourne, Brisbane, Perth, Adelaide, Australian Capital Territory	Statistical Area 4 (106)	1839
NZ	APAC	OZ/NZ	New Zealand	North or South (2)	Region (16) REGC2014	NZ Urban Area, selected & reconfigured for 3 top cities built on Area Unit (3)	Auckland, Wellington, Christchurch	City councils (13) / city councils (53) TA2014	2020
SG	APAC	SEASIA	Singapore	none	none	Rest of Singapore (1)	Singapore Central Region vs Rest	none	55
TH	APAC	SEASIA	Thailand	Regions (7)	none	Wikipedia suggest BKK + 5 surrounding provinces. Lacks source (1)	BangKok	Provinces (76)	928
BW	AFRICA	SOUTH	Botswana	none	Districts (9)	use Sub District of Gaborone (2)	Gaborone, Francistown	Town councils / sub-districts (28)	475
ZA	AFRICA	SOUTH	South Africa	none OR proposing Coastal vs Inner (2)	Provinces (9)	Use Metropolitan Status for 8 cities (Greater Johannesburg is the only known combination and uses another metro area...) (8)	Johannesburg, Pretoria, Durban, Cape Town, Port Elizabeth, East London, Bloemfontein, Germiston	Metropolitan municipalities (8) + 48 Districts of Cities	234



CONTACT US

realestate@msci.com

+ 44 20 7336 4783

AMERICAS

Canada + 1 416 687 6284

US + 1 212 804 3900

EUROPE, MIDDLE EAST & AFRICA

UK + 44 20 7336 9200

France + 33 1 58 05 36 90

Germany + 49 691 3385 999

Netherlands + 31 88 328 22 00

Spain + 34 917 610 271

South Africa + 27 11 656 2115

Sweden + 46 8 400 252 30

ASIA PACIFIC

Australia + 61 2 9248 1900

Japan + 81 3 5211 1455

ABOUT MSCI

For more than 40 years, MSCI's research-based indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research.

Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

MSCI serves 98 of the top 100 largest money managers, according to the most recent P&I ranking.

For more information, visit us at www.msci.com.

NOTICE AND DISCLAIMER

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the “Information”) is the property of MSCI Inc. or its subsidiaries (collectively, “MSCI”), or MSCI’s licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the “Information Providers”) and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or disseminated in whole or in part without prior written permission from MSCI.

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, “Index Linked Investments”). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investable assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research Inc. and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.’s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.’s company filings on the Investor Relations section of www.msci.com.

MSCI ESG Research Inc. is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI’s products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD, FEA, InvestorForce, and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor’s. “Global Industry Classification Standard (GICS)” is a service mark of MSCI and Standard & Poor’s.